# Media and Low Carbon Transition

A multi-modal analysis of print media themes & their implications for broader public engagement

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# Declaration

Declaration I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of PhD is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.


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'Whereas the 20th century was the century of 'the gene', the 21st century will be the century of carbon'
**Nerlich, Koteyko and Brown (2010)**


'We cannot invent our way towards a low carbon future without also engaging society….
what is at stake is not a simple choice between different paths to the future,
but rather a complex and negotiated process'
**Bulkeley, Broto, Marvin and Hodson (2011)**


'In this 21st century, examining how climate change is described and considered,
largely through mass media, is as important as formal climate governance
to the long-term success or failure of efforts to confront the challenge.'
**Boykoff and Yulsman (2013)**

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# Contents

## Section 1: The Social Turn in Media Studies of Climate Change

## Section 2: Theoretical and Conceptual Framework

# Section 3: Mapping Out and Reflecting on the Empirical Landscape

# Section 4:  Bibliography and Appendices

# List of Figures

# Abbreviations

| Abbreviation | Explanation |
|---|---|
| LCT  (used in place of LCT/DC) | Low Carbon Transition and Decarbonisation |
| TA | Thematic Analysis |
| FA | Frame Analysis |
| CA | Content Analysis |
| MMTA | Multi-Modal Thematic Analysis |
| EPA | Environmental Protection Agency |
| NESC | National Economic and Social Council |
| FoEI | Friends of the Earth Ireland |
| SEAI | Sustainable Energy Authority Ireland |
| IIEA | The Institute of International and European Affairs |
| IBEC | Irish Business Organisation (Lobby Group) |
| PNS | Post-normal science |
| PUS | Public Understanding of Science |
| PES | Public Engagement in Science |
| STS | Science and Technology Studies |

# Abstract

**Brenda McNally**

**Media and Low Carbon Transition**
A multi-modal analysis of print media themes and their implications for broader public engagement

Public engagement is central to communications studies of climate change and developing strategies to encourage citizens to reduce carbon emissions, as part of the low carbon transition (LCT), is a growing research topic post-COP21. However, critics argue the focus on instrumental behaviour change initiatives and promoting societal acceptance of LCT, fails to address the emotional, rational and political engagement needed to build successful transition pathways. They also highlight that transition processes are multi-faceted, involving choices between social, technical and financial solutions, and have consequences for the trajectory of future environmental sustainability and social transformation. Despite these concerns about democratic progress, few studies investigate print media coverage of LCT as a multi-dimensional issue or, given mass media's influence on social and cultural change, assess the implications of press representations for broader public engagement. Thus, to illuminate how the social context shapes (potential) citizen mobilisation and motivations, this thesis maps press treatment of LCT through a multi-modal thematic analysis of Irish print media (2000 – 2013).

Defining LCT as an adaptive challenge concerned with climate responses and drawing on an emerging literature about public engagement with climate change, the analysis found the Irish press privilege establishment interests with maintaining the status quo and illuminated how prevalent themes 'crowd out' socially relevant meanings, ways of talking and ideas about practices for achieving transition. In doing so, the thesis showed how press treatment of LCT circumscribed formats, fora and motivations for citizen engagement thereby amplifying instrumental goals for engaging public(s). Consequently, the study revealed a profound silencing of 'the social' and the thesis argues prevalent Irish press themes act as socio-cultural and -political barriers to broader public engagement which may contribute to new forms of climate scepticism.

The thesis makes an original methodological contribution by developing a multi-modal framework for analysing print media texts in terms of (potential) cognitive, affective and behavioural dimensions. It contributes empirical insights on the implications of press themes for (potential) public engagement with LCT based on an Irish case study, which exemplifies the challenges of balancing economic and environmental interests in media reports. Finally, it offers suggestions for democratically responsible journalism about the processes for reducing carbon emissions and moving to LCT.

# Section 1:
# The Social Turn in Media Studies of Climate Change

# 1

## Mapping Public Meanings, Practices and Talk about LCT

This thesis has a simple objective – to map print media representations of low carbon transition (LCT)[1] in terms of their implications for (potential) public engagement. But the reasons for doing so, and how this is approached, are more complex. This is because both 'public engagement' and 'LCT' are multi-faceted concepts.  Thus, this thesis is also an attempt to engage with the complexity of these two issues. In other words, this thesis zones in on the public debate about reducing carbon emissions to tackle climate change and is explicitly interested in understanding how the press shape public discussion of climate *responses* as opposed to climate *impacts*. To do so, it attempts to establish an approach for analysing press treatment of LCT as a multi-dimensional challenge and to shed light on how these representations shape public engagement as an inter-related process involving cognitive, behavioural and affective dimensions. As a result, it focusses on how print media representations shape the public meanings, ideas about citizen's roles or social practices as well as ways of talking about LCT. Thus, the study also offers an alternative to the dominant paradigms informing public engagement initiatives for climate change  – namely the instrumental approaches associated with economic and psychology theory which primarily focus on motivating public behaviour change.

Furthermore, zoning in on LCT is a crucial dimension for media and communications studies of climate change in the post-COP21 context because, as several scholars point out, this debate is also likely to be controversial and contested, perhaps even more so than debates about climate science and climate governance. In addition, more people engage with press representations of transition than they do with the planning or policy process (Roberts, Upham and Mclachlan et al. 2013). Thus, given news media's centrality as a platform for public discussion, particularly in debates concerning environmental and scientific challenges (Anderson 2014, Nelkin 1995), press representations of LCT are under-researched in terms of

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[1] In fact, the thesis investigates the twin challenges of low carbon transition and decarbonisation. It understands them as jointly representing the crystallisation or materialisation of climate change action and as core components of the multi-dimensional approaches to carbon emissions reduction. This approach allows the study to assess the range of possible carbon reduction activities (i.e.) social, political, technical and financial that are reported in print media. The thesis will refer to the dual processes of low carbon transition and decarbonisation as either 'LCT' or 'transition' throughout.

how they may shape possibilities for building transition pathways through their influence on the social context or the social reality of public engagement with LCT. That is, this thesis investigates press representations of LCT in order to shed light on whether or how they act as socio-cultural or political barriers to public engagement with the challenge of responding to climate change.

However, it is also necessary to contextualise the extent of print media's influence on public engagement. As might be expected, media power is a complex puzzle and a topic of much scholarly debate (Freedman 2015). For example, Freedman argues it can be conceptualised in terms of 'people, institutions, processes or capacities' (*ibid.* p3). In other words, media power may be understood as emanating from the operation of media organisations, or news media/journalism practices or from the effects of media contents or messages which Freedman notes also reflects two dominant understandings of media power – a consensual 'power to' or a more coercive 'power over'. This study follows Freedman's more nuanced understanding, which argues that media power is best conceived of as a 'relationship between different interests engaged in struggles for a range of objectives that include legitimisation, influence, control, status and, increasingly, profit.' (*ibid.* p3). Furthermore, as this study maps the emergence of press representations, it recognises that print media have the power to influence news agenda and to propel issues on to the public agenda or equally significantly, to keep issues off the agenda. In particular, it draws on the view that as socially constructed versions of reality, press representations are an important source of information and interpretation on controversial environmental issues (Hansen 2010). Significantly, recent studies have established that how news media discuss climate change has 'a strong impact on how citizens understand and engage with the issue' (Cross et al. 2015).  However, while this study recognizes that news media can influence public opinion, attitudes and behaviour, it views this social shaping influence as nuanced. In other words, it also recognizes that readers have agency and that they are heterogenous. Thus, they potentially interpret news media texts in multiple ways and the relationship between representations and audiences is not a simple one (discussed in Chapter 3). As a result, print media representations of LCT are considered an important site for examining public debate about tackling climate change in terms of insights for (*potential*) public engagement with transition. This perspective is consistent with Manuel Castells' analysis that 'the media are not the holders of power, but they constitute by and large the space where power is decided' (2007, cited in Freedman 2014 p8).

Much recent scholarship has attempted to address news media representations of climate change, which has given rise to an emerging literature on public engagement (Phillips *et al.* 2012a, Whitmarsh *et al.* 2013, Corner *et al.* 2014, 2015, 2016, Rowson and Corner 2015, Moser 2016). This thesis attempts to join that conversation. Specifically, in line with ideas about climate change as an adaptive challenge (O'Brien and Selboe 2015) and thus a deeply personal and political issue, that 'challenges mind-sets and approaches to change in general' (*ibid*. pxv) it proposes that examining press representations of LCT in terms of broader public engagement offers important insights for rethinking climate change engagement. O'Brien and Selboe's approach is significant, because it highlights that responding to climate change is much more than a technical problem, it also involves a response to changing conditions. In particular, they point out that

> Adaptive challenges are not only personal; they are political, for policies and actions often involve hegemonic and entrenched ways of thinking and acting that may serve certain interests, actors and priorities over others (Manuel-Navarrete et al. 2011; Pelling 2011; Swyngedouw 2010a, 2010b) (*ibid.* p3)

While they address these remarks to a discussion of climate adaptation, they are pertinent concerns for thinking about press representations and public engagement with LCT. Therefore, this thesis joins other studies in attempting to start new conversations that move towards more socially meaningful public engagement with climate change. In particular, Rowson and Corner (2015) argue that to gain wider public traction and interest, the communications challenge is one of moving public discussion from (climate) 'science to social facts'. Thus, the focus of the analysis and discussion in this study is to understand and explain how press representations of LCT broaden the conversation and connect with public(s). It investigates whether and how the deployment of ideas in print media treatment i) presents the plurality of approaches for moving to a low carbon future, ii) socially (re)contextualises this complex, technical and controversial topic and thus makes it a socially meaningful and relevant issue.

The remainder of this introduction outlines the research questions and describes the organisation of the thesis. The chapter ends with a brief discussion of the limitations of the research design which highlights the significance  of digital and online media in shaping public opinions and mobilising public(s) as well as acknowledging the influence of PR and news sources on press treatment of science and environmental challenges.

## 1.1 Research Question and Design

While public engagement is generally accepted as essential to tackling global environmental challenges, relatively few studies systematically investigate how print media treatment influences this process. In particular, (to date) studies have not reflected on how the press shape the social reality of public engagement with LCT by investingating mediated public engagement as an inter-related process involving different modalities. In other words, research primarily offer accounts of how print media influence either public mobilisation or public motivations. This study addresses that gap by developing an original methodology to analyse press representations of LCT in terms of implications for 'broader public engagement' and in doing so extends analytical interest in, and conceptualisation of, public engagement for print media research. Thus the central research question asks how do Irish print media themes shape (potential) broader public engagement with LCT (see Table 1.1) and the thesis aims to shed light on how press treatment of LCT mainstreams public meanings, ways of talking and ideas about citizen's role in moving to a low carbon future. As a result, it contributes empirical evidence on how the press shapes potential cognitive, behavioural and affective engagement with LCT as well as generating novel insights for democratically-responsible journalism associated with news reporting about transition, and thus issues at the interface of technoscience, market and society (see Chapter 9).

This is a significant a topic for both print media research and public engagement studies as print media representations offer valuable insights on the routine conceptualisations and articulations about transition that are publically available. Put differently, it illuminates the story we are telling ourselves about LCT and is therefore an important site for understanding the (potential) socio-cultural and political barriers to public engagement. In doing so, the findings shed light on what is being normalised and legitimised about the possibilities for citizen engagement with LCT. In particular, the research design (see below) facilitates insights on whether the press acts as socio-cultural and political barriers to engagement. Therefore, the findings can also be used to inform recommendations for communication praxis aimed at building broader societal engagement with transition pathways (see Chapter 9).

In mapping press treatment of the 'solutions' debate and discussion about reducing carbon emissions, the thesis does more than present an alternate or novel typology of press representations of climate change. It extends a long tradition of research examining the links between print media and public understanding and debate about climate change (Wilkins 1993, Trumbo 1996, Weingart *et al.* 2000, Carvalho 2005, Hulme 2009a, Nisbet 2009) in two

distinct ways. Firstly, by zoning in on the 'solutions debate' and targetting the deployment of ideas and ways of talking about LCT in the press, the research examines an under-researched dimension of this complex challenge. In addition, it examines a particularly significant dimension in the post-COP21 context (see Chapter 2). Secondly, by analysing broader public engagement and moving beyond the deficit model of engagement it incoporates a model of public engagement that more appropriately reflects the social reality and multi-dimensional aspect of public engagement (see Chapter 3).

**Table 1.1 Central Research Question**

| Central Research Question: | | |
|---|---|---|
| How do Irish print media representations of LCT shape potential broader public engagement? | | |
| **Chapter 4: Development of  Themes** | | |
| What are the different themes about public engagement in Irish print media conceptualisations and articulations about LCT? | | |
| **Chapter 6:** Carbon Literacy and Cognitive Engagement | **Chapter 7:** Low Carbon Practices and Behavioural Engagement | **Chapter 8:** Carbon Repertoires and Affective Engagement |
| How does Irish print media treatment of LCT  shape carbon literacy and (potential) cognitive engagement | How does Irish print media treatment normalise ideas about Low Carbon Practices and potential behavioural engagement with LCT? | How do carbon repertoires deployed in Irish print media mainstream potential affective engagement with LCT? |
| **Chapter 9:** | | |
| How does Irish Print Media Treatment Broaden the Conversation and Connect Public(s) with LCT? | | |

To address these research questions, the study thematically analysed Irish print media representations of LCT over thirteen years (2000 -2013). Specifically, the research design adopted a novel methodology for thematically analysing press conceptualisations and articulations about LCT in terms of broader public engagement. In other words, it developed a multi-modal framework to assess different modes of public engagement based on Lorenzoni *et al.'s* (2007) definition. Thus the framework incorporated psychological, sociological and more recent cultural perspectives on assessing public engagement with global environmental change (see Chapter 3). As a result, the research question and design attempts to bring print media analysis about tackling climate change into conversation with the ongoing research in other disciplines.

Furthermore, the research is inherently data-driven. It does not develop a predefined structure or framework for mapping themes. The overall approach is inductive: the study followed the data and the research choices were driven by the data. For example, the coding scheme was based on a hybrid approach (Boyatzis 1998), so the codes were data driven *and* based on prior empirical studies (see Chapter 4). This enabled the research to present a full

account of print media representations rather than restricting analysis to a pre-determined set of ideas about what should be there and thus it reduced subjectivity.  Likewise, analysis of the implications of press representations focussed on the most prevalent themes.  These findings were assessed in terms of the latest thinking about public engagement with LCT. This emerging literature advocates a new approach to public engagement with LCT and views the communication challenge as the need to make climate change a social fact. It aims to connect with public(s) rather than developing more 'effective' communication, which is consistent with a deficit model approach to public engagement (see Chapters 2 and 3).

Finally, three caveats should be emphasised at this point. First, this thesis presents foundational research by developing an approach for cohesively mapping print media representations of LCT as a multi-dimensional issue (i.e.) involving a range of alternative processes for moving to a low carbon future in order to reflect on how the deployment of ideas and ways of talking about LCT shapes (potential) broader public engagement. However, as the analysis is wide-ranging, this entailed decisions about what aspects of press representations and interpretations to focus on and which to forego. As discussed above, these research choices were primarily data driven. As a result, the findings are based on the most prevalent themes deployed in Irish print media (see Chapter 10 for further discussion of the research limitations).

Secondly, it is important to clarify the emphasis of this study. The aim is to identify and assess press representations of LCT in order to draw conclusions as to the implications for (potential) broader public engagement.  Thus, it is not a media-centric study in the sense of reflecting on print media organisations and ideology or the production of messages and journalistic practices around LCT (all of which are important avenues for analyses of the press). Likewise, this thesis does not examine the management or development of new or controversial technologies, or whether such technologies should be introduced. Nor does it set out to examine and test public understanding or awareness of climate change and LCT based on press representations. Instead, the focus is on critically assessing print media content in a novel way. In line with other scholars, I do not take an instrumental view of the press as a tool for promoting science or the acceptance of new technologies and thus for uncritically reproducing statements of establishment and elite actors.

Thirdly, related to the previous point, while the findings produced in this thesis can facilitate insights for communications praxis around LCT (especially for initiatives aimed at developing broader public engagement), the research design does not explicitly set out to devise such a

strategy. The goal is to map an under-researched territory and to contribute a social perspective to current understandings of print media and public engagement with global environmental change. In doing so, the thesis develops and presents a novel approach for analysing complex phenomena: namely, a multi-dimensional topic (LCT), in terms of an inter-related process (broader public engagement). As a result, it aims to show the value of more nuanced approaches for analysing press representations of climate change and LCT post-COP21.

## 1.3 Organisation of the Thesis

The thesis is structured in three parts. The first part introduces the definitions and preferred meanings employed in this study and situates the study within the growing field of media and communication studies of climate change. The second part draws on a wide range of literatures to set out the theoretical and methodological approaches employed to address the central research question, while the final section presents the findings in three chapters each dedicated to assessing a specific mode of public engagement. This is followed by a discussion chapter which synthesises the preceding findings and attempts to bring some coherence to the data. The concluding chapter establishes the key findings and reflects on the significance and contribution of the study as a whole.

The thesis begins with an overview of the literature in this research domain. It describes the state of play in the field of media and communications studies of climate change in order to show how this thesis contributes to knowledge in this domain. It explores the different meanings of climate change and outlines what is meant by 'broader public engagement' and how this shapes the analytical approach, specifically the multi-modal framework. Thus Chapter 2 introduces the key concepts and establishes the gap in this research terrain rather than presenting a traditional 'literature review' chapter. Chapter 3 builds on the preceding chapter by outlining the development of ideas about public engagement to establish the rationale for employing 'broader public engagement' in this thesis. It also sets out the theoretical approach to examining print media texts and different modes of engagement as well as presenting the author's theoretical perspective and views on public engagement with climate change and LCT. Together, these chapters synthesize the key theories, scholars, debates and multiple interpretations of climate change necessary to understand this investigation of Irish print media treatment of LCT.

The methodology chapter (Chapter 4) describes the research design and application of the multi-modal thematic analysis (MMTA) as well as presenting Irish print media themes about public engagement with LCT. It begins with a review of the methods used in related studies to show how this thesis makes an original contribution and then discusses the inductive coding approach, the use of NVivo to develop the codebook, and reflects on the validity of the research approach. Chapter 5 presents the rationale for investigating Irish print media and provides a context with which to read the empirical chapters.

Chapters 6, 7 and 8 report on the findings of the MMTA and offer in-depth analysis and insights on how press themes shape cognitive, behavioural and affective engagement. These chapters draw on the emerging literature on public engagement with LCT in order to generate insights as to the implications of print media treatment. Each of these chapters includes a critical review of the literature and debates on the mode of public engagement it evaluates. The discussion chapter synthesises the findings to illuminate how Irish press shape potential broader public engagement with LCT and discusses the implications for building transition pathways. In other words, it draws on the findings to develop recommendations for journalism and communications praxis. The concluding chapter assesses the significance of the research question and MMTA as well as the limitations of the research and offers suggestions for future research.

However, given the transformations in our news media ecosystem during the research timeframe, which includes moves by key stakeholders and news sources to online/digital channels along with mass public uptake of online and digital media, it is also necessary to acknowledge the limitations of a focussed analysis of print media at the outset. In other words, while this study maps press treatment of LCT in order to shed light on potential implications for public engagement, the findings do not reflect the entire spectrum of possible stories being told about LCT. In addition, the research design did not specifically examine claims makers, although the influence of PR and specific news sources on press representations is an important aspect of this debate and is discussed briefly in Chapter 9. Instead, these findings are presented as an important and comprehensive start to mapping the public life of LCT. In particular, they offer essential insights on the formative phase of this public discussion which, to a large extent, preceeds the mass migration to the networked public sphere. This early period is highly significant because it uncovers the seeds of the discursive struggle about how to tackle climate change. Crucially then, print media discourse has established a narrative, perhaps *the* public narrative about LCT and is central to the

normalisation or routinisation of the possibilities for public mobilisation and motivations to engage. As Nisbet (citing Etzioni, 2006) notes, 'once assumptions and legitimate authorities are established on a problem like climate change, it becomes "costly in terms of human mental labor to re-examine what has finally come to be taken for granted"' (2013 p.x.). Bluntly, any new narrative about LCT will have to contend with, or contest, existing narratives and their implications for broader public engagement. Thus assessment of early press treatment is  valuable because it sheds light on the formative resources for public discussion and actions on LCT. Furthermore, examining print media representations of the public meanings, ways of talking and ideas about LCT, as a proxy for the social reality of public engagement, can offer insights for developing broader public engagement. In that sense, press treatment as a space of democratic public debate and articulation of public interests and concerns, should present an alternative to the primarily instrumental conceptualisations of public engagement associated with the dominant economic and psychology paradigms. But does it?

# 2

## Thinking About Media, Public Engagement and Climate Change

The story of climate change involves many possible narratives. For example, the story of the physical world we live in and the evidence of climate science or, the story of how we arrived at a climate crisis and the causes of climate change. It also involves the story of what should/can society do about this challenge and the multi-dimensional choices about reducing carbon emissions. This thesis zones in on latter possibility and examines print media representations of LCT. It is interested in how the press tell the story of tackling climate change and specifically, it assesses the implications for (potential) public engagement through an analysis of press representations of carbon reduction activity (LCT). This chapter briefly sketches the terrain covered by media and communications studies of climate change in order to show why this is a useful research question and therefore how this thesis contributes to knowledge in this domain. The discussion focusses on establishing how the existing literature informs research for a post-COP21 context. In other words, it starts from the view that the communications challenge involves socio-cultural barriers such as increasing public apathy[2], climate silence, the social organisation of denial (Norgaard 2011, Rowson and Corner 2014) and response scepticism (Capstick and Pidgeon 2014) rather than the traditional focus on communicating scientific complexity and overcoming psychological distance. Overall, this chapter maintains that post-COP21, it is important to map press representations of LCT, in order to identify how the deployment of ideas about LCT in print media shape what public(s) are asked to think about, feel and do, as part of moving to a low carbon future.

This chapter locates print media analysis of LCT within the broader field of media and communication studies of climate change and is organised into three parts. The first section introduces key concepts drawn on in this thesis and discusses the implications of these definitions for the analysis of press representations. The second section reviews developments in climate change communications focussing on insights relevant to an analysis

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[2] A Eurobarometer (2011) survey found that while European citizens consider climate change an important environmental issue (in the top 5 of 15 listed concerns) it is the only environmental issue to have decreased in terms of public concern (from 57% in 2007 to 34% in 2011) additionally, citizens do not list climate change as an issue about which they lack information. However, it must also be noted that global studies have found higher levels of public concern.

of print media and public engagement with LCT. Drawing on this, the concluding section identifies how this thesis contributes to the literature and formulates the sub-questions that enable the study to address the central research question. A comprehensive review of research methods within this domain is presented in Chapter 4 and focussed analysis of scholarship on each of the modalities of public engagement are provided in the empirical chapters.

## 2.1 The Shifting Meanings of Climate Change

Climate Change and Low Carbon Transition (LCT)

Although climate change is typically understood as a science or environmental problem that requires economic or technological solutions, this study draws on proposition that it is better understood as a social, cultural and political phenomenon (Leiserowitz 2006, Moser 2007, Hulme 2009b). Thus, climate change is primarily viewed as a challenge that goes to the heart of how society is organised (Shove 2010, Webb 2012) which involves competing interests and values, and therefore, is political. As Dahan notes 'Climate Change is *simultaneously,* an object of science, a domain of expertise and a political problem' (2013, p4 author's italics). As a result, climate change is considered a difficult problem for communications and is described as 'a complex, pervasive, and uncertain phenomenon that people find difficult to understand, conceptualise, and relate to' (Lorenzoni and Pidgeon 2006, cited in Ballantyne 2016, unpaginated). Thus, climate change is also refered to as a 'wicked problem' (discussed below). The significance of these shifting meanings is that it highlights that

> Any description and prediction of climate change and its impacts is entangled with specific imaginaries of how society is, and how it ought to be; similarly even the most apparently technical of suggested response carry with it certain ideas of society.' (Szerszynski and Urry 2010, p4)

Thus, this thesis follows Hulme's definition of climate change as a multidimensional phenomenon which is also an ideological concept and therefore, that climate change communication 'never merely raises awareness or presents facts' that it always represents a worldview and that we need to examine what aspects are being raised with what audience and goal in mind' (Hulme 2009, p227).

In addition, Evans and Steven's (2007) historical analysis of climate change debate argues that it is important to distinguish between the 'problem' and the 'solutions' debate. They also argue that having established the 'problem' in public discussions about climate science and governance, it is also important to begin to map the 'solutions' debate and how tackling

climate change is discussed. Therefore, in zoning in on LCT, this study focusses on how print media representations shape public discussion about the measures to tackle climate change by reducing carbon emissions, rather than representations of climate science, climate risks or climate governance.

Low Carbon Transition and Decarbonisation (LCT)

Transitions are long-term structural changes in society as a result of persistent problems that cannot be solved by current policies based on traditional approaches alone (Loorbach and Rotmans 2006).  As such, they represent processes that involve fundamental social change. In particular, scholars note that transitions require system innovations or 'organisation exceeding, qualitative innovations, which are realised by a variety of participants within the system and which fundamentally change both the structure of the system and the relation among the participants' (*ibid*. p2). Geels and Kemp (2007) further differentiate transitions in terms of whether they involve radical transformations of social systems versus reorientation of existing social organisation which are in line with a business as usual approach to modernisation.

As a transition, LCT involves multi-dimensional processes for, and choices about, how society reduces carbon emissions in order to tackle climate change and future environmental sustainability. There is wide agreement that harnessing citizen participation in processes of transition to low carbon future is an essential element of tackling climate change, both in terms of generating public support and awareness of the choices, as well as encouraging the necessary public mobilization (Moser and Dilling 2007a, Moser 2010, Whitmarsh *et al.* 2013). As a result, LCT entails highly significant socio-cultural and -political issues and therefore requires public discussion about changes to everyday social practices as well as imaginaries of the good life.

The significance of this discussion of transition is that it highlights that climate action also involves a radical shift or transformation in societal relations and processes. That is, LCT involves more than a simple process of behaviour change; it also involves persuading people of how to think (about change) as well as a discursive struggle about what to think about LCT. In other words, public engagement with LCT signifies the need for public debate about the type of society citizens want to live in and ideas about 'the good life', such as everyday questions about resource use and lifestyles as well as the risks and responsibilities associated with living in a changing climate and requires efforts to craft low carbon lives.

According to Carvalho and Peterson (2009) at the core of climate change are political, economic and ethical choices which have implications for future environmental sustainability. Thus, as a communication and public engagement challenge, focussing on LCT draws attention to the tangible or material dimensions of climate mitigation. Therefore, in contrast to the challenge of communicating abstract complex science associated with more general understandings of climate science as a physical phenomenon, focussing on LCT shifts discussion to the actions that will be experienced in local contexts and in everyday lives. In addition, focussing on LCT and tangible actions for reducing carbon emissions, draws attention to the limits of scientific knowledge (Hulme 2014). This view highlights that science alone cannot help us with the answers to these societal challenges. As Garvey points out,

> [C]limatologists can tell us what is happening to the planet and why it is happening, they can even say with some confidence what will happen in years to come. What we do about all of this, though, depends on what we think is right, what we value, what matters to us. You cannot find that kind of stuff in an ice core. You have to think your way through it. (2008, p1)

As a result, examining press representations of LCT draws attention to whether and how print media treatment socially (re)contextualises public discussion and facilitates broader public engagement by 'bringing climate change home'.

Post-Normal Science (PNS) and 'Wicked Problems'

The term 'wicked problem' is used to describe issues with particularly incomplete, contradictory and changing requirements, they are characterised by complex interdependencies, difficulties in defining problems and difficulty in identifying or reaching consensus on solutions (O'Riordan 2009). In other words, it describes issues where conventional methods and traditional science approaches to address a topic result in widespread crises and controversies. Therefore, discussion of climate change (and LCT) as a wicked problem conveys the understanding that it is not a conventionally solvable problem, as Nisbet (2013) argues it is more like the issue of poverty than the problem of acid rain. The significance of an understanding of climate change and LCT as a wicked problem which is fundamentally linked to energy consumption, is that it implies a need for a radical change in values, behaviour and institutions towards a paradigm of lower consumption. That is, it involves discussion of deeply political dimensions, such as choices about technologies, policies and lifestyle change (Scrase and Smith 2009, Chilvers and Longhurst 2016).

The concept and practice of PNS was developed to handle a world faced by increasingly 'wicked problems' and therefore a new relationship between 'experts, policy-makers and lay publics'. In particular, PNS argues for alternate approaches to public engagement, specifically

a move from the hierarchical relations associated with PUS (public understanding of science) in which public(s) are presumed as lacking requisite (expert) knowledge to participate in societal discussion and decision-making about the complex, contested and controversial risks associated with new technological developments.

Together, these two concepts highlight that the task of public engagement with LCT requires an integrated approach to problem-solving and communication. That is, it is more complex than social acceptance models of engagement or initiatives aimed at pre-determined behaviour change. Scholars argue that a social acceptance model of engagement emphasises engagement that is solely about increasing public trust and consent rather than facilitating dialogue and wider citizen contribution to a process of transition management and system change, and thus that public engagement is simply to enact pre-determined goals of behaviour change or policy acceptance.

Public Engagement and Media(ted) Public Engagement

Public engagement with climate change and decarbonisation are widely acknowledged as crucial aspects of tackling global environmental change, moving to future environmental sustainability and building successful transition pathways (Lorenzoni *et al.* 2007, Whitmarsh *et al.* 2011).  A number of researchers within environmental and science communication studies have highlighted the lack of definitional clarity and consistency of use within the literature on participation and engagement (Whitmarsh *et al*. 2011; Delgado *et al*. 2011; Featherstone *et al*. 2009). According to Delgado *et al*. public engagement, public participation or participatory democracy are often 'used indistinctively in academic texts and policy documents' (2011 p827). Within science communication, public engagement evolved from an early focus on public education, often referred to as Public Understanding of Science (PUS) to raising public awareness often associated with the term Public Engagement in Science (PES), which aimed to encourage public awareness of science and technology in everyday life.

Cass (2006) argues public engagement can be viewed in two senses and these can be distinguished by reference to 'who is actively doing the engaging'.  Thus, public engagement practice may involve 'the state of engag[ing] with the public', or it may involve the public engaging with technology or with specific ideas or proposals through information channels (*ibid*. p3). Rather than examining formal processes, this thesis zones in on the second usage and examines how press treatment of LCT shapes potential public engagement. Additionally, it draws on Lorenzoni *et al.'s* (2007) definition of public engagement with climate change

which highlights that it involves a connection '.... comprising cognitive, emotional and behavioural aspects' (p446). The important features to be taken from this definition is that the authors distinguish public engagement as a state rather than an event and also that it is conceptualised as an inter-related process that includes what people know, feel and do in relation to an issue. As a result, this thesis employs the term 'broader public engagement' to indicate the multi-dimensionality of engagement and signal that this approach encompasses the notion of an 'extended peer community' and 'dialogue' as proposed by Funtowitz and Ravetz (1993; discussed further in Chapter 3). It conceptualises engagement in line with democratic ideals and goes beyond the instrumental rationales for engagement as a means of achieving pre-determined outcome such as behaviour change or social acceptance of policy prescriptions which are a focus of much communications research aimed at developing more 'efficient' or 'effective' public engagement.

Implications of the shifting meanings of climate change

This brief introduction to perspectives on climate change illuminated the multiple meanings associated with the phenomenon and highlighted two important challenges for media and communications studies of climate change. Firstly, it shows the narrow focus of media research on climate change which primarily focusses on representations and reporting of climate risks, science and governance issues. This indicates a gap in knowledge about news media coverage of the solutions debate (discussed below) and climate adaptation. Secondly, it also highlights the difficulty of adequately capturing climate change stories – arguably, discussion of the social dimensions of climate change and the solutions debate may be included in press reports under a variety of terms. Additionally, as a new dimension of the climate change story, with local and personal impacts, LCT presents as a highly newsworthy topic compared to the abstract nature of climate change. Thus, this discussion also highlighted the efficacy of targeting the solutions debate and zoning in on representations of LCT in order to understand how print media shape (potential) public engagement with tackling climate change. It also outlined the approach to (mediated) public engagement adopted in this thesis and discussed 'broader public engagement'. This definition, which indicates engagement has an emotional, intellectual and material dimension, draws attention to the modalities of public engagement. Furthermore, these dimensions can be examined textually to give insights on how the deployment of ideas about LCT in print media shape potential cognitive, affective and behavioural engagement (discussed further in Chapter 3). Significantly, as an analytical framework, this definition offers a closer approximation of the social reality of public engagement; it not only sheds light on what is said, but how it is said

and thus presents insights on the variety of implications for audience engagement[3].  The following section examines whether or how awareness of these shifting meanings has informed print media research in this domain and it also reflects on scholarly debates about climate change communication generally.

## 2.2  From 'The Deficit Model' to 'Dialogue' and 'The Collective'

By way of providing context on the rationale for this thesis, this section sheds light on how developments in understanding the challenges of climate change communication have driven diversification in news media research analysing public engagement. Rather than an all-encompassing review of the literature, the focus here is on identifying the key debates and the challenges or future needs in research on news media and public engagement with climate change. This discussion proceeds in two parts. The first section synthesises key findings of recent overviews and critiques of research developments in climate change communication to establish the current 'state of play' in media and communication studies. The articles included Whitmarsh *et al.* (2013), Patt and Weber (2014), Anderson (2015a), Pearce *et al.* (2015), Ballantyne (2016) and Moser (2016)[4]. For brevity, the discussion is limited to insights on i) the assumptions about public engagement and communications and ii) the rationale for news media research. The second part examines print media analyses of climate change and LCT to identify under-researched aspects. As a result, this section presents a critical and necessarily selective analysis of key authors influencing thinking about news media analyses of public engagement with climate change. The aim is to show how this thesis adds to on-going debate about developing research in media and communication studies of climate change which is especially significant in the post-COP21 context.

Research on Climate Change Communication
Scholars agree that this field has seen a huge rise in publications over the last 10 years, and a substantial increase in frequency over the last five years (see Table 2.1)[5]. This high output, due in part to the multi-disciplinarity and range of dedicated research clusters, has given rise to several review articles, encyclopaedic academic volumes as well as edited books.

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[3] It also differs from other multi-modal analyses of media coverage which focus on texts, headlines and images and thus offer insights on modes of communication rather than modes of engagement.
[4] Significantly, these reviews, which are updates of earlier studies and therefore offer extensive discussions of advances in this field, each list over 150 references. Thus confirming they provide broad analyses of the work in this domain.
[5] These figures highlight a marked increase in output since 2011, when Schäfer and Schlichting (2014) identified 20 publications.

However, while this field has produced a rich and insightful body of research, according to Ballantyne (2016), these studies are limited by their reductive assumptions about communication, which tend to draw on a linear approach or the transmission model of communication. Ballantyne's analysis identified five research categories, which showed that output is dominated by 'strategic communication' and 'communication effects' research (over 50% of published studies) with very few conceptual articles (8%) or media research (14%). Thus, Ballantyne argues these analyses are based on limited conceptualisations of communication. Additionally, within this domain, news media are seen as an important channel of public communication about climate change and thus media analyses generally inform development of strategic communications or offer insights about public engagement (Ballantyne 2016).

**Table 2.1: Frequency of publications on climate change communications**

| Year | No of Articles |
|------|----------------|
| 2015 | 311 (Pearce et al. 2015)[6] |
| 2014 | >250 (Moser 2016) |
| 2013 | >175 (Moser 2016) |
| 2012 | >120 (Moser 2016) |

Overall, the meta-analyses highlight advances in understanding the complexity of climate change communication. In particular, the reviews draw attention to increasing awareness of the heterogeneity of public(s) among researchers and thus the limitations of studies aimed at identifying 'a' (one-size fits all) message or finding the 'magic trigger' (for behaviour change). While there is increased interest in understanding public engagement and different approaches for doing so, the rationale for engagement remains (pre-determined) behaviour change. Across the reviews, there was also agreement that many of the longstanding assumptions and approaches to communications and public engagement are now in need of updating. These insights also have implications for developing print media research. Across the studies, the main insights pertinent to analysing public engagement with climate change (and LCT) are summarised in Table 2.2 (below).

Print Media Analyses of Climate Change

The preceding overview of climate change communication drew attention to three significant shifts that are relevant to developing print media analyses of public engagement, namely the limitations of strategic communication and consensus messaging (Pearce *et al*. 2015), the

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[6] Based on a Web of Science search covering January – May 2015

**Table 2.2: Key findings for Public Engagement Research**

| Advances | Trends | Challenges | Calls for Research |
|---|---|---|---|
| Focus on 'Dialogue': Limits of the deficit model and scientific literacy (knowledge) or rational argument alone to trigger behaviour change | Increasing inter-disciplinarity and methodological sophistication, especially in-depth qualitative studies | Move from raising awareness to mobilising (collective) action | Role of hope, optimism and positive emotions on engagement |
| Strategic communication: Limits of consensus messaging, social marketing and 'effective' or communications | Greater interest in mass mobilisation such as collective forms of action and engagement rather than individual behaviour change | Communications strategies that empower action, rather than prescriptive strategies | Role of humanities and arts in climate change communication |
| Greater understanding of climate scepticism and news media coverage of climate change globally | New dimensions of climate mitigation: representations/coverage of IPCC reports, technology and policy | Overcoming barriers: Climate change fatigue; public apathy; Hope Gap; Politicised, polarised climate science debate; Response Scepticism | More insights on affective engagement |
| Interest in long term, active engagement and political rather than and social acceptance | Interest in 'motivations' for engaging and analyses of cultural dimensions especially values; beliefs systems; worldviews | | Communicating complexity and uncertainty |
| Diversification: Visual communication Alternate media/games Representation/coverage of Values, ethics, the future | Focus on representations of weather, local dimensions of climate change | | Multi-modal research; Explanatory research; Social, digital media research |
| Insights on role of affect, emotions and values on engagement | Professionalisation of communications research | | Research underpinned by communication and media theory |
| Recognition of dissensus (and plurality) in public and news media debate within democratic societies | | | Inter-disciplinary research and comparative studies |

shift from the deficit model of communication to dialogue (Anderson 2015a, Pearce *et al*. 2015; Moser 2016) and greater interest in fostering collective action (Moser 2016). While the field is dominated by its focus on strategic communications and thus studies examine news media treatment to understand implications on behaviour change, it also highlighted a shift from concern with 'the Science' to 'the Social' and most recently, to 'the Cultural'. In other words, the key transformations in climate change communication are reflected in developments in print media analyses and broadly fall into the above three phases. Therefore, whereas the first two phases focus on whether and how print media representations mobilise behaviour change and implications of press coverage on potential political engagement, the third phase focusses on how press representations shape public motivations to act.

Overall, studies in 'the Science' phase tended to inform a deficit model or linear view of communication. As this conceptualisation of public engagement assumes more science and better science information is needed to mobilise behaviour change, these studies were more concerned with understanding how print media shape cognitive engagement. Thus, this phase maybe differentiated from the following phases by the preponderance of studies investigating science literacy and assessing the deployment of rational arguments about the scientific evidence of the reality of climate change. Therefore studies in this phase focussed on content analyses and frequency of media coverage (Corbett and Durfee 2004, Antilla 2005). However, this characterisation primarily serves to highlight the progressive nature of the field and show that researcher interests transformed in tandem with developments in understanding of public engagement. In addition, some early researchers, notably Boykoff (2007) were already moving from the fixation with literacy to more socially focussed analyses.

Sociological interest in climate change and public engagement points to the need to broaden research on the climate change problem by moving from an exclusive focus on its roots as an environmental problem defined by physical sciences and with solutions motivated by deference to economic logic, to examining how we are collectively reorganising society and systems of living to respond to, and live with, the impacts of a changing climate. Therefore, studies associated with 'The Social' phase move to more nuanced understanding of the communications challenge and to concerns with mobilisation as involving political engagement. Therefore they examine whether press representations highlight questions about social change rather than encouraging behavioural change. Thus these studies draw on framing and discourse analysis to examine how print media influence political engagement

through representation of climate policy and politics (Carvalho 2005, Gavin 2009a, Cross *et al.* 2015) and public understanding of contrarian and sceptical arguments (Gavin and Marshall 2011, Painter and Gavin 2016) as well as how print media shape political subjectivities (Carvalho 2010, Fleming *et al.* 2010). This phase also takes issue with the focus on the individual, arguing for greater attention to 'collective' involvement and forms of engagement. They advance the view that most of the time people do not behave as individually rational economic consumers maximizing utility from the basket of goods and services they purchase and use (Dayrell and Urry 2015). These scholars argue that people are creatures of social routine and habit and that people are locked into social practices and social institutions, including families, households, genders, work groups, nations, and so on (Shove, 2010; Shove et al., 2012).

More recent focus on 'The Cultural' dimensions of engagement focusses on overcoming public apathy or the social organisation of denial (Norgaard 2011, Rowson and Corner 2014). These scholars argue the communication challenge is not one of more information, but of translating scientific knowledge into social facts and making the issue more socially relevant (Rowson and Corner 2014). Thus, they argue that the public engagement challenge is one of connecting with public(s) and motivating public concern and interest and therefore focus on understanding affective engagement (i.e.) how press treatment 'connects' with audiences. In particular, these studies focus on how visual and linguistic elements trigger an emotional or experiential connection. For example  research by (O'Neill 2013, Smith and Joffe 2013, Nerlich and Jaspal 2014, O'Neill and Smith 2014) examining portrayals of climate risks, such as photographs of extreme weather and use of provocative language and metaphors (Foust and O'Shannon Murphy 2009, Hellsten *et al.* 2014). Within this more recent phase scholars have also begun to examine representations of the future in blogs (Fløttum *et al.* 2014) and multi-modal analyses of press representations (Wozniak *et al.* 2014).

However, while studies in 'The Social' and 'The Cultural' phase indicate diversification, they still prioritise *either* mobilisation *or* motivation. In other words, they do not adequately account for the social reality (and messiness of) communications and public engagement. Thus, these studies offer partial insights on how print media shape (potential) public engagement. Additionally, studies in the early phase, focussing on scientific literacy alone, are based on reductive assumptions about public engagement and outmoded conceptualisations of communication.

This overview of empirical research reveals a diverse field that has responded to developments in understanding of public engagement with climate change. However, it also highlights gaps and thus scope for extending studies of how press shpaes social reality of public engagement. Specifically, studies have yet to illuminate how press treatment routinises the inter-related modes of public engagement and thus shed light on the implications for (potential) public mobilisation *and* motivations to act on LCT. Therefore, this study maps print media representations of LCT in order to investigate how they broaden the conversation and connect publics with LCT. The review also indicated that print media analyses tend to inadequately conceptualise climate change. In other words, despite awareness of the multi-dimensional nature of this phenomenon and its shifting meanings, studies focus on narrow understandings of climate change mitigation as climate science, climate risks and climate governance or policy. Thus the focus has been on climate impacts rather thanexamining how press construction climate responses. The final section of this introductory overview of the literature examines the nascent field of print media research on LCT.

Print Media and Public Engagement Studies of LCT

Overall, the literature on print media and LCT is sparse, particularly in terms of understanding the influence on (potential) public engagement or the role of the press in public debates about energy and decarbonisation. However, given that tackling climate change requires inclusive, integrative solutions which have widespread public backing and support (Moser and Dilling 2007) and the centrality of the press in the production and transformation of information about science and technology related issues such as LCT (Nelkin 1995) as well as print media's role as a one of the main arenas where public(s) engage with LCT (Roberts et al. 2013), analysis of press representations of LCT is a highly significant site of interest.

The majority of studies in this nascent field focus on specific facets of LCT and therefore do not assess the prevalence or absence of different approaches for reducing carbon emissions. Instead, the field is dominated by discussion of energy-related issues and a large number of studies investigate new technologies. For example, comparisons of print media representations of renewable energy (Djerf-Pierre *et al.* 2015), prioritisation of energy technologies (Maeseele *et al.* 2015), low carbon housing (Cherry *et al.* 2013) and comparisons of energy policy (Uusi-Rauva and Tienari 2010) as well as representation of energy crisis (Świątkiewicz-Mośny and Wagner 2012). Another focal area examines representations of controversial technologies (Asayama and Ishii 2013, Feldpausch-Parker *et al.* 2013, Pietzner

*et al.* 2014, Mullally and Byrne 2016) and more recently, representation of biofuels in political cartoons (Einsiedel *et al.* 2015). Thus, apart from Nerlich and Koteyko (2009, 2010) and Koteyko *et al.'s* (2010) work on the rise of new forms of language around carbon ('creative carbon compounds'), this domain tends to parallel approaches to climate change, by narrowly focussing on press representations of technology and policy. Specifically, these studies focus on print media representations of (technological/policy) *control* rather than analysing whether/how the press represent the social dimensions and implications for *social change* (or conflict) associated with LCT. In doing so, they primarily profer insights about public engagement as located within the realm of cognitive engagement.

More broadly, conceptual scholarship on technological and infrastructure change around LCT notes that this field is dominated by debates about 'managerial approaches' and 'green innovation' (i.e.) prescriptions for governance (Barry *et al.* 2015) and optimistic claims about technology (Geels 2014, Sorrell 2015). However, as Barry et al. point out 'energy transitions are political struggles, not simply technological market-driven policy decisions' (2015, p3) and thus that there is a need to highlight issues of power and legitimacy in public discussion and research on transitions (Shove and Walker 2007, Scrase and Smith 2009). Moreover, critics argue the power dynamics driving transition are authoritarian (Stirling 2014a), instrumental (Webb 2012), and that many of the assumptions about energy technology are reductive (Sorrell 2015). Furthermore, highlighting that decisions about LCT also involve questions of politics, power and agency, these scholars argue that this view maintains that conceptualising public engagement with LCT in terms of social acceptance and consensus is problematic. They point out that this robs public debate of discussion about political control of LCT, and of who gets to decide crucial questions about the direction of innovation and transition pathways (Owens and Driffill 2008, Batel *et al.* 2013) and thus limits possibilities for social innovation and more creative discussions about building transition pathways (Cherry *et al.* 2013).

This review therefore highlights the need for research on press representations of LCT as a multi-dimensional issue and the implications for broader public engagement. Additionally, given the more nuanced understandings of public engagement as an inter-related process, there is a need for analysis of how press conceptualisations and articulations about LCT routinise potential cognitive, affective and behavioural dimensions of engagement with LCT. That is, research that investigates how print media constructions shape the social reality of broader public engagement with LCT.

## 2.3 Research Rationale and Questions

This outline of trends in print media analyses of climate change highlighted a diverse and progressive field of research which may be characterised as moving from a preoccupation with analysing media reporting of 'the Science' to more recent concern with illuminating 'the Social' and 'the Cultural' implications of press treatment. It also showed that developments in climate change communications, especially debates about rethinking public engagement with climate change, are influential. In other words, there is increasing acknowledgement of the limits of (climate) science literacy or knowledge, to trigger behaviour change and other public engagement outcomes. These insights have led to novel research questions and more nuanced print media analyses. For example, recent studies assess political engagement, as well as values, ideas about the future and expectations in print media representations and recognise the significance of heterogeneous public(s) and barriers to engagement such as public apathy, the social organisation of denial or response scepticism. However, despite ongoing innovations in the conceptualisation of public engagement and the rationale for analysing press treatment of climate change, (to date) few published studies comprehensively investigate the shifting meanings of climate change by zoning in on the 'solutions' debate. Thus, while studies have begun to examine aspects of decarbonisation, especially energy related issues, these research designs do not shed light on whether or how press treatment privileges particular routes to, or visions of, LCT. Likewise, print media analyses focus on narrow conceptualisations of public engagement either assessing implications on (potential) public understanding (and cognitive engagement) or on public motivations (affective engagement). Therefore this overview indicates there is a need for print media research that explicitly examines LCT as a multi-dimensional issue and that assesses media(ted) public engagement as an inter-related process involving cognitive, affective and behavioural dimensions. In other words, there is a gap in our understanding of how press treatment shapes (potential) broader public engagement with LCT.

As a result, this thesis undertakes a comprehensive, in-depth account of Irish print media representations of LCT. In particular, it examines how prevalent print media themes routinise public meanings, ways of talking and ideas about practices/behaviour (see Table 2.3). In doing so, the findings shed light on whether prevalent print media themes privilege fora (public versus private sphere), formats (top down versus bottom up) and motivations (affective inputs) for public engagement. In addressing this question in this way, the study contributes Irish data to the growing international conversation on media and climate change

**Table 2.3: Overview of Central Research Question and Sub-Questions**

| Central Research Question: How does Irish print media treatment of LCT shape potential broader public engagement? | | |
|---|---|---|
| **Chapter 4: Development of Media Themes about public engagement with LCT** What are the different themes in Irish print media conceptualisations and articulations about LCT | | |
| **Chapter 6:** Carbon Literacy and Cognitive Engagement | **Chapter 7:** Low Carbon Practices and Behavioural Engagement | **Chapter 8:** Carbon Repertoires and Affective Engagement |
| **How does Irish print media treatment of LCT shape carbon literacy and (potential) cognitive engagement?** | **How does Irish print media treatment normalise ideas about Low Carbon Practices and potential behavioural engagement with LCT?** | **How do carbon repertoires deployed in Irish print media mainstream potential affective engagement with LCT?** |
| What ideas about LCT are deployed in Irish print media treatment? | What ideas about low carbon practices are deployed in Irish print media treatment ? | What are the main linguistic resources of the dominant carbon repertoires[7]? |
| How does prevalence of media themes about LCT shape carbon literacy? | How does media treatment normalise ideas about potential behavioural engagement with LCT? | How do dominant carbon repertoires mainstream (potential) affective engagement with LCT? |
| What are the implications of dominant media theme for (potential) cognitive engagement with LCT? (Formats for Engagement) | What are the implications of the dominant media themes for (potential) behavioural engagement with LCT? (*Fora for Engagement)* | What are the implications of the dominant media theme for (potential) affective engagement with LCT? (Motivation for Engagement) |

studies. It also addresses calls for research on media and public engagement (Whitmarsh *et al.* 2013)for more inter-disciplinary research (Olausson and Berglez 2014) and most recently, Schäfer *et al.'s* (2016) call for multi-modal analyses. However, while Schafer et al. (in line with several other researchers) argue media studies of climate change now needs more explanatory research, this study is descriptive. Nonetheless, it is argued that as this thesis maps an important new dimension of climate change journalism, descriptive research is a useful and necessary first stage in understanding this under-researched terrain.

Finally, although this study undertakes a multi-modal analysis, it is also acknowledged that, print media analysis can only offer a partial insight on public engagement. Hence, the study refers to (potential) public engagement throughout. In other words, it recognises firstly that

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[7] Dominant repertoires are those that are the most prevalent and currently found in Irish print media treatment of LCT

media audiences have agency and are heterogenous, and secondly, that print media representations are only one channel of influence on public debates – for practical reasons, it was not possible to include digital or broadcast media, however these are also important contributions to broader public engagement with LCT (discussed in Chapter 9).

## 2.4 Summary

This chapter situated this thesis within the literature on media and communication studies of climate change and identified how it contributes to knowledge in this domain. Drawing on recent conceptual reviews of climate change communications and key scholars in the field, it presented an overview of the main developments in print media studies of climate change and identified issues pertinent to analysing press representations. This highlighted a shift in how scholars conceptualise public engagement with climate change and a focus on motivating collective forms of action. The review showed that this research field is characterised by increasingly nuanced investigations of the communications challenge. However, while these studies have produced important insights on how print media representations influence climate change communication, to date, this literature hasn't fully incorporated the shifting meanings of climate change or paid sufficient attention to the modalities of public engagement. In other words, this chapter identified that few studies have zoned in on whether and how press treatment of LCT privilieges, or silences, particular solutions or visions for building transition pathways. Nor have they mapped the implications of print media representations on potential broader public engagement.

Thus, there is now a need for news media studies to comprehensively investigate alternate dimensions of climate change, especially the multi-faceted processes for reducing carbon emissions. Therefore, this thesis assesses how Irish press treatment broadens the conversation and connects public(s) with LCT. Significantly, by investigating print media and climate change in this way, this thesis acknowledges the *multi-dimensionality* of climate change and attempts to examine *the complexity of public engagement* to offer insights on how the social context may influence potential citizen involvement with building transition pathways. In doing so, the research attempts to foreground, rather than obscure the 'messiness' or social reality of climate change and public engagement and thus the study respond to calls for more socially-relevant research and news media studies that enhance society's ability to take action (Carvalho 2010a, Smith and Lindenfeld 2014, Moser 2016).

The following chapter presents the theoretical and conceptual framework. It maps out the key concepts and theoretical approaches underpinning the research design and provides the rationale for the specific theoretical perspectives adopted to understand and explain the potential implications of print media treatment for public engagement with LCT.

# Section 2:
# Theoretical and Conceptual Framework

# 3

## Analysing Media and Broader Public Engagement with LCT

The previous chapters established that public engagement is a prerequisite of building successful transition pathways and a central feature of news media and communications research on climate change. They also highlighted that the multiple definitions and theories of engagement relate to different assumptions about communication and noted that this has given rise to ambiguity about the enactment of engagement practices. This ambiguity has also led to scepticism about the taken-for-granted positive-value associated with public engagement initiatives (Phillips *et al.* 2012b) and concern about whether calls for wider public engagement (with climate change) simply 'serve incumbent interests rather than contributing to socially sustainable and democratic decision-making' (Höppner 2009, p1). Thus, critics point out that while the rhetoric of public engagement is in line with the ideals of democratic accountability, these processes are often deployed because they confer legitimacy to policy implementation. In other words, that public engagement is often simply a means of manufacturing 'social acceptance' and that 'Like beauty, public engagement is in the eye of the beholder' (Irwin 2008, p206). Despite this complexity, public engagement remains the focus of policy-maker, stakeholder and government initiatives for achieving LCT. Furthermore, due to news media's social shaping influence (Boykoff and Crow 2014, Doyle 2011, Carvalho 2010,) press representations of LCT also have implications for (potential) public engagement. Thus, because news media and the press occupy the space where public and policy agendas are shaped and the parameters of public debates are formulated (Anderson 2014), they are also an important site for understanding the social reality of public engagement (discussed below). As a result, press representations of LCT are an alternate source of information with which to develop new insights about (potential) public engagement with LCT.

This chapter presents the analytical framework to guide the assessment of press treatment of LCT. The chapter is organised in three parts. The first section describes the overarching theoretical perspectives, the second traces developments in how public engagement with global environmental change is conceptualised and enacted.  The concluding section outlines the rationale for employing 'broader public engagement' as the multi-modal framework and

introduces the analytical approaches for interpreting the different modes of public engagement.

## 3.1 Theoretical Pillars

Communication and Public Engagement

Communication is a complex term, which can be defined in several ways. As a result, descriptions such as 'good' or 'effective' communication mean different things to different people in different situations. The popular or common-sense understanding equates communication with the flow of information (Fiske 1982). Communication is understood as an activity, it is *what* we do. However, academic scholarship defines communication as 'the process by which people, acting together, create, sustain and manage meanings through the use of verbal and nonverbal signs and symbols' drawing attention to the key terms: people, acting together, meaning and context (Conrad and Poole 2012, p5). This view highlights that communication is more than an activity, it is also the means by which we produce social interactions (Fiske 1982), in other words, it is *how* we operate. Thus, communication can be understood as intentional and interactional giving rise to transmission and transactional models of communication.

Fiske (1982) argues communication can be divided into two schools: the process school (common-sense) and the semiotic school (exchange of meanings). Drawing on an understanding of communication as the transmission of messages, the process school sees communication as a linear process involving the movement of messages between senders and receivers. This school views communication as functional, to achieve a desired effect and communication problems are understood as 'noise' in the channel and/or incorrectly understood messages. Meanwhile, the semiotic school focusses on texts and culture and their role in the generation and exchange of meanings. It is concerned with the 'role of communication in establishing and maintaining values and on how those values enable communication to have meaning.' (*ibid.*, p 157). The connection between communication and culture was most notably voiced by Carey (1989) who believed the two were synonymous, arguing that communication both structures human action and acts as a framework for social relations (Grossberg 2006). Elaborating on this, Geertz notes that the conceptual models of communication we choose, therefore describe the social relationships we forge and the types of society we build (Soderlund 2006). In other words, we can identify whether communication strategies are an act of community building and sustaining social relations or power relationships aimed at achieving predetermined outcomes. The cultural or ritual view

resonates with the etymology of communication, which derives from the Latin *communicare* – 'to impart', 'share' and 'to make common'.

From a communication perspective, this thesis adopts the view that language *does* something as well as *says* something. Thus it draws on the idea that language shapes understanding, creates meaning and can orient us to a wider world (Cox 2010, p20). This constitutive understanding of commmunciation is in contrast to the transmission model of communication in which little account is given to the meaning component of language and the view that communication acts on and shapes our awareness. In other words, this study does not follow the linear (or transmission) account of communication which has implications for understanding the influence of print media representations (discussed further below).

Public Engagement

This thesis conceptualises public engagement as a state and is interested in understanding how press representations shape 'what people think, feel and do about climate change' (Whitmarsh *et al.* 2013, p9) rather than on assessing formal engagement initiatives involving face-to-face events. Thus, as discussed, public engagement and participation are distinguished in this thesis. However, it is worth elaborating on this to clarify the approach to assessing media(ted) public engagement. The term public participation is often used to describe formal public engagement initiatives. It is associated with public discussions about the best way to conduct different aspects of policy-making, including public consultation and deliberation, generally at events aimed at facilitating the collection or integration of public(s) views (Cass 2006, p3). Thus, participation initiatives may or may not be deliberative. By way of example, Cass notes a referendum involves public(s) in decision-making but not dialogue. However, best practice in public engagement, on the other hand, aims at developing any number of ways in which information, views or opinions flow backwards and forwards between public(s) and decision-maker (*ibid.*). It is characteristically associated with ideas of dialogue (Phillips *et al.* 2012a) and agency and legitimacy are considered vital aspects of public engagement with science, technology and the environment (Blok and Bertilsson 2009, Wynne 2006). Thus, extent of social (re)contextualisation and plurality of views are important ways of assessing public engagement initiatives including media(ted) public engagement.

Communication and public engagement are also related concepts. According to Moser and Pike (2015) public engagement constitutes the overarching process and communication is the means by which publics are engaged. Thus, the communications model adopted for public

engagement initiatives has implications on the operation and outcome of engagement processes. Echoing Lorenzoni et al. (2007), Moser and Pike argue, 'engagement describes processes of involving publics in matters of public concern and decision-making and that these processes facilitate cognitive, emotional and behavioural engagement' (*ibid*., p112)[8] whereas communication is one means of engagement, and thus can involve two-way dialogue or various approaches to information exchange. This highlights how different approaches to public engagement have developed in response to different understandings of the communications challenge and different objectives for the public engagement process. In other words, different theories of communication underpin different models of engagement (Moser and Dilling 2011).

Thus, my understanding of the role of communication within public engagement follows Moser and Dilling (2007), who argue '"better communication" goes beyond simply designing more effective ways of conveying information from an expert to a lay audience' (p15-17). Additionally 'we have come to see the importance of dialogue, of the genuine exchange of other-than-scientific-viewpoints and needs, and the integration of climate change with other-than-climate-change concerns' (*ibid.*). This call to focus on the wider societal aspects of communication about tackling climate change is echoed by a range of researchers, from Sarewitz (2011) to Webb (2012), Shove (2010), Blok and Bertilsson (2009) and Whitmarsh *et al.* (2013) among others. Whitmarsh et al. (2013) argue 'we need to recognize the essential and diverse, roles other disciplines, knowledge's and framings, besides those offered by the physical sciences, can play in engaging the public with climate change' (p17).

As this thesis is interested in the potential implications of print media messages, it is also important to understand theories of how news media messages influence audiences or public(s) and the role of news media as a public sphere. The next section presents a brief introduction to the main theories explaining news media's role as a public sphere and in meaning-making that are drawn on in research involving print media representation of science and environmental debates.

News Media and Meaning-Making

The mass media play an important role in public communication and discourse and therefore form an essential part of the public sphere. As a general concept, Koller and Wodak describe the public sphere in its everyday aspect as 'that part of life in which one interacts with others

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[8] Their definition also includes a wider range of dimensions such as spiritual, professional etc.

and with society at large' (2008, p1) with a political function, enabling citizens to participate in democratic dialogue and as located in the media. As a public sphere, the media (legacy) have a dual function as an arena and actor. As an arena, news media provide a platform where claims-makers can compete in definitional struggles (Hilgartner and Bosk 1988) about public issues. News media participate in claims-making by 'accepting and modifying frames presented to them' (Miller and Parnell Riechert 2000, p53), they play an important role in deciding whose framing of reality dominates (Hansen 2010) and whose framing is obscured (Allan, Adam, and Carter 2000). Additionally, news media choice of sources and experts as claims-makers and issue-definers is also crucial as this plays a key role in constructing the environmental agenda (Anderson 2000, p51). In this sense, news media are the main forum for public articulation of environmental and scientific issues (Cox 2010, Hansen 2010, Carvalho 2010). According to Gamson and Modigliani (1989) news media discourse and public opinion are two parallel systems of constituting meaning and news media discourse is essential for understanding public opinion.

Thus, the generally accepted view of the significance of news media's role as public sphere is that it confers power on media coverage. In particular, it links media coverage to theories of media influence. While there are several schools of thought on the nature and extent of news media influence, most researchers accept that they are a significant force in shaping public opinion and setting the public agenda. In brief, these theories explain how news media coverage raises awareness of issues and therefore shapes public perceptions, they also explain how the frequency of media coverage (or issue-attention) highlights news media's agenda-setting function and thus the view that media coverage influences salience (what publics think about).  However, because these theories draw on a linear view of communication, many scholars argue they are limited. In particular, critics point out that these theories inadequately conceptualise audience(s) and question the view that audiences are 'empty vessels' waiting to be 'filled' with information. Instead, they maintain that media consumers play an active part in deciding whether to accept, reject or negotiate mediated representations (Hall 1973, cited in Schäfer *et al.* 2016). According to this school of thought, the omnipresence of media in daily life has given rise to a mediated culture in which news media both reflect and create culture. As a result, these scholars propose that news media influence involves a circular relationship between media and audiences (McQuail 2010) and therefore that news media representations are involved in shaping meaning-making.

The processes influencing people's meaning-making occurs at a number of levels and are shaped by a variety of communication factors such as individual and social influences, to mediation and discourse in the public sphere. In particular, media theorists such as Silverstone (1999, 2005) maintain that the intensely mediated nature of everyday life has led to the idea of mediation, which creates a 'texture' to our experience of the world. According to Silverstone, 'Mediation is something 'the media do' – a process of cultural production and gate-keeping by powerful media institutions that intervenes in (and indeed distorts) the relationship between people's everyday experience and a true view of reality' (Lievrouw 2009, p313). It is a term which describes how the media actively creates a symbolic and cultural space in which meanings are created and communicated beyond the constraints of face-to-face, and which is becoming increasingly significant for the conduct of public institutional and private life. In other words, mediation recognises the significance of the process of cultural production and the symbolic environment and mediation 'enables, supports or facilitates communictive action and representation' (Lievrouw and Livingstone 2005, p8). Drawing on this view of media influence, this analysis follows Carvalho and Burgess's (2005) cultural circuits model to explain how print media texts shape potential public engagement with LCT. This model views the public sphere as a discursive arena where social problems are negotiated and maintains that print media texts 'encapsulate the social contexts in which they are produced and shape people's readings of and acting upon the world. This, in turn, motivates a new cycle of production of texts' (*ibid.*, p1461). As a result, print media are 'important arenas and important agents in the production, reproduction and transformation of the meaning of climate change' (Carvalho 2010, p172). Based on this, press representations shape the possibilities for public (in)action as well as public understandings and motivations to act.

Within climate change communication, researchers have employed the concept of mediation to explain how print media texts (or discourses) influence meaning making and significantly, to understand the limits of that process. O'Neill's (2013) discussion of the press' social shaping influence is particularly useful:

> The discourses arising from the media represent an important part of the process by which people construct meaning (Gamson and Modigiliani 1989) about the issue of climate change. This is a negotiated process between media and audiences – it is not that audiences act as a passive receptor on whom the media 'work their magic' (Domke et al. 2002; Gamson and Modigliani 1989), but that the media offer audiences an array of interpretative packages (which include metaphors, images and moral appeals) to help conceptualise an issue (Gamson and Modigilani 1989). The media help to set the boundaries of the debate, (and to trigger and perhaps widen) political discussion among citizens (Kim et al. 1999) – though the opposite is also true, in that

the media can constrict the terms of an issue by influencing what is not discussed. Thus, media coverage of climate change does not determine how people engage with climate change, but it does shape the possibilities for engagement (Carvalho and Burgess 2005). (*ibid*. p11)

The preceding discussions have outlined that news media are a key means through which public meanings about science and environmental issues circulate in society and  that news media discourses have a number of influences on public(s), for example shaping meaning making. In particular, it advanced the dominant view on how news media, through its role as a public sphere, influences how public(s) collectively construct meaning of the social world and the social understanding of reality. The next section presents an overview of issues in public engagement with science and technology that are relevant to an assessment of print media representations of LCT.

Science, Technoscience and Public Engagement

Technological advances from the Stone Age to the Industrial Revolution, have always influenced how we live,  however  technoscientific innovation poses additional challenges for the science-society relationship as well as for the science-nature relationship. This is because as technoscientific innovation is increasingly used to underpin economic growth, science and technology have become far more central to our lives; supplying jobs and industries of the future as well as changing our ideas about what constitutes 'the good life' and the forms of everyday living that accompany technoscientific progress' (Healy 2011).

The literature on technoscientific innovation in everyday life also draws attention to how the interaction between citizens and the new hardware of contemporary society is mediated and configured (Shove 2010)[9]. Additionally, science and technological progress create potential new contested sites of public debate particularly around ethical, moral and social questions (Jamieson 2010). This has raised questions about the place of science in society and specifically, of epistemic politics in which the 'top-down model of environmental problem-solving…. grants power to networks of scientific experts, specialists and bureaucrats' (Bäckstrand 2004, p29). In other words, it draws attention to the view that decisions about scientific advances are too important to be left to scientists as the impacts and implications of technoscientific advances are widespread. These concerns gave rise to the dialogic and

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[9] For example, Marres (2012) argues that material participation presents an additional site of political participation, making the point that there is a need to move from a fixation with understanding participation as centred on literacy ('informational citizenship') to performance**.**

participatory turn in science and calls for more public involvement in decision-making related to technoscientific progress.

According to Lacey (2012), the defining feature of technoscience is that it exploits the technological contribution of science and is concerned with new possibilities of what we can make or do – 'it develops knowledge about practical, industrial, medical or military innovation' and significantly, is related to economic growth and competition. While techno scientific innovation suggests progress through the provision of solutions to social and economic challenges, it is also implicated in (and often the cause of) ecological and environmental degradation (e.g.) in the form of waste, pollution and carbon emissions associated with anthropogenic climate change. Significantly, Rip and Kemp (1998) argue technological progress and climate change are linked in a number of ways ' […] as a source of the problem, a possible solution, and an instrument of measurement and analysis' (p327)

At the same time, techno scientific progress is motivated by powerful vested interests from Big Science, politics and industrial/corporate organisations, and techno scientific developments also involve PNS. They are major drivers of economic growth and social progress in the form of new services and industries, jobs and solutions to a range of social problems, such as healthcare, innovations in agri- and green- technologies, as well as new materials and objects associated with transformations in everyday lifestyles. It is the last feature, the influence of techno scientific progress on forms of everyday living that has lead to a re-evaluation of the assumptions about citizen participation in determining the direction techno scientific innovation. This is because, PNS and techno scientific developments not only change the way we live in terms of how we go about our everyday lives (material participation) they also condition and shape how we think about the world.  Thus techno-scientific progress also raises questions about citizen involvement in decision-making about the direction of scientific endeavour and the need for more democratic approaches to engaging citizens.

As discussed in Chapter 2, PNS describes a new class of scientific endeavour in which traditional assumptions about the neutrality of science are questioned. As a result, scholars proposed that 'science should become a multi-directional process of social negotiation' (Lorenzoni *et al.* 2007). Thus, PNS introduced new ideas about the science-society relationship such as how it could become a more democratically informed process. In

particular, as a method or practice, the hope was that PNS could be employed as a 'cure all for democratic deficit' and 'the key to achieving a sustainable future' (Turnpenny *et al.* 2011).

The transition to low carbon future presents a paradigmatic case study of the above concerns about public engagement. As a multi-faceted process, LCT involves a range of strategies for reducing carbon emissions such as sustainable development driven by techno scientific innovation, to sustainable consumption associated with social innovation and changing social practices. Thus, while techno scientific innovation provides useful approaches for LCT, they are not the only option. Indeed, critics of sustainable development for example, argue for greater attention to social innovation and social practices associated with consumption. Highlighting that LCT involves processes of innovation related to new systems of social organisation, they argue that citizen participation therefore also involves political discussion and decision-making about changing social systems and social practices around energy, jobs, transport and consumption as well as leisure and travel all of which are central to how societies function. Highlighting the complexity of the process of innovation, which Urry (2011a) argues are 'non-linear, systemic and unpredictable', draws attention to the insight that such processes are neither technological, or economic, or social, or political but all three of these. Moreover

> …innovation often involves powerful individuals or organisations playing a pivotal role in developing the idea of the fashionable, for how systems tip from one state to another (*ibid.* p110)

Thus, public engagement in the transition to low carbon society involves a range of complex contextual processes and thus goes beyond the simplistic and reductive accounts of behaviour change which dominate research and policy agendas. In other words, the transition to low carbon future is also about future imaginaries of what constitutes the good life and associated changes to everyday lifestyles and social practices. As such the societal debate is also about 'a green turning and a techno scientific turning' and related power struggles between a technologically-led transition and debates about consumption (Mullally 2012).

The above discussion highlights the relationship between techno scientific progress and PNS in terms of ideas and *practices* associated with public engagement. In particular, it outlines how the motivations and rationale for citizen participation with PNS are much broader than the reductive accounts described by behaviour change models which dominate thinking in climate change and sustainability communication (Phillips et al. 2012; Hargreaves 2011).

Likewise, the potential roles and constructions of citizens go beyond the characteristically thin accounts of the social world associated with processes driven by the logic of instrumental economic rationality (Jamieson 2010, Shove 2010a). However, the significance of a PNS perspective, as Ravetz (2006) argues is that while the task of achieving sustainability is partly about techniques, it is also, fundamentally about changing consciousness.

Thus the societal debate and response to LCT also involves discussion and decision-making about societal transition and techno scientific innovation and raises social concerns about power, and the nature and extent of public engagement as well as what is being normalised and legitimised in public engagement initiatives (Irwin *et al.* 2000, Felt and Fochler 2010). Typically, sociological concerns around these issues centre on the view that techno scientific progress, drawing on PNS, entail complex, contested and controversial scientific findings which are characterised by power struggles over risk definitions based on 'competing rationality claims and competing values and interests' (Maeseele 2007). In essence, they constitute 'different worldviews' based on different epistemological interests (*ibid.*). As a result, public debate, consensus and societal participation with LCT (and tackling climate change) are inextricably linked with power struggles over meaning because knowledge of this topic is beyond everyday (non expert) understanding (Bowman *et al.* 2009). This point is significant one in relation to tackling climate change, because as a multi-dimensional challenge, the nature and extent of citizen participation in tackling the problem is related to how the problem is defined (Carvalho and Pereira 2008; Evans and Steven 2007).

Personal Reflexivity

Several scholars influenced the choice and articulation of the research problem. In particular, this study draws on Hulme's (2009) definition of Climate Change as a multidimensional phenomenon. This opened up a nuanced understanding of climate change as a social, cultural and political issue, which is appropriated by different agendas to promote their own causes. Establishing the distinction between Climate Change and LCT and the approach to LCT however, was more difficult. The position adopted in this thesis, that LCT involves questions of 'How To and How Much' carbon emissions reduction as opposed to 'Whether To or Why To' tackle climate change, was inspired by Evans and Steven's (2007) observation that climate change essentially involves two debates: a definitional struggle (about climate science) and a solutions debate (about processes of decarbonisation). This provided the insight that LCT could be located within climate change communication literature, as well as the more

dominant focus on socio-technical transitions or transitions management studies. The thesis is also indebted to Nerlich (2012) and Nerlich and Koteyko's (2009, 2010a, 2010b) research on creative carbon compounds and low carbon metals in relation to identifying suitable keyword searches and interpreting press representations. The research is also influenced by the 'Cultural Turn' in climate change studies and in addition to Hulme (2013) scholars, such as Carvalho (2010), Doyle (2011) and Boykoff (2011), who take a critical approach to press representations and public engagement. Furthermore, my views on public engagement are draw on critical public engagement studies within STS scholarship and the view that critique is a key constituent of engagement (Irwin *et al.* 2012) as well as the work of Lorenzoni et al. (2007), and Moser and Dilling (2007, 2004) among others.

Together, these factors informed my understanding of the need to investigate climate change as a complex issues and to zone in on LCT as an adaptive challenge. In doing so, this thesis examines the complexity of communication about climate change, and foregos approaches to public engagement that de-contextualise the challenge as a reductive task of improving science communication or fine-tuning behaviour change based on methods and theories from cognitive/behavioural science. However, that is not to say, I believe that these approaches do not have a place in communications as part of a wide range of public communication activity (although, so far, neither cognitive science theories, nor rational discussion and evidence-based science communication have produced the expected public response). Instead, this research starts from the position that alternative approaches and understandings are required for broader public engagement with LCT. These approaches are referred to throughout the thesis as 'an emerging literature on public engagement'. This phrasing is used to cover the growing studies from a range of disciplines that advocate moving beyond pro-environmental and science framings of public engagement with climate change and LCT primarily because these approaches risk disenfranchising or disengaging wider public(s).

While the study sets out to produce research that is unbiased, it is my view that research is never neutral and that all research necessarily entails a worldview, which is expressed in the framing of the research questions and/or in choices about how the analysis is interpreted and subsequently presented. As this analysis employs a critical lens and draws on qualitative methods, a personal perspective on the research topic is more obvious. By adopting a critical approach, I have aimed throughout to avoid prioritizing environmental positions on press representations of LCT. That said I do have a presumption of plausibility toward the Green perspective on environmental responsibility and concern. However, I am not an

environmentalist and I would argue that a critical perspective on communication about the environment is also necessary. My chief concern is to map out and reflect on press representations of LCT in terms of potential implications for broader public engagement. Thus, while I recognise environmental degradation related to increasing techno scientific risks and the need to raise awareness of environmental issues, rather than developing or testing theories to achieve this via persuasion or manipulation, I take an approach that focusses on understanding and explaining how environmental (and scientific) issues can be made more socially relevant and meaningful. Additionally, following Carvalho (2010) I take the view that while climate change is an urgent and significant social, global challenge, dissent can contribute to the development of new ideas and more creative possibilities and that as an object of political regulation 'plural input and space for dissent are conditions of sustainability of any decision in democratic government' (*ibid.,* p177).

Additionally my research analysis rests on the assumption that our understandings of the world and possibilities for action in that world are conditioned by discourse. 'Language profoundly shapes one's view of the world and reality, instead of being only a neutral medium mirroring it.' (Hajer and Versteeg 2005, p176). In other words, how topics such as the environment or climate change and decarbonisation are discussed and the discursive framings deployed, have consequences. The view taken here then, is that the concept of climate change and ideas about how to achieve decarbonisation are something we know through language and other symbols. Different linguistic and symbolic choices are possible and these choices construct diverse meanings for the world we know. Therefore, a rhetorical or discursive approach can be employed to study the way different constituencies such as the press and social actors attempt to shape perceptions, behaviour and the predisposition to action or inaction around climate change and decarbonisation.

Finally, to illuminate and assess press representations and public engagement with LCT the overall methodological approach for this research topic and question is interpretative analysis, which fits broadly into a constructivist tradition. This approach is particularly relevant for studies of how social problems are actively constructed, defined and contested and it highlights the centrality of news media and communication in defining issues of social concern. I also employ a conceptualisation of communication along social constructivist lines. That is, I see communication as

> a constitutive force in the context-dependent, relational construction of objects and subjects. As a constitutive force in the construction of objects and subjects, I

understand communication to bring entities such as 'science' 'citizens' and 'publics' into being' (Phillips *et al*. 2012, p9)

Thus, the social constructivist approach provides a mechanism for empirically evaluating how categories are brought into being in mass media(ted) communication and within particular social and institutional contexts with implications for (potential) social participation.

This section presented the theoretical perspectives underpinning the multi modal analysis of print media representations of LCT. It began by outlining two fundamental concepts in this thesis: Communication and Public Engagement. This discussion elaborated on the definition of public engagement advanced in Chapter 2, highlighting the significance of dialogic approaches and two-way communications to the conceptualisation of public engagement with techno science and environmental issues. The section also provided theoretical perspectives on the influence of news media and mediated public engagement in debates about science, techno science and the environment, and concluded with a personal reflection on carrying out research in the constructivist tradition.

## 3.2 Understanding Media(ted) Public Engagement

By way of background, this section traces the development of public engagement as an umbrella term. It adds to the earlier account of the roots of public engagement by examining the paradigms and rationales for engaging public(s) with global environmental change. Thus, it provides the context for assessing media(ted) public engagement as an inter-related process. To begin, it locates media(ted) public engagement within the spectrum of engagement initiatives and elaborates on how developments in thinking about public participation practice have informed the emerging literature on public engagement with global environmental change.

As discussed, public engagement can be differentiated into types of practices (Phillips *et al.* 2012). The first, involving formal exercises based on models of 'participatory' democracy, and typically organised by researchers or government agencies (described earlier), dominate research within STS. The second type of practice, 'civic practices', involves activities initiated and organised by citizens[10]. The final category, which is the focus of this PhD, involves mass media representations and is referred to here as media(ted) public engagement. This continuum of practices, from top-down management, to citizen-led approaches based on on-

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[10] Often either wholly or partly through online and new media

line user generated material and media(ted) representations, indicates the range of possibilities associated with understanding and evaluating public engagement.

Despite the range and complexity associated with public engagement and/or participation processes, it is possible to identify some general themes that have driven developments in its practice. Within environmental communication, for example, participation refers to the 'involvement of citizens in decisions affecting their communities or natural environment' (Cox 2010, p17). In STS, the field has evolved from PUS and PES models of engagement to discussions about civic versus citizen science and developing forums and processes for deliberation of complex, contested and controversial science (Bäckstrand 2004, Felt *et al.* 2007, Horst and Irwin 2009). In other words, public engagement/participation studies are united in their concern with encouraging dialogue. The dialogic turn underlines the need for mutual learning and two-way communication models, which involve citizens in the process of decision-making about the direction of scientific research and the development of new technology in order to improve the quality of decision-making, thus ensuring more democratic decisions and improved implementation of decision-making.  Notably, science communication and STS scholars have described the lack of public engagement around climate change as a situation of non-dialogue and cautioned about the possibility of public alienation from climate change issues (Blok and Bertillson 2008). Exemplifying this point, Irwin notes 'Often the 'we' of climate change discourse thus refers to small global communities of business leaders, scientists and policy-makers, with little concern for public engagement' (Irwin 2008, p7).

These fields are also united by their recognition of the difficulty of implementing dialogue and foregrounding democratic ideals in practice. For example, Hoppner (2009) argues that in relation to climate change, public engagement struggles in terms of empowering citizens involvement in policy process and that this is more often about social acceptance of prescribed action rather than involving public(s) in developing responses (2009, p2). As a result, Hoppner argues policy formation promotes a limited vision of public participation with climate change mitigation and adaptation. In particular, this analysis offers critical insight on the conceptual difficulties and underlying assumptions around 'engagement' and 'participation'. Hoppner therefore distinguishes between public engagement as an end in itself arguing this is intellectually grounded in the literature on participatory and deliberative democracy and governance, as well as empowerment and social capital theory, whereas the latter approach draws from the field of psychological behaviour change and communication

research and draws on top-down or prescribed behaviour change. However, as Owens and Driffill (2008) point out, this is inherently problematic as pre-determined behaviour change implies a normative ideal – which begs the question: who deliberates and sets the benchmark for such prescriptions, and in what public forums?

> Implicit in much of the academic and policy discourse on changing attitudes and behaviours is the assumption that we know what we want to change them *to*. (*ibid.*, p4416, authors italics)

This is a significant point, as while there may be little dissent around pre-given norms in relation to widely agreed behavioural and attitudinal change (such as reducing waste, recycling), other objectives may be more contentious (for example, nuclear power, siting of wind energy farms, carbon capture and storage have all caused public protests across Europe and in the UK). Additionally, one of the main criticisms of public engagement initiatives, drawing on theories of behaviour change is that they don't take wider contextual factors into account (*ibid.*).


Thus, one of the main critiques of public engagement models and practice is the dominance of cognitive and behavioural science theories, which constrain understanding of human endeavour within limited ideas about well-being defined by utility, material self-interest and rational choice theory. However, this view obscures the social dimensions of (in)action. For example, Norgaard's (2011) ethnographic study of climate change in Norway describes the public acquiescence or a knowing silence about climate change as the 'social production of denial'. Thus Norgaard's study challenges the view that individual psychological motivations are the central feature of understanding inaction around climate change and argues that this can (and should) also be understood in terms of social organisation and processes. Echoing this view, Szerszynski and Urry's analysis of the weak account of the social in public communication about climate change maintains

> So the social is both central *and* yet pretty well invisible. Indeed, because 'economics' got in first, it has largely monopolized the way that the social is conceived in the discourses of climate change. It has led to a focus on human practices as individualistic, market-based, and calculative, and has thus helped to strengthen a tendency towards a certain set of responses to climate change, ones based on individual calculation, technology and the development of new markets (2010, p3)

Furthermore, from an environmental communication perspective, Brulle (2010) argues concentrating on individual discourses contributes to the atomisation of society, reduces opportunities for collective learning and thus large-scale public mobilisation. In particular, Brulle highlights that 'individual framing undermines the goal of increasing citizens' sense

that they can collectively change things' (Gamson and Ryan 2005, cited in Brulle 2010). Building on this, Brulle (2010) notes the related adoption of advertising techniques associated with individual discourses contributes to the atomisation of society

> in which it is imagined that individuals experience messages as individuals and not as part of broader communities. Citizens are called upon to take individual - not collective - actions; thus encouraging a passive civil society. This approach reinforces the tendency of mass communications processes to isolate and fragment social consciousness and disempowering the public (p 90)

From a sociological perspective, Shove (2010) notes that, in relation to climate change policy, this ABC paradigm (attitude, behaviour and choice) presents a misplaced framing of the problem and thus fails to deal with the real issue: the need for societal transformation. Shove therefore, critiques the ABC paradigm for its conceptualisation of societal transition as solely the work of adapting internal contexts. Hargreaves' (2011) ethnographic study of social practices and pro-environmental behaviour around sustainability, demonstrates the impact of the narrow view of social change as a matter of psychological and cognitive processes. Ultimately, as Hoppner (2009) and Owens and Driffill (2008) point out, this understanding frames engagement within a deficit model of communication and incorrectly links behaviour with education. Significantly, such processes fail to account for the social, cultural and institutional contexts in which attitudes and behaviour are formed and thus constrains potential for participation

> Government campaigns in energy and environmental fields have often been predicated on a rationalist 'information deficit model' (see Burgess et al. 1998), which assumes that "environmental education, drawing from scientific work, will lead to people making the link between policy and action, and acting in order to meet policy objectives (Owens and Driffill 2008, p4413)

Within the STS literature, for example, Marres (2012) notes that different framings of participation advocate certain sets of practices and normative assumptions about the modalities of engagement. Thus, behaviour change as a driver of participatory forums from dialogic approaches to publicity campaigns for new technology tends to focus on improving literacy. Marres argues this leads to a 'tendency to codify PE as a state of informedness' and the development of the 'informational citizen' over the 'performance' of participation and what people can do about issues. Marres advocates the need to examine participation in terms of material processes and new types of citizenship. In particular, Marres claims that how participation is materialised is a form of political participation.

Meanwhile Scerri (2009) argues that the problem of framing citizens as stakeholders and making individuals personally responsible for socially-created problems, is that it also enables

governments to relinquish responsibility and to avoid making political decisions which 'neutralises protest against government inaction on environmental damage'. Summing up the problematic of individual discourses over collective approaches to behaviour change models of communication, Lorenzoni et al. argue that

> although individual discourses appear to place power in the individual, ultimately it is doing so by manipulation and persuasion rather than by facilitating the means for individuals to discuss, debate and develop their own reasoning and meaning-making (2007, p455).

Thus, sociological interest in climate change points to the need to broaden understanding of climate change problem. It advocates moving from an exclusive focus on its roots as an environmental problem defined by physical sciences and solved by economic logic, to examining how we are collectively reorganising society and our systems of living to respond to, and live with the impacts of a changing climate. Therefore, critics of engagement drawn from behaviour change theories and linear models of communication focussed on the delivery of messages argue instead that citizen engagement also needs to be addressed in terms of social aspects such as social practices and encouraging a sense of public ownership around the issue. According to Nowotny 'We need to move beyond the individualism of economics, and the notion of social practices would provide a good building block. Indeed, values are less significant for social action than routine practices' (cited in Blok and Bertillson 2009, p12). While others such as Sarewitz (2004; 2011) argue the problem lies in the current scientific framings of the issue which according to Wynne '… is part of what creates passivity and alienation on the part of the public. Instead, we should ask if different forms of knowledge of the climate are needed to make people feel that 'this is *my* problem, too'? (cited in Blok and Bertillson 2009, p11).

This sense of ownership and building a social relationship with the challenge is central to the Cultural Turn in studies of human induced global environmental change (Hulme 2013) and the emerging literature on public engagement with LCT (Phillips *et al.* 2012b, Howell 2013, Corner *et al.* 2014, Rowson and Corner 2014, 2015). While this literature also focusses on issues of collective or social engagement as opposed to individual engagement, it is distinguished from social theory in its concern with the experiential, emotional and everyday barriers to engagement. Thus, rather than addressing the structural or institutional dynamics of moving to low carbon future, these scholars are primarily concerned with transforming the social relationship with climate change. In particular, these scholars view the communication challenge as public apathy, disengagement or response scepticism rather than lack of scientific knowledge or behaviour change. For example, Rowson and Corner (2014) argue that

climate change needs to be viewed and understood as a social fact (rather than primarily as a scientific fact). Thus these scholars focus on developing initiatives that promote broader frames, values and actions for engaging publics with climate action in line with social concerns rather than focussing on pro-environmental or scientific frames, which they argue risks disenfranchising or marginalising broader constituencies.

The significant point of the preceding review is that critics argue there is an emphasis on engagement that is solely about increasing public trust and consent, rather than enacting dialogue and wider forms of citizen contribution to the process of system change or encouraging a sense of everyday connection to the challenge. In other words, while there is much 'talk' of national conversations and public engagement with climate change, in practice it is dominated by one-way, top-down communication aimed at 'social acceptance'. This thesis investigates whether this critique applies to media(ted) public engagement, and examines print media representations of LCT to identify whether they broaden the conversation and connect with public(s). The following section discusses the theoretical perspectives that underpin the multi-modal framework for analysing print media texts in this way and discusses the rationale for doing so.

## 3.3 A Conceptual Framework for Analysing Media(ted) Public Engagement

This chapter highlighted how conceptualisation and practice of public engagement with global environmental change is dominated by the linear, or transmission model of communication and primarily focussed on achieving individual behaviour change. It also showed, that this approach is widely critiqued on a number of grounds, not least its failure to adequately account for the complexity of communication and thus the social reality of public engagement. Therefore, this study employs Lorenzoni *et al.'s* (2007) more nuanced understanding engagement. That is, it draws on the understanding of engagement as a state (rather than as a verb or event), that has inter-related dimensions, (which include an emotional, intellectual and material aspect) and it examines the deployment of ideas and language in print media representations of LCT. As a result, this model more closely approximates the constitutive understanding of communication and is the most appropriate model for understanding print media's social shaping influence. That is, it goes beyond examination of what is said in media texts and the focus on cognitive engagement, to also offer insights on the (potential) affective and behavioural dimensions. In doing so, the model

provides a more nuanced perspective on how news media texts shape potential broader public engagement with LCT. More importantly, this model can shed light on whether (and how) press treatment reproduces normative/reductive goals for citizen involvement. Furthermore, this model is an appropriate one for print media analysis as it facilitates identification of whether and how press treatment privileges or prioritises particular meanings and motivations for engaging with LCT. That is, it offers insights on whether and in what ways print media representations of LCT may also act as barriers to broader public engagement and/or if they may promote active disengagement[11].

Therefore, overall, the multimodal framework provides a novel way of analysing print media texts in terms of implications for broader public engagement. Specifically, it offers insights on how press treatment privileges public meanings (carbon literacy), discussion of citizen's carbon reduction activity (ideas about low carbon practices or behaviour) and ways of talking about LCT (carbon repertoires). In doing so, the analysis reveals how prevalent media representations shape cognitive, behavioural and affective engagement (see Table 3.1). It provides insights on the spectrum of possibilities for analysing public engagement that can be accessed by analysing media texts. In other words, Lorenzoni *et al.*'s (2007) definition opens up the possibility of examining three different modes of public engagement (see Table 3.1).

**Table 3.1: Analytical Concepts Employed in the Multi-Modal Framework**

| Dimensions of Broader Public Engagement | Multi-Modal Framework | Analytical Concepts |
|---|---|---|
| Intellectual | Cognitive Engagement | Carbon Literacy (*Public Meanings of LCT*) |
| Emotional | Affective Engagement | Carbon Repertoires (*Ways of Talking about LCT*) |
| Material | Behavioural Engagement | Ideas about Low Carbon Practices (*Discussion of citizen's carbon reduction activity*) |

Drawing on Moser (2009), and O'Neill and Hulme (2009), the co-dependent spheres of cognitive, affective and behavioural engagement shed light on how print media texts shape public mobilisation and motivations for engaging with LCT in the following ways. As cognitive engagement involves gaining an understanding of the issues, which relate to the different public meanings of LCT deployed in media texts, the study assesses the deployment of ideas

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[11] O'Neill and Hulme (2009) argue that active disengagement represents a more challenging communication outcome than lack of engagement, because it indicates a possible future barrier to engagement (unlike lack of engagement).

about LCT or carbon literacy. Affective engagement refers to how an issue is understood through an emotional connection such as interest or how it motivates concern. As a result, it is related to how print media texts make LCT poignant, compelling or connect with public(s). Therefore, the study assesses the ways of talking about LCT or carbon repertoires. Finally, behavioural engagement involves people's active response through some kind of action. As this is related to the deployment of ideas about carbon reduction activity or citizen's role in reducing emissions, the study assesses the deployment of ideas about low carbon practices or behaviours to reduce emissions. Therefore, the multi-modal framework incorporates analytical concepts that shed light on how press treatment shapes ideas about formats, fora and motivations for engagement and these can be drawn on to assess the influence on broader public engagement with LCT[12].

## 3.4 Summary

This chapter presented the foundational theories and concepts needed to analyse media(ted) public engagement with LCT and thus to map the story we are telling ourselves about LCT as presented in the Irish print media. It traced the roots, paradigms and rationales for public engagement with global environmental and argued that a multi-modal concept of public engagement offers a more fruitful approach for investigating the implications of press treatment. In particular, this approach goes beyond the focus on cognitive engagement and associated critiques of deficit model, and offers insights on (potential) behavioural and affective dimensions. This approach also examines how language may shape motivations for engaging and thus impact on potential affective engagement with LCT. As a result, it sheds light on how print media treatment may shape what people know about LCT, as well as how it routinises particular feelings or concerns about LCT and ideas about roles or behaviours to achieve carbon emissions reduction. In other words, this approach sheds light on how print media texts connect public(s) with LCT and how they make the issue tangible, local, relevant to their everyday lives and expectations. In doing so, this model facilitates important insights on how the press may act as socio-cultural or political barriers and therefore captures the social reality and complexity of (potential) public engagement. These findings can also inform communication praxis for broader public engagement with LCT (see Chapter 10). The following chapter presents the research design and methods employed to undertake a multi-modal analysis of print media representations of LCT.

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[12] Further discussion of each of these modalities and associated analytical concepts are presented in the relevant empirical chapter

# 4

## Research Methodology

This chapter outlines the operational aspects of the research methodology. It describes the procedural framework and application of the research design adopted for this investigation of print media representation of LCT. It begins with a review of previous research methodologies, identifying how the research design and methods employed in this study respond to calls for more transdisciplinary and praxis-oriented approaches in media studies of climate change (Olausson and Berglez 2014; Whitmarsh et al. 2013). It highlights how this thesis also contributes to media studies of climate change as well as transition communications[13] and specifically studies aimed at developing public engagement with LCT. It then outlines the rationale for selecting TA as the core technique for analysing print media representations. The process of defining the data sample is described along with the development of the multi-modal codebook and the application of TA using qualitative data analysis software, NVivo. Finally, the strengths and potential weaknesses of the research design are addressed.

## 4.1 Methods employed in studies of media and LCT

As discussed in the literature review, there have been relatively few news media studies of LCT and to date analytical interest in this field tends to examine climate change broadly as a complex, but undifferentiated, challenge. Meanwhile, within transitions communication, the prevailing concern is with developing public engagement initiatives. Together these studies have produced valuable insights into print media treatment of the concept as well as best practice strategies for developing public engagement initiatives. However, the underlying assumptions about both LCT, and public engagement, in these studies raise questions in terms of democratic public debate about radical social transformation or even societal responses to achieve a low carbon future. In particular, print media analyses focus on technical and elite conceptualisations of LCT for example Biofuels (Einsiedel et al. 2015) or Energy and Climate Policy (Uusi-Rauva and Tienari 2010) and are thus limited to narrow accounts of this multi-dimensional challenge. As a result, studies have yet to address

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[13] Recent journal special issues include *Razon Y Publica, 2015, The Journal of Corporate Citizenship, 2015* as well as works by Bulkeley et al. (2011); Roberts et al. (2013); Lovell (2015) and Urry (2011)

questions of diversity in press reporting of LCT or the implications of press treatment on public(s). Therefore, targeted examination of the deployment of ideas about the multi-faceted concept of LCT in the national press is an important contribution to understanding the wider societal and contextual factors influencing possibilities for citizen participation with transition in the public sphere.  Meanwhile, public engagement studies investigating best practice strategies, which primarily draw on economic and psychological paradigms, tend to privilege instrumental conceptualisations of engagement. These approaches have attracted criticism for being insufficiently critical of consumer capitalism or the values of individualism (Webb 2012) and scholars claim they are normative (Owens and Driffill 2008, Höppner 2009) or authoritarian (Stirling 2014b) because they do not embrace wider possibilities for democratic engagement with LCT. However, to date, neither the transitions communication, nor news media studies have examined the socio-cultural or political barriers to public engagement with LCT and specifically, the implications of press treatment for broader public engagement with LCT.

To contextualise these gaps in research foci and highlight the methodological contribution of this PhD study, the following review begins with the broad field of news media studies of climate change, before assessing trends in print media studies of LCT.  As the former field represents a vast area of research activity incorporating research agendas and methods from within environmental, science and political communication these studies can be assessed in a number of ways. This review takes a chronological look at the key developments in research approaches. This starts with a focus on identifying drivers of press coverage, to concern with the implications of coverage on public understanding or opinion and most recently, responding to gaps in knowledge, to interest in more diverse research questions and nuanced research methods. The final section briefly outlines methodologies from communications literature and studies of public engagement with transition.

In terms of methodologies applied, early studies focussed on content analyses of single cases (Trumbo 1996) often over short time periods (Wilkins 1993) and some comparative analyses (Bell 1994). Investigating salience and bias in media reports (Boykoff and Boykoff 2004, 2007, Boykoff 2007) or issue attention cycles (McComas and Shanahan 1999, Brossard *et al.* 2004), these studies produced media-centric analyses of climate change which predominantly shed light on factors influencing print media production and journalistic practices. Other early content analyses targeted press representations of science, to assess media influence on public opinion or public understanding of climate change (Nissani 1991, Weingart *et al.* 2000,

Zehr 2000). However, while contributing more citizen-centric insights aimed at informing communication of climate change, these studies analysed climate change exclusively as a physical science rather than as a social, cultural or political issue, which assumes that the only relevant public meaning of climate change is that given by science.

Responding to these criticisms, analytical attention shifted focus to examine broader aspects. For example, (Gavin, 2009) investigated UK press coverage of climate change and European emissions trading scheme (ETS); Doulton and Brown (2009) examined representations of climate change and development in UK press while Eide et al. (2010) analysed coverage of climate change summits across 19 countries on 6 continents. Likewise, noting the limitations of predominantly quantitative assessments of press coverage, researchers increasingly employed qualitative methodologies, which facilitate context-sensitive and in-depth assessments. In particular, discourse and frame analysis were used to examine press constructions of climate change as well as influences on press coverage. Drawing on discourse analytic perspectives, these studies investigated the macro-societal factors shaping press representations contributing insights into how the press privilege particular versions of social reality with regard to climate change. For example, Carvalho (2007) used critical discourse analysis (CDA) to identify the ideological leaning of UK press; Uusi-Rauva and Tienari's (2010) comparative study drew on CDA to examine press representations of EU's Energy and Climate Package; Asplund's (2011) CDA of Swedish farming magazines examined the use of metaphors and Doyle (2011) employed CDA to assess risk framing in UK reports of climate change, while Olausson (2010) employed qualitative discourse analysis to examine discursive strategies in Swedish TV news and tabloid reports about climate change.

Scholars have also adopted developments in discursive psychology such as interpretative repertoires or the examination of language-in-use (Potter and Wetherell 1987) to study press articulations about climate change. This method places analytical emphasis on how language creates meaning in order to shed light on how press treatment shapes ways of talking about issues rather than identifying power dynamics or ideology in press discourses. Ereaut and Segnit's (2006, 2007) analyses of climate change across a range of UK print media drew on interpretative repertoires to make recommendations for climate change communication strategies, arguing that these discursive constructions have implications for mobilising citizen action on climate change. This approach to repertoires was subsequently employed to analyse mediation of IPCC reports in UK press (Hulme 2009a) and Portuguese print media representations of climate change (Carvalho and Pereira 2008).

Although discourse analytic methods provide useful, in-depth analysis, they also require close analysis of linguistic features in text and therefore many studies tend to offer snapshots of press treatment, for example Carvalho and Pereira (*ibid.*) focus on 'critical discourse moments'. Thus while informative, these studies can only claim to offer partial analyses of the empirical landscape and their findings are likely to be influenced by temporal and contextual factors. In addition, Doulton and Brown (2009) argue discourse analyses of press representations tend to focus on deductive research processes and therefore offer more subjective accounts of influences on media constructions. On the other hand, inductive methodologies draw insights from the data and thus offer more nuanced and balanced accounts of social and institutional contexts.

Frame analysis is one of the most often cited methods employed in print media studies of climate change[14]. Drawing on both inductive and deductive methodologies, this method has been used to analyse press representations of climate change across a range of news media and sites of interest.  Although frame analyses often focus on national quality press (Antilla 2005, Olausson 2009) some studies explore tabloid coverage and specialised media, for example Boykoff (2008) examined frames in UK tabloid press and Asplund, Hjerpe, Wibeck (2012) examined Swedish farming magazines, while O'Neill (2013) examined online newspapers covering both high quality and tabloid press across UK, US and Australia. Framing studies have also been used to examine print media's attribution of responsibility for collective action (Olausson, 2009) and to highlight climate scepticism in US newspapers (Antilla 2005). More recently, the method has been used to explore impacts of climate change, such as Escobar and Demeritt's (2014) analysis of flooding in UK press which reflects on the implications of media frames for political debate about the threat of climate change. Comparative studies also employ frame analyses, Dirikx and Gelders' (2010) used a deductive approach to compare media frames in Dutch and French newspapers and Zamith et al. (2012) examined climate change frames across Argentina, Brazil, Columbia and the US.

Frame analyses can be employed in a number of ways and have been used to highlight the implications of press representations for both macro-societal and personal schema.

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[14] In an early systematic review of the literature on frames and climate change, Asplund (2014) identified approx. 800 articles based on a search of abstract, title and keywords. This analysis noted a sharp increase in volume of articles in 2009, with almost 120 articles a year appearing since 2010. Significantly, it also highlighted that while frames were often mentioned in abstracts, very few studies included them as an analytical concept.

Distinguishing between the diverging approaches, Asplund (2014) argues that within print media studies, frame analysis is predominantly used to identify the active role of the press within news construction, whereas the cognitive approach to frames, or 'frames of thought' (Scheufele 1999) is used to illuminate interpretive frameworks held in the  mind. These alternate versions of frame analysis have led to some confusion as to its application and this represents one of the main critiques of this method within print media studies. In particular, scholars have recently argued that much media frame analysis fails to adequately discriminate or define framing paradigms (Asplund 2014, Cacciatore *et al.* 2015). This raises important methodological issues as the approaches have '[D]ifferent assumptions as to how to acquire knowledge of frames, so both their research foci and questions differ.' (Asplund 2014 p25). Others claim that much research conflates framing as an inevitable process in communications with frame analysis as a body of research methods (Ytterstad 2014; Carvalho 2008).

Furthermore, despite the popularity of frame analyses as a method to support claims about the press's influence on public perceptions, opinion or understanding of climate change, only a few studies empirically test these findings or examine how public(s) interpret print media frames. Among these studies, Olausson (2011) examined public understanding in a focus group analysis of Swedish citizen's social representations of climate change, while Corbett and Durfee (2004) tested the influence of certainty and uncertainty frames in US press reports of global warming and Howell's (2011) reception study analysed UK audience responses to *The Age of Stupid*. More importantly, scholars have begun to critique the assumption that greater public understanding, awareness or knowledge of climate science leads to pro-environmental behaviour or attitude change (Anderson 2015a). In fact, following advances in the literature on public engagement with climate change (Hulme 2009b, Moser 2010, Wolf and Moser 2011, Whitmarsh *et al.* 2013) interest in cognitive approaches to engagement have been superseded by strategies targeting affective engagement. These insights, as well as advances in theorising climate change communication (Moser and Dilling 2007a, Nerlich *et al.* 2010) have informed the shift from press content analysis, framing and discourse studies to research designs employing increasingly applied variants of thematic and linguistic analyses as well as technically sophisticated visual communication analyses. It is also evident that these new methods are often employed to understand the ways that press treatment (dis)engages public(s).

In particular, given the power of images to arouse emotion, there is increased attention to methodologies for analysing visual information. Lester and Cottle (2009) assessed how visual images in TV news reports across the globe influenced ecological citizenship. Smith and Joffe (2009) analysed visual representations of climate change risks in British newspapers. Rebich-Hespanha et al., (2015) examined how visual framing influences saliency in US newspapers and magazines, DiFrancesco and Young (2011) compared employment of visual and textual information, while O'Neill et al., (2015) drew on frame analysis to assess salience in visual imagery associated with news coverage of the 5th IPCC reports across a range of news media.

Greater analytical attention is also now paid to specifying what is meant by 'climate change' and assessing how print media report on its social, cultural and political dimensions and associated implications. Recent studies have investigated: climate adaptation (Ford and King 2015); extreme weather (Nerlich and Jaspal 2014); climate scepticism (Painter and Ashe 2012, Painter and Gavin 2016) outlier views on climate change (Boykoff 2013); risk and uncertainty (Painter 2013); ethics (Laksa 2014); technological solutions Feldpausch-Parker et al., (2013) examined carbon capability and storage, while Porter and Hulme (2013) assessed geo-engineering; climate futures (Hellsten *et al.* 2014) and press representations of EU energy and climate policy in UK, Ireland, Sweden and Finland (Uusi-Rauva and Tienari, 2010). Notably, two empirical studies explicitly reflect on the implications of press representations for public debate, meaning-making or engagement with climate solutions (Young and Dugas 2011; Howard-Williams 2009).

Research questions also focus on a wider range of news media. For example, Flottum et al. (2014) assess representations of 'the future' in climate change blogs; Gavin and Marshall (2011) analyse climate scepticism on UK television and the web; Gavin (2009) examined the web as a tool for political engagement with climate change and Shrestha et al. (2014) studied climate change constructions on Nepalese radio. Likewise, following an early focus on northern EU, the UK and Australia, researchers have now analysed a variety of geographic locations[15] and several studies offer extensive comparative analyses (Boykoff and Roberts 2007, Eide *et al.* 2010, Painter and Ashe 2012).

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[15] Including: India (Billett 2010); Mexico (Gordon *et al.* 2010); China (Tong 2014); Brazil (Dayrell and Urry 2015); South Africa (Cramer 2008); Turkey (Uzelgun and Castro 2014); Japan (Asayama and Ishii 2014); Chile (Dotson *et al.* 2012); Canada (Young and Dugas, 2011); Greece (Gkiouzepas and Botetzagias 2015) and Italy (de Blasio and Sorice 2013) among others.

Within this more diverse field of analytical approaches, two methodological trends stand out in terms of generating new research questions and offering insights for public engagement. Firstly, researchers have begun to employ thematic analysis (TA) within news media studies of climate change. Significantly, these studies employ TA to qualitatively assess large news media datasets and to reflect on implications of media themes for public engagement. For example, Smith and Joffe's (2009) TA of images in UK press highlighted possible implications of media images for public engagement with climate risks; Bohensky and Leith (2013) thematically analysed Australian print media to reflect on how it shapes opportunities for social learning and building resilience, and Jaspal and Nerlich's (2014) visual TA of extreme weather images in UK press, employs Social Representations Theory to show how the focus on helplessness promotes public disengagement.

Secondly, responding to insights from climate change communication highlighting significance of affective engagement and the importance of connecting with public(s), methodologies now draw on a range of methods from narrative analysis (Foust and O'Shannon Murphy 2009, Corner *et al.* 2015). Likewise, methodologies employ sophisticated methods from linguistic analysis, such as semantic co-word networks and metaphor analysis (Hellsten and Nerlich 2014) and given the research focus on new media platforms which require methods to analyse extremely large datasets, corpus linguistics (Collins and Nerlich 2014). Related to these more complex analyses of news media treatment, Wozniak et al., (2014) propose that media studies employ a multi-modal approach to a climate change analyses, arguing that different modes of communication are needed to add greater clarity to our understanding of the implications on public(s).

Lastly, studies targeting print media treatment of LCT have recently gained traction among researchers. This literature includes a range of methodologies such as CDA and frame analysis with studies primarily focussed on single cases of print media within Europe, primarily UK, Denmark and eastern European countries. In general, analytical interest in these studies is confined to illuminating press treatment of specific LCT processes. For example low carbon housing (Cherry *et al.* 2013), low carbon metals (Nerlich 2012), Low Carbon Diet (Nerlich *et al.* 2011), green jobs (Kouri and Clarke 2014), renewable energy (Djerf-Pierre *et al.* 2015), energy policy (Świątkiewicz-Mośny and Wagner 2012, Teräväinen 2014), carbon offsets and trading (Nerlich and Koteyko 2010a) and Transitions towns (Horsbøl 2013). Significantly, these studies focus on expert and/or technical conceptualisations of LCT and therefore do not offer insights on how print media represent transition as a multi-faceted issue. As a result, they do

not investigate whether or how press treatment privileges particular constructions or articulations of LCT.

Studies in this domain also look at the role of communication devices for making sense of issues. Drawing on a sophisticated range of methods within ecolinguistics, cybermetrics and critical metaphor analysis, scholars have produced a body of research examining the language used to debate climate change mitigation. Exploring popular or lay citizen discussions of carbon management, Koteyko et al., (2010) identified the emergence of new lexical compounds about carbon reduction activities across a range of news media; Nerlich and Koteyko (2009) compare and contrast lexical framing in newspapers and websites and Koteyko (2012) analysed the deployment of creative carbon compounds in UK newspapers drawing on corpus-assisted discourse analysis.

While print media studies tend to concentrate on decarbonisation and energy issues, studies of public engagement with LCT focus on a wider range of conceptualisations and approaches, including energy use reduction, adopting low carbon technology or changing lifestyles and low carbon behaviour. This literature has analysed both bottom-up or community strategies (for example, Heiskanen et al. 2010; Gram-Hanssen and Christensen 2012; Reeves et al. 2013; Seyfang and Haxeltine 2012; Middlemiss and Parrish 2010; Moloney et al. 2010) as well as top-down or stakeholder engagement initiatives (Barnett *et al.* 2010) and includes studies examining the role of local authorities (Peters *et al.* 2010). However, this line of research focusses on normative goals and manufacturing social acceptance rather than democratic or broader public engagement with LCT. As a result, it does not shed light on socio-cultural or political influences or barriers to public engagement. Nonetheless, alternate approaches to understanding public engagement within local contexts are increasing. For example, Phillips and Dickie (2014) employed narrative analysis to explore the material and cultural barriers to rural residents' engagement with transition in their everyday lives. Howell's (2013) focus group analysis of highly engaged UK citizens examined motivations and values for adopting low carbon lifestyles and Fischer et al. (2012) analysed public(s) views and understandings of their household behaviour in the context of energy and climate change, using qualitative interviews across five EU countries.

The current study and research design builds on the above methodologies within media and communication studies of climate change. In particular, it responds to calls to move beyond media-centric analyses of climate change (Carvalho and Pereira 2008, Anderson 2015a) and

attempts to bridge gaps in the literature by examining print media and public engagement with LCT from several new perspectives.

To this author's knowledge there are currently no published studies exploring national print media treatment of LCT as a multi-dimensional challenge and specifically targeting the deployment and diversity of ideas about how to tackle climate change and move to a low carbon future[16]. Nor are there multi-modal analyses mapping the trends in print media representations in terms of implications for broader public engagement. In other words, studies critically assessing whether and how news media themes act as socio-cultural or political barriers to (potential) broader public engagement over a long period. Thus, the research design for this thesis attempts to

i)      generate a dataset that reliably captures LCT as a multi-dimensional issue (Chapter 4),

ii)     categorise the emergence of themes about public engagement over a long time frame across a wide range of national print media (Chapter 4)

iii)    shed light on the potential implications of trends (by examining prevalence marginalisation and/or silences) in press themes and representations (Chapters 6, 7 and 8).

## 4.2 Research Design

As one of the first attempts to map press representations of LCT in terms of (potential) public engagement, the study adopted a qualitative research design as this is the most appropriate strategy for generating detailed insight on the nuances and implications of press treatment. The research is in the form of a multi-modal TA (MMTA) of press reports about LCT based on a case study of Irish print media from 2000 – 2013. However, while the study is primarily qualitative, in order to identify trends and transformations of themes, it includes some quantitative assessment of the prevalence of themes as rhetorical embellishment (Mason 2006). Analysing a long period was chosen over key moments to provide in-depth insights on press treatment, as well as capturing the emergence and possible marginalisation of themes, as these may be lost or absent over shorter timeframes.

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[16] Apart from the pilot study, McNally (2015), carried out in advance of this PhD thesis.

The research focussed on a single case study as this is particularly useful when looking at processes and for studies, such as this thesis, aimed at answering 'How' questions (Yin 2009). Ireland was chosen as the case study as it provides '... a valuable example of the contradictions, tensions and issues in large-scale social structures and processes and global social, economic, technological, and cultural trends' (Bentz and Shapiro, 1998, p157). In particular, this case offers an opportunity to examine press treatment in the context of national economic and fiscal crisis following the global banking collapse (see Chapter 5). Notably, Irish public debate about LCT, tied to the need to meet EU 2020 targets, has led to a preponderance of economic arguments for carbon reduction activities. Consequently, it departs from the northern EU/UK experience in terms of its geo-political and economic dimensions and is therefore, a useful case study to examine in relation to unintended consequences of press representations such as whether or how they act as socio-cultural and political barriers to broader public engagement.

To achieve these objectives, the study developed an original multi-modal codebook to analyse how press representations of LCT shape the modes of public engagement. As discussed in the theoretical framework (Chapter 3) this approach draws on ideas about broader public engagement and the concept of Carbon Capability (Lorenzoni, Nicholson-Cole, *et al.* 2007, Whitmarsh *et al.* 2009). Thus, the study investigated press representations of the public meanings, ways of talking and ideas about social practices to achieve LCT in order to shed light on potential implications for cognitive, affective and behavioural engagement. The rationale for a multi-modal approach was to pin down the implications of press representations more precisely, thereby facilitating greater insight in to the work accomplished by print media texts. In doing so, the findings offer more targeted observations for communications and journalism praxis*.* Finally, a multi-modal framework illuminating modes of public engagement was chosen as it extends the body of research employing TA in print media studies of climate change (Jaspal and Nerlich, 2014; Smith and Joffe, 2009; Bohensky and Leith, 2013).

TA was chosen as the core method for this study because it is a theoretically flexible method for identifying, analysing and reporting patterns of meaning-making (themes) in data (Braun and Clarke 2006). This was considered particularly useful as the method can be employed across the multi-modal codebook to generate findings that go beyond simple descriptions or typologies of themes. In other words, TA was chosen as the most useful method for mapping out and reflecting on the variations *and* implications of press treatment of a multi-

dimensional challenge across a large dataset of articles.  While the methodological value of alternate research frameworks is acknowledged, for example qualitative content analysis, discourse analysis and framework analysis, TA offered a consistency across the multi-modal approach adopted for this thesis. In addition, as the analysis cover a long period, TA was chosen over methods used for close examination of key moments or texts.

The period analysed ran from 1 January 2000 – 31 July 2013 and marked the early stages of Carbon Tax debate in Ireland[17] up to the end of the Irish Presidency of the EU and final discussions of EU policy on LCT. It was hoped that this period would provide sufficient articles to analyse the emergence and any transformations in press representations, especially pre- and post- economic crisis. The newspapers chosen for this study include: the *Irish Times*, the *Irish Independent*, the *Irish Examiner*, the *Irish Daily Mail*, the *Mirror* and the *Mirror on Sunday*, the *Sunday Business Post*, the *Sunday Independent*, the *Sunday Tribune*. These publications were chosen to provide a good cross section in terms of type of publication and ideological orientation and included broadsheets, tabloids and weekend editions (details of newspaper ownership and type can be found in Appendix 1.1).

The research comprised of the three phases: a pilot study[18] to become familiar with dataset, identify a sampling strategy and initial ideas for category development; a trial study to develop and test the coding categories and a main study in which a manageable subsample was subjected to TA using the final coding categories.  The data collection process constituted a first pass at the data and produced a dataset of all relevant articles about the multi-dimensional issue of LCT. As outlined in Braun and Clarke's (2006) steps for TA, the data analysis and development of the categories were interlinked in the analytical strategy.

Data Collection

The corpus of data used for analysis was composed of all articles from Irish national newspapers available on Lexis Nexis[19] newspaper database on 3 August 2013 and 12 October 2013. Identifying appropriate keywords to capture press treatment of the multi-dimensional

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[17] While mention is made of Low-Carbon & Decarbonisation and Carbon Tax prior to 2000, substantial media discussion commences around 2000. In addition, Lexis-Nexis coverage between 1990 – 2000 is partial (predominantly based on the *Irish Times*) consequently, searches after 2000 offer a more representative corpus.

[18] This study (McNally 2015) analysed overarching themes in Irish media articles about LCT/DC and were used as the sampling framework for the PhD. It is not included in the discussion of the PhD thesis.

[19] The digital archive, Lexis Nexis UK is a database that stores newspaper content. The database enables systematic, targeted searches for specific keywords in Irish publications, thereby facilitating access to the research corpus over the timeframe in question.

issue of LCT presented a significant methodological challenge. Given their technical nature, focussing on Low Carbon &/or Decarbonisation as keywords could have produced predominantly expert or technocratic/managerial results and increased the possibility of confirmation bias. Thus to map the widest range of possible press articulations and conceptualisations of LCT and to ensure the final dataset provided an accurate account of the balance of technical, economic and social understandings of LCT deployed in Irish press reports, keyword searches for both expert and lay citizen articulations of LCT were undertaken. The first keyword search included the terms 'Low Carbon', 'Decarbonisation' and 'Decarbon!' as offering insight into expert and technical discussion. This was followed by a search of the list of Creative Carbon Compounds developed by Koteyko et al., (2010)[20] to shed light on possible lay citizen discussions. The authors argue these compounds reduce the complexity of climate change to the human scale and they can be used to study the ways in which the issue of carbon emissions is being framed. As a result, they

> are part of a whole new language that is evolving around the issue of climate change that needs to be monitored and investigated in order to discover how climate change is framed as a public issue by various stakeholders (Alexander, 2008), how public attitudes and perceptions are shaped, and which solutions to climate change and global warming are being proposed, contested, and debated. (*ibid*. p26)

As the most popular carbon compounds used in online debates about the management of carbon, these lexical combinations expand the potential for examining media treatment of LCT by providing more socially relevant understandings of carbon reduction activities. Thus, their inclusion resulted in a more comprehensive dataset (both in terms of representation of publications and story types) and increased the value of the research findings.

Some of the searches produced very large results[21] and the total population of articles for the period was estimated as c.5, 000. To assist the data selection process, the LexisNexis screening function was employed on searches returning over 50 articles. The screened datasets were cross-referenced to remove duplicates and each article was read online to identify relevant stories. A relevant story was one which was centrally concerned with LCT (i.e.) had a position on carbon reduction activities and/or discussed solutions or processes associated with the multi-dimensional processes of emissions reduction. After removing duplicates and articles with peripheral or passing mentions to the topic (e.g.) advertorial or

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[20] This list contains the most commonly used words in online discussion about carbon management (see Appendix 1.2).
[21] For example: Carbon Tax = 1,823, Carbon Footprint = 1,366, Carbon Credit = 489, Carbon Budget = 135; LCT, 2009 = 171, 2008 = 131, 2010 = 114, 2011 = 89

commercial information, this search process yielded a dataset of 347 usable articles[22]. Details

of the screening process and articles excluded from the final dataset[23] are itemised in

Appendix 1.3. These measures ensured the final dataset provided a reliable reflection of the

plurality in press treatment of LCT. As a result, the findings generated offer a valid account of

Irish press representations of LCT and credible insights on the implications for broader public

engagement with LCT.

## 4.3 Sampling Procedure

A pilot study (undertaken as a separate project prior to the PhD analysis), was carried out to

establish the viability of the research topic, identify an appropriate sample size for the main

study and to provide a sampling strategy to assist generation of empirically representative

samples for the PhD research. The pilot study identified 347 articles about LCT in Irish print

media and thus validated the research topic as a significant area of media coverage. All 347

articles were subjected to a TA using the entire article as unit of analysis[24].  The study found

six broad media themes and established the prevalence of articles within each theme (see

Table 4 below). The prevalence of themes and random stratified sampling (drawing on every

second article) were employed as the sampling strategy to generate an empirically

representative samples for the PhD research. In other words, it was based on the prevalence

of press themes identified in the pilot study. This sampling strategy was chosen to ensure

that the PhD sample displayed characteristics of the total dataset in order to make empirical

generalisations about trends in the Irish case study.

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[22]  Both searches produced significant duplication of terms within articles. Reports often referenced expert and lay terminology together (i.e.) Low Carbon or Decarbonisation and Carbon Tax or Carbon Footprint etc. In addition, popular terms (eg Carbon Tax) were often discussed in conjunction with others (e.g.) Carbon Markets and/or Carbon Footprint or discussion of Low Carbon Economy. After careful reading, the dataset reduced considerably. Overall, Irish news media include more references to Creative Carbon Compounds than expert discussion of LCT/DC and this is reflected in the composition of the final dataset.

[23] Following Doulton and Brown (2009) stories included: News items; Editorials; Opinion pieces; Comment; Analysis; Innovation; Finance and if relevant Commercial Features. As argued by Doulton and Brown (*ibid.*), this provides an analysis of media treatment across categories (i.e.) this study does not separate actual news from interest group and political lobbying.

[24] Each article was assigned to one theme that best represented the article as a whole. Coding to determine the dominant theme drew on the concept of a primary frame and focussed on placement in text (i.e.) Headlines, Introductions and/or repetitions throughout the article. The PhD study goes a step further and targets specific references to LCT within articles and is therefore a more detailed and nuanced analysis of press treatment.

**Table 4: Data Sampling Frame (based on Press Themes about LCT from Pilot Study)**

| Broad Press Themes about LCT (unit of analysis = entire article) | Total No. Articles | Total in Trial Sample | Total in Main Sample (composite Sample) |
|---|---|---|---|
| Targets & Regulations | 120 (35%) | 18 (25%) | 68 (35%) |
| Environmental Concern & Climate Change | 70 (20%) | 12 (16%) | 40 (20%) |
| Protecting Economy & Costs | 63 (18%) | 14 (20%) | 36 (18%) |
| Sustainability & Technological Innovation | 51 (15%) | 12 (16%) | 29 (15%) |
| Negative &/or Critical | 38 (11%) | 10 (14%) | 22 (11%) |
| Radical Change(not incld in %) | 5 (-) | 5 (-) | 5 (-) |
| **Total** | **347** | **71 (20%)** | **200 (58%)** |

Subsamples Employed in this Thesis

The PhD research required the generation of two subsamples, one for category development across the multi-modal codebook and a second to reduce the dataset to a manageable size (see Table 4.1 below). However, category development in TA is highly dependent on the quality of the raw data and sampling decisions are therefore highly significant (Boyatzis 1998). As the purpose of the trial study was to develop the coding categories for TA and to provide a 'dry run' at the coding process, the trial study sampling procedure attempted to ensure maximum variability by including articles from across broad themes, timeframes and publications [25]. In doing so, the trial study sampling procedure provided a robust test of the multi-modal codebook against which the main study data was to be analysed. Following Schreier (2012), the study sampled approx. 15-20% of data set (71 articles). A second subsample of 129 articles, drawn-up with the random stratified sampling procedure, was coded using the final categories. Thus, a total of 200 articles were subjected to TA in this PhD research. This number of articles (>50%) was considered a sufficient population with which to make claims about the total dataset[26]. Thus, the trial study ensured the proposed procedures for the empirical analysis addressed the research questions, aims and objectives.

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[25] Thus, as far as possible, articles in the trial study reflected the range of public meanings, language use and ideas about social practices deployed across the range of publications and the timeframe.
[26] Based on a confidence interval of 5 and sample calculator http://www.surveysystem.com/sscalc.htm. Although statistically representative samples are not generally a focus of qualitative research, they were considered important in order for the study to reflect on trends in press themes.

**Table 4.1: Overview of Subsamples Employed in this Thesis**

| Subsample | Purpose in this study | Research Phase | No of articles |
|---|---|---|---|
| PhD Dataset | Identify set of relevant articles about LCT | Phase I – Data Collection | 347 |
| Pilot Study | Devise sampling framework | Phase I – Subsampling Procedure | 347 |
| Trial Study | Choose subsample to develop Coding Categories | Phase II – Developing Categories/Data Analysis | 71 |
| Random Sample | Choose additional subsample for TA | Phase III – Applying TA across Multi-modal codebook | 129 |
| Main Study | Total subsample subjected to TA | | 200 |

## 4.4 Analytical Strategy for Thematic Analysis of Media Representations

The data analysis methodology adapted Braun and Clarke's (2006) steps for TA to suit multi-modal analysis of press representations.  The methodology also employed Boyatzis' (1998) protocol for category development and coding to ensure critiques associated with the application of TA were minimised (discussed below). Thus, the analytical strategy for this study included four phases (see Table 4.2) and the data analysis and coding were carried out using NVivo qualitative data analysis software.
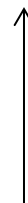
Thematic Analysis (TA)

TA is a particular type of qualitative content analysis that focusses on identifying ideas or themes in texts. In other words, a significant feature of TA is that it aims to make sense of the data rather than simply counting and reporting on words.  Braun and Clarke suggest that TA '… minimally organises and describes your data in (rich) detail. However, frequently it goes further than this, and interprets various aspects of the research topic.' (2006 p79).  Willig's more conceptual explanation proposes that

> Thematic analysis produces knowledge that takes the form of themes, built up from descriptive codes, which capture and make sense of the meanings which characterize the phenomenon under investigation. (2013, p65)

While researchers agree that the process of TA involves encoding qualitative information and that this enables the description of social facts or observations to emerge, views on what constitutes a theme are diverse.  For example, Berelson proposes they are 'assertions about some subject matter' (1954 p508) while Ryan and Bernard define them as 'abstract constructs' (2003 p87) and Boyatzis as 'recurrent patterns' (*ibid*. p137). This study drew on a Boyatzis' (1998) foundational definition

**Table 4.2: Stages and Application of TA on Irish Print Media Representations of LCT**

| Analytical Process | Practical Application using NVivo | Description of the Research Process | Strategic Objective |
|---|---|---|---|
| Familiarising yourself with the data | Import final dataset of relevant news articles from Lexis Nexis search<br><br>Input demographic details (i.e.) Newspaper, date, section, page number, article title, newspaper type | ***Phase I: Data Collection***<br>Initial pass at the data; note ideas for categories based on multiple readings of LexisNexis corpus (Pilot Study)<br>***Phase II: Sampling***<br>Select Trial Study sample to develop categories & Main sample for PhD | **Data Management** |
| Generating Initial Codes | Follow Hybrid Approach to identify provisional categories for Multi-modal codebook | ***Phase III: Trial Study***<br>Operationalise TA to address analytical focus of Multi-Modal Codebook Subject trial sample to TA | |
| Searching for Themes | Code Pilot Study articles across Multi-modal code book using references to LCT as unit of analysis<br><br>Log changes to category labels and inclusion/exclusion criteria as part of Audit Trail | Develop data-driven categories using inductive coding. Revise coding and refine categories regularly. The process of identifying and refining emerging themes involves analysing media deployment of ideas about LCT | **Data Analysis** |
| Reviewing Themes | Review coding at each node to ensure coding consistency; revise coding and rules for inclusion/ exclusion as needed to ensure fit | Employ Boyatzis' Category Labelling Protocol | |
| Defining and Labelling Themes | Finalise Category Label and Definitions at end of Pilot Study<br><br>Apply coding strategy to Random Sample | Aggregate coding categories to create media themes<br><br>***Phase IV: Main Study***<br>Apply final codebook categories to Random Sample | |
| Presenting the Findings | I – Empirical Chapters (6,7,8): select typical & vivid examples to exemplify characteristics of media theme for each mode of engagement<br><br>II – Overview Chapter (9): Discuss insights about Irish print media and public engagement with LCT based on the research approach devised for this thesis | I – Summaries of Irish print media representations and themes about engagement as well as implications of trends based on public engagement literature<br><br>II – Discussion of Irish media trends compared to Climate Change literature; unique case features and media role | I **Map Trends & Implications for Broader Public Engagement;**<br><br>II **Reflect on wider relevance of study**<br><br>**Suggestions for News Media and Communications Praxis** |

> [a] theme is a pattern found in the information that at a minimum describes and organises possible observation or at the maximum, interprets aspects of the phenomenon (p.vi-vii)

It also employed Willig's (2013) clarification that

> … a theme refers to a particular, recognisable configuration of meanings which co-occur in a way that is meaningful and systematic rather than random and arbitrary (p58)

Incorporating both these perspectives, themes were understood as

> … something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set. (Braun and Clarke 2006 p82)

Thus in this study, themes were defined as detailed and complex accounts of media conceptualisations and articulations about LCT and were examined in order to facilitate insights on how media treatment shaped cognitive, behavioural and affective dimensions of public engagement with LCT. However, as Bazeley (2009) argues, themes are not present in data waiting to be discovered and they do not just 'emerge'. They are part of the researcher's theoretical and conceptual framework, values and worldview and researcher judgement is highly significant in determining themes (Braun and Clarke 2006). As discussed (Chapter 3), this study employed a social constructionist variant of TA. Thus, themes were identified at the manifest level (through direct observation in the data) and/or at the latent level (through implicit understanding of the phenomena). Further criterion for what constituted a 'theme' was determined on the basis of its 'prevalence' and 'keyness'. Prevalence refers to the frequency of the theme across the data, whereas 'keyness' describes its meaningfulness or relevance in relation to the research question (*ibid*. 2006).


Application of a Multi-Modal Thematic Analysis (MMTA) to Press Representations of LCT

The thesis employed a MMTA to map how press conceptualisations and articulations about LCT shape the three dimensions of public engagement. Thus, the codebook includes three components each of which corresponds to one dimension of broader public engagement and addresses a specific research question (see Figure 1). The MMTA therefore investigates the three dimensions of public engagement that can be analysed

**CRQ: What are the different themes in Irish print media representations of LCT and how do they shape public meanings, social practices and ways of talking about LCT?**
**(i.e.)**
**How does Irish print media treatment of LCT shape (potential) broader public engagement?**

**Cognitive Engagement**

**RQ 1**

**Mapping Media Conceptualisations:**

**TA operationalised using Frame Analysis and Qualitative Content Analysis**

**Mapping Media Articulations:**

**TA operationalised using Linguistic Repertoires**

**Media & Public Engagement with LCT**

**RQ3**

**RQ2**

**Affective Engagement**

**Social Practices**

**Figure 1: Central Research Question and Multi-Modal Thematic Analysis**

textually. More specifically, the codebook for cognitive engagement targets public meanings; behavioural engagement targets behaviour and social practices and affective engagement targets ways of talking[27]. However, critics of TA point out that the method

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[27] These dimensions of meaning making in media texts were chosen as fruitful textual representations of the modes of public engagement with LCT and the concept of Carbon Capability for the purposes of this analysis. However, other features such as Claims-Makers, Tone, Humour, Visual aspects (especially

can represent an anything goes approach to analysis and has limited interpretative power if not informed by prior conceptual work (Willig 2013). Furthermore, as Boyatzis (1998) notes,

> the challenge to the qualitative researcher is to use thematic analysis to draw the richness of the themes from the raw information without reducing the insights to a trivial level for the sake of consistency of judgement (p14).

Therefore, to ensure the categories developed addressed the research question and to provide clarity about the meaning of themes and their epistemological orientation, the coding and analytical process to develop categories was operationalised as outlined below.

Cognitive Engagement

Themes illuminating how press conceptualisations shape public meanings of LCT were defined as positions on what LCT means and/or how it is to be achieved. These themes shed light on how Irish print media representations of LCT define the problem and which solutions are proposed. In other words, they identify what aspects of the multi-dimensional challenge are presented as the problem and which of the multi-faceted solutions are advanced as the solution. The concept of framing from media studies was employed to guide identification of the different meanings, knowledges or understandings of LCT and thus shed light on implications for cognitive engagement. 'Framing fundamentally asks how an issue is made meaningful' (Horsbøl 2013 p25) and in this study, the concept was employed to focus attention on the repetitive use of particular conceptualisations of LCT.

In particular, the concept of framing from media studies was employed to illuminate the deployment of ideas about problem definition, causes, solutions and moral evaluations (Entman 1993). It was operationalised in the coding process using Entman's definition that news frames are

> manifested by the presence or absence of certain keywords, stock phrases, stereotyped images, sources of information and sentences that provide thematically reinforcing clusters of facts or judgements. (*ibid*. p52)

Thus, categories generated by drawing on the concept of framing are essentially dominant themes about what LCT means, involves or requires; or repeating patterns of ideas about the problem LCT solves or the solutions it involves. However, it is important to note the limitations of frame analysis particularly in relation to audience reception. In other words, the

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cartoons and infographics), Hype, Formation of Public(s) could have been chosen as textually analysable proxies.

identification of particular frames does not imply that audiences will interpret their content in the manner described or that media frames influence audience attitudes or behaviour. The themes developed are assessed in terms of (potential) implications as audiences develop their own interpretations of media texts and this thesis does not claim to illuminate specific print media effects.

Behavioural Engagement (Social Practices)

Themes illuminating how media conceptualisations normalise ideas about low carbon actions or behaviour were defined as views advanced about social practices or citizens' roles, either taking place or needed, to achieve LCT. Press themes about Low Carbon Practices identify the main ideas about citizen activities to reduce carbon emissions deployed in media treatment. Social practices and the role of lifestyles and norms in shaping domestic emissions has become increasingly clear (Spence and Pidgeon 2009, Hargreaves 2011). Therefore, this category attempts to illuminate whether and how press themes discuss the socio-cultural dimensions of reducing carbon emissions in everyday life. This is a growing area of public engagement research as citizens are expected to play a crucial role in achieving LCT. TA was operationalised by following principles of qualitative content analysis (QCA) outlined by Schreier (2012).  QCA is a systematic procedure for describing symbolic material by assigning data segments to the categories of a coding frame and has much in common with TA. The data segments coded references to LCT that included a description of carbon reduction behaviour, social practices or public actions to achieve LCT (e.g.) Low Carbon citizen, consumer, voter, tourist etc.

Affective Engagement

Themes illuminating how press articulations mainstream ways of talking about LCT were defined as particular expressions, descriptions or evaluations used to discuss LCT. Drawing on the concept of repertoires as 'loosely coherent lines of talking and thinking' (Ereaut and Segnit 2007 p4), these carbon repertoires shed light on how print media language-use shapes public conversation about LCT (and thus shape public motivations and/or emotional connection). The aim of this coding was to identify and describe press themes that illuminate the 'everyday' ways of talking about the social/cultural, technical and political dimensions of carbon reduction activities as well as the values and norms associated with particular descriptions or evaluations of LCT in media texts[28]. TA was operationalised by drawing on the concept of linguistic repertoires (Potter and Wetherell 1987) and followed the process

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[28] Thus whereas cognitive engagement themes shed light on what is said about LCT, affective engagement themes capture *how* LCT is discussed and evaluated.

outlined by Ereaut and Segnit (2006; 2007). Themes were identified by noting changes in descriptions and evaluations (variability) and focussed on highlighting the type of language employed in particular press articulations. According to Ereaut and Segnit (2007)

> Repertoires are systems of language that are routinely used for describing and evaluating actions, events and people. They offer different ways of thinking and talking and act as different versions of what can be considered 'common sense'. Repertoires are important because they are resources that people can draw on as they try to make sense of an issue and what it means for them. (p7)

Linguistic repertoires are important textual features because they have a particular persuasive force and capture familiar ways of talking about things or ways that have become familiar (*ibid*. 2006). They are also known as 'interpretative repertoires' because they are frameworks of inference and for making judgments, such as what things mean, what is right and what is wrong, what is acceptable and not acceptable, and what flows logically from what' (*ibid*. p12). This study drew on both understandings of repertoires in order to illuminate the affective dimension of public engagement in media texts (i.e.) how language use 'connects' publics with LCT. The purpose was to illuminate the range of repertoires available in our culture and in doing so, to reflect on the 'palette of sense-making devices' (*ibid*. 2006) routinely made available in press treatment in terms of their potential to mobilise or circumscribe affective engagement with LCT. However, it is important to note that repertoires do not 'exist' in some concrete way 'out there' (*ibid*. 2007 p5). The final 'map' of carbon repertoires is not a 'definitive' truth, but a tool for thinking about affective public engagement with LCT in media(ted) contexts. These themes are a way of illuminating the particular dimensions of public talk or conversation about LCT deployed in print media texts (*ibid.*).

## 4.5 Trial Study, Category Development and Coding Strategy

A trial study was undertaken to develop categories for a multi-modal codebook and to test the coding strategy. The categories developed in this study indicate patterns of meaning making about LCT and specifically identify the public meanings, social practices and ways of talking about LCT deployed in the Irish press. These categories were subsequently combined to form print media themes about public engagement with LCT.

Open coding was carried out on the trial study subsample (71 articles) and the categories were developed inductively following the hybrid approach to category development (Boyatzis 1998 p52). In other words, the final categories for the multi-modal codebook were based on

empirical observation and the study did not test *a priori* hypotheses.  This approach is recommended for studies in which there are no previous analyses of a phenomenon (*ibid*). Furthermore, Doulton and Brown (2009) argue an inductive approach facilitates more nuanced and balanced understanding of media treatment than deductive investigations that, in predetermining the analytical focus, start from a subjective basis. Finally, in the application of TA for this study, the process of coding was part of the data analysis. Organising data into meaningful groups and aggregating categories into overarching press themes constituted the interpretative work in TA.

Reliability of Coding

To ensure rigour in the development of the codebook, the material was recoded at regular intervals (after two-weeks) to check for consistency and to identify any problems with category definitions or the comprehensiveness of the codebook ( Boyatzis 1998; Schreier 2012). Thus, the trial study included trial coding, consistency check and refining the codebook. The final categories used to analyse main study sample are outlined under 'Coding Strategy' described below. Having established the categories across the multi-modal codebook, the main study subsample was then coded in a systematic fashion[29].

Category Development and Labelling Process

Initial categories for TA may be generated inductively from the raw data, deductively from theory and prior research or using the hybrid approach, which combines elements of the first two approaches (Boyatzis 1998). The advantage of the hybrid approach is that it reduces the need to either 'invent or reinvent the wheel', which is a common dilemma for TA researchers (*ibid.* p50).  According to Boyatzis, drawing on prior research and deductive coding helps avoid reinventing the wheel, while data-driven categories and inductive coding reduces the pressure of inventing the wheel to establish an initial set of categories (*ibid*).

Thus the initial categories, based on empirical studies and notes from data collection and pilot study phases, helped to focus analysis on aspects likely to shed light on public engagement. However, these categories were not prescriptive, they merely acted as a starting point and further categories were added, refined, removed or merged as necessary. The inductive coding process therefore involved the researcher moving back and forth between the data and revisions to the coding categories in a process similar to the constant

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[29] The final codebook included categories for miscellaneous or previously unidentified material. As no further categories were identified during the coding process for the main study sample, it was considered that saturation of categories had been achieved.

comparison method. Thus, category development was a recursive process of identifying, labelling categories and revision as new aspects or representations of the issue appeared in the data. These categories were then aggregated into higher-level themes based on conceptual insights from the literature on public engagement with global environmental change. [30]

It is important to note however, that in qualitative work, 'there is no single set of categories waiting to be discovered. There are as many ways of 'seeing' the data as one can invent.' (Bazeley 2013 p150). This has given rise to an alternate view of validity within TA research, which is more concerned with

> consistency of observation, labelling or interpretation… It is not verification, but relates to the potential utility of the code and the research findings that result from the use of the code (Boyatzis 1998 p144)

As a result, validity in TA is concerned with the accuracy of category labelling and greater significance is placed on developing strategies to ensure consistent coding rather than on establishing reliability or inter-coder reliability.

According to Boyatzis, a good thematic code 'is one that captures the qualitative richness of the phenomenon. It is usable in the analysis, interpretation and presentation of the research' (*ibid*. p30). Thus, to ensure explicit category development and establish reliability and consistency of observation, coding, labelling and interpretation, the study followed Boyatzis' protocol for Category Labelling (see Appendix 1.5). The protocol also responds to two prominent critiques of TA. Firstly, that TA is sometimes carried out as 'an alternative to coding and often presented as  very descriptive writing about a list of ideas, concepts supported by little evidence' (Bazeley 2013 p190-191) whereas TA is in fact, 'an outcome of coding, categorisation, and analytic reflection' (Saldana 2009 p13). Secondly, the protocol was employed to reduce the possibility of researcher projection, or 'reading into', the data during category development (Boyatzis 1998 p12-16).

NVivo and Data Analysis Audit Trail
Both the data analysis process (i.e.) ensuring categories were well defined, bounded and made sense, and the consistency of coding was assisted by using NVivo software, which facilitated easy review and revision of codes in categories. In particular, through revision of coding at nodes, it was easy to establish an understanding of how the category was

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[30] Thus, the final categories and themes are those deemed most relevant to answering the research questions based on the researcher's familiarity with the data and reading of the literature.

developing; check coding consistency and revise coding/labelling. Thus, the software was used to facilitate and improve efficiency and rigour rather than as a tool that in itself conducts analysis. In addition, the software served as a tool for transparency as it provided a clear audit trail of the stages in analytical development of categories (see Appendix 1.6). The production of an audit trail is considered an important criterion for establishing trust worthiness and validity of qualitative research (Mason 2002, Bazeley 2013). In this study, the audit trail provides a clear record of the data analysis. It illustrates the coding decisions, how the categories originated and the revision stages in the category development process. It records how the data analysis informed the structuring and amalgamation of categories to develop the final themes.

Coding Strategy

As discussed earlier, the unit of analysis in this thesis was defined as a reference to LCT. As LCT entails multi-dimensional challenges and multi-faceted solutions the coding examined a wide range of references to what LCT means, involves or requires, as well as repeating patterns of ideas about the problem LCT solves or the solutions it involves (see Appendix 1.7 for list of references to LCT). It was expected that individual articles would contain a range of ideas or positions on LCT and thus several categories and themes. To assist coding, the criterion for recognising a change from one theme to another was a distinct shift to another theme or transition to another focus (Asplund 2014 p39) and the categories developed were unique[31].

Decisions as to the number of references to code were made in line with how meaningful repetition of references to LCT was to the research question and practical limitations such as timeframe to complete coding. The coding strategy to identify press conceptualisations of LCT (carbon literacy) and the deployment of ideas about social practices (low carbon practices) involved coding every reference to LCT. The coding strategy to illuminate press articulations about LCT (carbon repertoires) involved coding the most dominant articulations of LCT (max 3 articulations) based on 'keyness' (discussed below). Lastly, as the coding process involved significant subjective reasoning on the part of the coder, careful attention was paid to the coding strategy throughout the study to keep loose interpretation to a minimum. Coding was regularly reviewed to maintain coding consistency throughout this

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[31] Categories were developed to ensure internal homogeneity within a particular category and external heterogeneity across the codebook (Braun and Clarke 2006 p91).

process. Where a satisfactory interpretation could not be made in terms of the coding guidelines, the reference was coded as 'Not Present' or 'Other' as necessary.

## 4.6 Overview of the MMTA Codebook

The coding process identified nine media themes related to concepts from the literature on public engagement with global environmental change (see Figure 2). Overall, there was a high degree of correspondence between the initial categories (based on the literature and pilot study) and the final coding categories[32]. As no further categories were identified during the main study coding, this indicated that saturation had been achieved and that the sampling procedure was useful. The main changes involved merging and refining categories and the final category definitions and rules for inclusion /exclusion (i.e.) it involved determining the emphasis within a category.

| Cognitive Engagement | Affective Engagement | Behavioural Engagement/ Social Practices |
|---|---|---|
| | Consensus Repertoires | Private Sphere Practices |
| Describing the Problem | | Public Sphere Practices |
| Promoting Solutions | Repertoires of Controversy & Contestation | |
| Assigning Responsibility | Distancing Repertoires | |
| | Empowerment Repertoires | |

**Figure 2: Irish Print Media Themes Influencing Broader Public Engagement with LCT**

The next section briefly outlines the distinguishing features of each of the categories employed in the thesis. Full details of the final category labels along with changes or additions during the coding process and instructions for coding are included the complete codebook (see Appendix 1.8).

Print Media Themes Shaping Cognitive Engagement (Carbon Literacy)
Three themes capture the deployment of ideas about what LCT involves or means and who is responsible for action.

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[32] This was especially noticeable with categories for Cognitive Engagement and Behavioural Engagement/Practices. As might be expected, because of cultural differences, the most substantial changes were to category labels and definitions for Affective Engagement.

1. Describing the Problem

Categories in this theme promote alternate perspectives on LCT and thus public meanings about the rationale for action

- *Economic Growth and Efficiency*
  This category identifies the problem as maintaining competitiveness and rejuvenating the economy. It advances economic imperatives as the rationale for action and suggests that LCT involves economic change.

- *Advocating Energy Transition*
  This category presents the problem as the need to move away from fossil fuels and thus the rationale for action is tackling energy crisis. It promotes the benefits of alternate/renewable energy sources as well as the costs of green energy.

- *Environmental Responsiveness*
  This category describes the problem as tackling environmental crisis and advocates environmental concern and action. Countering claims that environmental protection is costly, this theme argues that environmental responsibility is economically viable.

- *Future Scenarios*
  This category describes a possible low carbon future world. LCT is presented as choices about the future and ways of adapting in a post-carbon world. The rationale for action is the need to move to new modes of living and ways of thinking about everyday life.

2. Promoting Solutions

The two categories in this theme either promote particular solutions or discuss choices related to technical or financial solutions and their advantages.

- *Financial and Market Measures*
  This category advocates market and financial measures over top-down government regulation and promotes markets/financial instruments such as 'carbon credits', 'polluter pays' as the best way of motivating required behaviour change.

- *Techno-Innovation and Low Carbon Solutions*
  This category promotes techno-fix, techno-optimism and advances the idea that LCT involves technological change.

3. Assigning Responsibility

These categories identify who are promoted as the main actors or the agents of change in LCT as well as who is blamed or called on to act

- *State/Sectoral Intervention and Regulations*

  This category advocates elite-driven transition and promotes government and business as the responsible agents of change.

- *Citizen Responsibility and Consumer Action*
  This category describes LCT as involving fundamental shifts to human behaviour, cultural expectations and social norms. It emphasizes or promotes the view that people are the agents of change (rather than governments, markets or technology).


Print Media Themes Normalising Behavioural Engagement (Low Carbon Practices)

Two themes based on the distinction between public and private sphere engagement (Hoppner and Whitmarsh 2010) capture the deployment of ideas about citizen involvement with LCT.

4. Private Sphere Practices

Categories in this theme inform or promote individual behaviour change or consumer change

- *Consumer Acceptance*
  This category is identified by general references to green and eco-friendly consumerism and/or to the need to 'incentivise consumers' to change to new 'low carbon' products. The emphasis is on changing consumer brands.

- *Personal and Household Behaviour*
  This category addresses individual and community-based lifestyle/behaviour change and domestic resource use. The focus is on (individual) 'behaviour' over (social) practices and thus, discussion of changing personal lifestyles or habits of individuals in the home.

- *Low-Carbon Living and Consumerism*
  Coding for this category requires explicit mention of carbon management. It emphasises that LCT involves changing a range of everyday practices such as consumer, transport choices and it is critical or questioning of consumption.

- *Organisational (Work) Practices*
  This category was identified during the coding process. It predominantly describes daily farming and business operation change and promotes efficiency and cost or 'bottom-line' savings as the rationale for LCT.


5. Public Sphere Practices

This theme describes all forms of collective and civic action, as well as socio-political participation and engagement with questions of democratic values.

- Community and Societal Action

  This theme is easily identified by references to community and collective actions to reduce carbon emissions. It includes both activist and non-activist forms of action.

Print Media Themes Mainstreaming Affective Engagement (Carbon Repertoires)

These four themes provide insights into how press articulations about LCT influence motivations for engaging by lending poignancy and immediacy to LCT through language. Thus, they show how press articulations act as affective inputs. The themes draw on key debates about affective engagement and global environmental change (especially views on psychological and political engagement with climate change and LCT). The coding identified particularly descriptive or evaluative resources for talking about LCT, which generated an initial list of 22 carbon repertoires. These were subsequently refined and reduced to 20 repertoires during the coding process. In other words, category development within these themes involved the most revisions[33].

6. Consensus Repertories

These repertoires present positive evaluations of LCT and are discussed as 'the common-sense' position. They are constructed as self-evidently so, not open to debate or incontestable and are referred to without comment.

- Calls for Leadership
  This repertoire promotes top-down action and visions to achieve the 'green benefits' of transition. It emphasises Government and business leadership and constructs leadership as a pre-requisite for the economic and social transformation. The language is overly optimistic about future LCT and the tone is positive, urgent and conclusive about the inevitable benefits of elite-led transition.

- Opportunity ('Green Benefits')
  This articulation advances the opportunities of Green Power (ie renewable energy technologies) and tends to advocate techno centric optimism about LCT. It constructs economic interests and Irish (economic) credibility as the main issues of concern and transition is made persuasive through optimistic claims about the inevitability of economic benefits, inflated promises of return to competitiveness and appeals to

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[33] The distinguishing features of each repertoire and most significant changes are presented in Appendix 1.8 and the process of developing initial categories is outlined in Appendix 1.9.

national pride. The language is future-oriented and conditional, with many promises of unproblematic linear growth.

- Sending Signals
  Also known as 'the Magic of Markets' this repertoire advances economies or markets as the primary agents of change and takes for granted the view that 'markets' are the most important audience and actor for LCT. The tone is business-like, conclusive and future-oriented. The language employs highly seductive economic metaphors as persuasive rhetoric and as fear appeals.

7. Repertoires of Contestation and Controversy

Categories in this theme are highly critical of (or negative responses to), the consensus repertoires. They also provide a challenge to the mainstream evaluations of unproblematic linear growth.

- Unfair Burden (Punishing People)
  This articulation presents the local and social injustices of LCT, emphasising the unfair impact of economic measures on the vulnerable (e.g.) Carbon Tax. The language is mocking and emotive, and the repertoire is identified by its focus on constructing citizens as victims of LCT.

- Carbon Indulgences
  This repertoire is very critical of the commodification of the atmosphere, which is seen as an excuse to carry on business as usual. It argues financial and market measures simply enable the guilty to pay for absolution rather than encouraging behaviour change. The language draws on metaphors to highlight the foolishness of financial and market measures.

- 'Church of Green'
  This articulation constructs the Irish green agenda as imposing unreasonable changes on people's lifestyles and is antagonistic about what it sees as the 'moralising' of carbon.  The tone is scathing and it mobilises a particularly Irish sense of humour to ridicule what argues is the imposition of a Green Orthodoxy (e.g.) 'Tax on Fun'.

- Climate Denialism
  This articulation questions the basic climate science and thus the need for LCT. It is identified by references that challenge climate science.

- 'It'll Be Difficult' (Questioning Simple Solutions)
  This articulation questions the validity of the simple solutions narrative by emphasising the difficulties associated with achieving proposed solutions and

interrogating the claims made about linear growth. The tone is challenging and critical.

- Failure
  This repertoire calls attention to the political mismanagement of LCT, particularly in relation to failed international agreements and failure to meet emissions targets. It provides a counter-view to the positive stances on top-down management found in the Leadership and Obligation repertoires. The tone is cynical as it presupposes political ineptitude and is sceptical of the ability of leaders to provide leadership on climate change and LCT.

- 'It'll Cost Us'
  This repertoire constructs measures to tackle climate change as a 'cost'. Like Protecting Competitiveness, it challenges the rationale for economic measures, but it is more extreme, arguing that business can't afford to meet targets and advocating the importance of free market protection. The language is argumentative and critical of government regulations.

- 'No Need For Action' (Futility/Folly of Decarbonisation)
  This repertoire challenges the need for LCT by emphasising the futility of economic measures and government regulations in the context of the Irish recession. In doing so, it promotes the logic that tackling climate change is something about which there is a choice.

- Protecting Competitiveness
  This repertoire takes a cautious view of LCT and argues against actions that will impede Irish competitiveness. However, instead of outright opposition to the principle of LCT it promotes responsible, pragmatic approaches. The language is persuasive rather than critical or scathing and the tone is reasoned and adamant.


8. Distancing Repertoires

These articulations close down opportunities for citizen involvement by describing or evaluating LCT in ways that also encourage apathy, fatalism or downplay the scale of the challenge.

- Small Changes and 'Happy Talk'
  This repertoire constructs a positive, can do vision of LCT which involves small personal lifestyle changes. It merges 'Small Changes' and 'Happy Talk' as both present an upbeat account of change and encourage action by focussing on 'selling good news' rather than 'doom and gloom'. The language is speculative and characterised

by non-specific generalisations about minimal personal sacrifice, economic sense and convenience.

- Dire Warnings
This repertoire constructs visions of catastrophic loss to motivate action to save the planet. It is recognisable by its use of heightened, cinematic language and references to apocalypse and fear appeals. This was initially labelled Counsel of Despair but the emphasis is more on finger pointing than hand-wringing. The tone is urgent and filled with ultimatums and warnings of impending doom.

- Obligation
This repertoire emphasises the need to meet $CO_2$ targets and stresses Ireland's responsibility and commitment to act on EU/International Agreements. However, this responsibility is primarily to meeting legal agreements. While the rhetoric is less inflated than Dire Warnings, the language remains cautionary and it deploys threats and fear appeals about costs of penalties to motivate action on meeting targets.

- The Appliance of Science
This repertoire constructs LCT as the technical challenge of how to manage an industrial sustainable future. It promotes the logic that 'technology will save us'. The tone is aspirational and focuses on the promise of 'eco-efficiency' and technological management of LCT.

## 9. Empowerment Repertoires

The repertoires in this theme open up possibilities for citizen involvement through constructive messages prioritising social and systemic change, advocating an emancipatory ethos and focussing on everyday lifestyles or expectations.

- Curbing Consumption
This repertoire constructs LCT as part of new consumption choices and promotes human agency through green consciousness. It emphasises eco-awareness and green living by curbing consumption but the focus is on private sphere actions, it doesn't promote public sphere engagement or radical change (i.e.) green radicalism. The tone is generally informative, balanced and often inspirational or motivational.

- Eco-Responsibility
This repertoire constructs LCT as a moral or global issue and promotes moral and ethical considerations to save the planet and combat poverty. The tone is balanced and objective, it is identified by its focus on global social injustices and global eco-awareness.

- David and Goliath
  Ereaut and Segnit (2006) define this repertoire as the voice of 'ideological fury' and associate it with Green Radicalism discourse. It is identified by use of highly adversarial rhetoric and language of radical fringe (e.g.) 'Flying is an obscenity'. It was not found in this study.

- Post Carbon Transformation
  This articulation describes new ways of thinking and working in a carbon constrained world. It includes the category 'Hard Truths' which highlights the changes to everyday lifestyles, landscapes or expectations. The repertoire is identified by references to 'post-carbon' or 'carbon' and visions of a low carbon world.  It is distinguished from Curbing Consumption by its faith in the future and optimism about social and technical innovation rather than focussing on eco-awareness.

## 4.7 Strengths and Weaknesses of the Research Strategy

The rationale for adopting TA as the main research method for this study and the overall research strategy was critically assessed above. Therefore, this section draws attention to the reliability and validity of the research design, the data collection and analysis procedures, as well as examining the limitations of the methodological approach not already discussed.

One of the strengths of this thesis is advances an inter-related conceptualisation of broader public engagement[34] as a framework to address the research question and focus the MMTA. Analysing and assessing press representations in this way presents a novel, in-depth and contemporary study of themes about public engagement. In doing so, this thesis produces more than a typology of press representations of LCT, it also offers critical insights on the implications for (potential) public engagement. As a result, the findings can inform journalism and communication praxis to develop broader public engagement with LCT. Thus, the study responds to calls to go beyond media-centric analyses of global environmental change by presenting an account of the potential social implications based on the emerging literature on public engagement. Furthermore, the study contributes the codebook of print media themes about public engagement with LCT as a resource for others who may seek to use a similar approach in future research.

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[34] Based on an adaptation of the Carbon Capability Model (Whitmarsh *et al.* 2009) and the emerging literature on public engagement with climate change as discussed in Chapter 3.

The use of Creative Carbon Compounds as keyword search terms and the incorporation of strategies to overcome critiques of TA, are also strengths. In particular, clarity about operationalising category development and an inductive approach to coding ensured that new insights could emerge from the data and that resulting themes were relevant to the research question. Together, the strategies employed in data collection, sampling and data analysis underpin the validity and credibility of the research findings.

As advised in the literature on case studies, this research analyses a unique and exemplary case (Yin 2009). The Irish case sheds light on the implications of the economic rationale for LCT which is now a mantra in public discussion about LCT across the EU. In particular, it represents an extreme example of the challenge of balancing enconomic and environmental interests to achieve LCT and thus highlights the significance of press treatment. However, while it offers valuable insights on the contextual factors influencing broader public engagement with LCT, the findings are not presented as generalisable.

A second limitation of the research design focusses on the choice of medium analysed. While acknowledging that the value of print media as an object of analysis has limitations, these are outweighed by its advantages. For example, i) ease of access to data, ii) it is an important site for analysis of claims and public information and iii) newspapers remain an important source of information on environmental issues for many people (Antilla 2010 p.245). Thus, although other media such as TV, social media, radio offer important insights on LCT, press reports tend to be more in-depth, extensive and consistent over time than TV (Gavin 2009) and online media have yet to match the coverage of mainstream print media (Gavin 2009b), they are also often dependent on professional news reports (Reese et al. 2007). As a result, print media were considered more fruitful in terms of mapping the emergence and transformation of the 'routine messages' available on this research question.

The study also precluded analysis of visual elements and story positioning on pages, both of which are significant aspects of print media's meaning-making role (O'Neill 2013, O'Neill and Smith 2014), as well as placement in paper, or journalistic practices. Analysis of the breadth of meaning making in print media is therefore limited to examining language in the form of written text. While acknowledging the importance of visual imagery in the social shaping related to climate change discourse, especially given the ubiquity of personal devices which prioritise the visual in communication, it was not included in this study for pragmatic reasons. Thus, the findings do not claim to provide an exhaustive account of the implications of press

representations. This study limits itself to illuminating how and why broader public engagement with LCT is made meaningful (or not) through use of language by being part of the routine messages made available in the public sphere by the press. However, mediated visions of LCT and digital/social media communication about LCT are recognised as important areas for future research (see Chapter 9).

## 4.8 Summary

The goal of this thesis is to map the public meanings, ways of talking and social practices advanced about the multi-dimensional challenge of LCT in Irish press in order to shed light on their implications for cognitive, affective and behavioural engagement with LCT. In doing so, the study also aims to illuminate the socio-cultural and political barriers to broader public engagement.  This chapter discussed how the study resolved the methodological challenges associated with analysing a multi-dimensional topic and offered arguments for employing MMTA to Irish print media representations of LCT. It proposed a reliable data collection method to capture both expert and lay citizen conceptualisations of LCT in press reports. It described the application of TA to ensure coding consistency and presented the analytical strategy to develop a multi-modal codebook for textual analysis of broader public engagement with LCT.

It also outlined the rationale for an Irish case study arguing firstly, that Ireland's unique geopolitical, economic and environmental legacy offers important insights into how press themes about LCT shape meaning making about potential citizen involvement in processes of LCT. Secondly, the review of methodological approaches noted an under-representation of Irish data in media and climate change studies. While Irish data is available in comparative studies, there are few single case studies of Irish press representations of climate change. The following chapter presents the background to the Irish case study in more detail.

# Section 3:
# Mapping out and Reflecting on the Empirical Landscape

# 5

## Forty shades of Going Green: An Irish Case Study

This chapter offers a background to the Irish case study and thus provides a context for reading the findings that follow. It aims to show how the unique geopolitical and economic aspects of an Irish case study make it a valuable site for news media analysis of LCT. It highlights the specific difficulties Ireland's policy focus on the agri-sector and rejuvenating the economy to maintain competitiveness constitute for the task of decoupling growth and emissions, which is central to LCT. Consequently, targeted analyses of Irish press coverage and representations of LCT are an important contribution to the literature.

Ireland is also an apposite case study for an analysis of press representations of LCT for a range of political and geographic reasons. The timeframe examined in this thesis covers an extremely turbulent moment in recent Irish history. It includes the rise and fall of the Celtic Tiger, the 2007 general election, the first years of the Green Party's only time in government, the global financial crisis and Irish economic collapse and austerity. It also includes a period of high interest in climate change and LCT including an (online) public consultation on climate change as well as the publication of a number of policy documents on climate change, decarbonisation and sustainability, the majority of which specifically recognise the importance of public engagement. Thus an Irish case study of press representations of LCT is timely as decarbonisation and sustainability are a central features of political concern and policy (O'Donnell, O'Connell, *et al.* 2012)[35]. However, there is also scepticism of the underlying rationale for political interest sustainability and critics contend that while a climate friendly low-carbon economy is a key refrain in the Irish climate narrative, the emphasis is primarily on 'revalorising and rescuing the very notion of growth' and that sustainability is focussed on an economic turning over social innovation (Mullally 2012).

The chapter is organised in two sections; the first section presents an introduction to the unique aspects of Irish case, specifically the economic and geo-political aspects that shape public discourse around climate change as well as presenting a brief history of Irish climate

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[35] The timeframe did not include considerable public resistance to environmental management in the form of water charges and renewable energy development (see Mullally and Byrne, 2016). However, these developments are taken into account and contextualised in the discussion and conclusion chapters.

policy (see Figure 3). The second section offers some background to Irish print media as well as insights on public attitudes and behaviour towards environment and climate change. Thus, this section provides a bird's eye view of science and environmental reporting in Ireland and an overview of recent analyses of climate change coverage in the Irish press.

## 5.1 Political and Economic Context

Just as Ireland is recognised as a unique geographical location for monitoring climate change[36], so too are its political and economic characteristics in terms of implications for understanding contextual factors shaping citizen engagement with LCT. Specifically, Ireland has a poor environmental track record and its economic crisis has led to much emphasis being placed on sustainable development and renewable energy as engines for possible future return to growth and prosperity. In other words, public and news media discourse about LCT is often prefaced by, or framed in relation to the potential for creating jobs and overcoming Ireland's considerable financial crises (see section 5.2). Most significantly, Ireland has one of the highest carbon emissions targets in the EU and is among the highest in terms of carbon emissions per capita. However, because Irish agriculture and transport sectors are responsible for large part of emissions with little ability to reduce them because of a lack of alternative and poor transport infrastructure[37], there is an urgent imperative for wider public engagement in Ireland. Thus, while discussion of climate change impacts in Ireland are likely to be much less onerous or challenging than in many other locations (particularly compared to EU and the UK), Ireland's move to a low carbon future is recognised as a particularly difficult task.

In Ireland, climate action is governed by the Climate Action and Low Carbon Development Bill, 2015. This links low carbon (sustainable) development with climate action and indicates that Irish national policy preference is to move towards a low carbon, climate resilient and environmentally sustainable economy. However, the law was several years in the making and the result of longstanding efforts by environmental NGOs and the Green Party to ensure a regulatory footing for climate change action in Ireland.  In other words, this 'environmental turn' was not without a struggle and Irish politics (and politicians) are much better known for its poor environmental legacy (Taylor 1998, Cunningham 2008). In particular, researchers

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[36] The Status of Ireland's Climate, EPA, 2012
[37] *The EPA and Climate Change: Responsibilities, Challenges and Opportunities 2011 Report*

1997    Kyoto Protocol - Legally binding agreement to reduce GHGs (nationally)
*2000    First National Climate Change Strategy*
         *Irish legislation proposed carbon taxes to reduce GHGs. Following IBEC (business sector)*
         *Lobbying, idea dropped in 2004. First mention of 'Low Carbon' in Irish Times*
**2002    Earth Summit**; Johannesburg Declaration on Sustainable Development
*2003    Irish Presidency EU; Focus on policy to drive EU 'low carbon' economy*
**2005    Kyoto Protocol comes into force**
**2006    Stern Report; makes the financial case for climate change action**
**2007    Fourth IPCC Report**; *Irish Green Budget introduced; First mention of Decarbonisation*
         *Green Party puts Carbon Taxes back on the agenda.*
         *Originally mooted as an environmental measure, with the tax used to compensate*
         *vulnerable and less well off, however, as economic crisis increased, tax seen as an*
         *increase on excise duties on fuel and thus a revenue raising measure.*
         *National media coverage very critical of carbon tax and carbon credits – particularly in*
         *the tabloids; imposition of financial instruments for C02 reduction seen as unfair,*
         *especially in recession and with GHGs decreasing, Green Party blamed for introducing*
         *Carbon Taxes (without a mandate). Noticeable level of public criticism of carbon tax*
         *– a regular feature of Letters to Editor pages*
*2008    'Building Ireland's Smart Economy: A Framework for Sustainable Economic Renewal,*
         *2009 - 2014'. Government Report, published December 2008.*
         *Two approaches  for economic recovery: high productivity; low carbon usage*
         *Carbon Taxes commence,cars taxed based on CO2 emissions rather than engine size.*
         *Government Change.ie Campaign aimed at Low Carbon Living starts.*
         *Promotion of online carbon management tool aimed at citizens (2008), business (2009)*
         *Start of Irish economic recession following banking and global financial crisis*
**2009    Climategate; scientific consensus on AGW questioned**
         *Commission on Taxation Report (An Bord Snip), ESRI report examining the pros and cons*
         *of different instruments available to put the country on a low carbon  trajectory of*
         *economic recovery. Comhar Sustainable Development Authority publishes Green New*
         *Deal Development Plan (2009) a green stimulus proposal calling for a National*
         *Decarbonisation Fund to be managed by the National Treasury Management Agency*
*2010    Green Finance Bill; Introduction of Carbon Budget to incentivise LCT*
         *Summary of Progress and Future Priorities for the Smart Economy (new government's*
         *follow-up to Building Ireland's Smart Economy, published March 2010)*
**2011    EU Roadmap 2050;** *Irish General Election*
         *Fine Gael /Labour coalition replaces Fianna Fail/Greens*
*2012    Irish Climate Change, Sustainable Policy in advance of Irish EU Presidency & Rio +20*
         *Publication of National Framework for Sustainable Development in Ireland & Roadmap*
         *for Climate Change. NESC Reports – Climate Change, Sustainable Development, Low*
         *Carbon Transition, Rio Summit +20*
         *Public Consultation on Climate Change; An online process that is heavily criticised*
**2013    Fifth IPCC Report;**
         *Outline Heads of the Irish Climate Action and Low Carbon Development Bill*
         *NESC Reports on Carbon Neutral Vision  for Ireland 2050*
**2014    Framework for Climate & Energy Policy** Competitive, secure, sustainable energy system
         Climate and energy targets post 2020 to move towards a low carbon economy.
         Much criticism of EU Policy especially not setting national emissions targets
**2015    Paris Climate Conference;**
         Irish Climate Action and Low Carbon Development Bill
         Ireland's Transition to a Low Carbon Energy  Future (White Paper)
**2050    EU Roadmap for Moving to a Low-Carbon economy**: cost-efficient ways to make the EU
         economy more climate-friendly and less energy-consuming, economic incentives to
         achieve much deeper emission cuts by the middle of next century. Clean technologies are
         seen as the future for Europe's economy.

**Figure 3: Timeline of Irish Climate Change Policy and Related Developments**

have highlighted a legacy of using scientific epistemology to organise consent around economically favourable agendas in Irish public debates involving environmental concerns about industrial development. For example, Taylor's (1998) analysis of the formation of the Environmental Protection Agency (EPA) in Ireland[38], argues that contrary to perception, the point of the EPA was not a turn towards ecological modernisation in Irish polity but an institutional response to growing environmental conflict that could unravel much needed economic growth. According to Taylor, the EPA was set up to organise

> […] consent around new definitions of justifiable pollution and the central thrust behind the formation of the EPA was not to conserve the environment but to conserve the emerald tiger (*ibid.* p53)

In other words, the EPA, employing scientific justification, would reframe debates around new definitions of 'the extent to which pollution can be justified' to ensure the continuation of economic growth (*ibid.*).


Several empirical studies examining a range of social issues around public participation in environmental risk management in Ireland, notably around biotechnology, especially GMOs as well as nuclear power (Keohane 1998; O'Mahony and Schäfer 2005; Skillington 1997; Motherway 2002) substantiate Taylor's critical position on Ireland's environmental track record. According to Motherway's analysis of the research on biotechnology consultation processes

> The data reveals a range of discursive and power processes influencing the debate. Certain knowledges and discourses exhibit more power to dominate and to influence outcomes than others. In particular, scientific expertise occupies an elevated position, despite attempts by many actors to widen the range of the debate to social, economic and other factors. Importantly, beyond establishing the inevitability of power factors in the discourse, the analysis highlights the role of the state in guiding the shape of such power patterns. Either directly through setting the agenda of the consultation process for example, or indirectly, through promoting or framing systems of expertise in say, education or policy-making practices, the state strongly influences the patterns of power in the discourse of the debate (2002, piii)

This draws attention to whether Ireland's poor environmental legacy, as well as political and institutional barriers, could be a substantive issue in the current process of socio-technical transition. As discussed earlier, Mullally claims that there is a power struggle between a 'green turning' related to social innovation and a' technoscientific turning'. Additionally, Tovey (2011 cited in Mullally, 2012), in the context of renewable energy, has argued that

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[38] Taylor points out that the EPA was set up in 1992 in response to rising public backlash and protests over a range of environmental concerns about industrialisation during the 1970-80s.

social sustainability is rarely given any consideration beyond questions of social acceptability of the technology.  On the other hand, the recent National Economic and Social Council (NESC) report on policy options for meeting Ireland's carbon emissions targets (O'Donnell, Cahill, *et al.* 2012) notes the growth of a community agenda and civil society initiating social innovation in Ireland and claims that there are signs of 'emergent political spaces where the sustainable development debate has fostered the creation of novel arrangements and technologies of governing' (*ibid.* p10).

Economic Context

The significance of the Irish economic context are summarised in a recent NESC Interim report on climate policy

> In the substantive policy areas discussed in this report, we come face to face with a key issue: the relationship between the climate change challenge, Ireland's current economic circumstances and the dominant challenges of economic recovery, employment creation, fiscal correction and public sector reform. In thinking about investments to reduce carbon emissions we confront three troublesome features of Ireland current economy: the severe limits on exchequer spending; the constraints on credit because of the impaired financial system and the extent of deleveraging and saving. In addition, we face resource constraints in policy analysis, policy making and implementation. (*ibid.* p16)

In the short-term, Ireland faces significant challenges meeting climate mitigation regulations over the period 2013 – 2020 (Lehane and O'Leary 2012; O'Brien 2012) and future EU policy development drive towards a competitive, low-carbon economy is likely to increase mitigation targets. Economically, meeting increasingly challenging climate mitigation requirements will impact on Ireland's ability to 'engage effectively in an emerging green economy', according to a Department of Environment (DOE) report

> A critical consideration in reviewing national climate policy is the fact that the current mitigation target for 2020, which is binding under EU law, is almost certain to increase in ambition in the context of ongoing EU policy development' (Department of Environment, 2011, p3)

> Recent greenhouse gas emission projections from the Environmental Protection Agency (EPA) show that, even under the most optimistic scenario, Ireland cannot meet its 2020 mitigation target on the basis of existing policies and measures, and a further deepening of these measures would be required to achieve compliance domestically (*ibid.*, p4)

The report concludes that Ireland is on target to meet Kyoto commitments in several respects, predominantly top-down regulation via fiscal policy instruments, (i.e.) carbon taxes. However, these efforts are likely to be dwarfed by more stringent EU legislation

a real concern is the fact that the mitigation generated by the end of 2012 will be dwarfed by the need for much deeper mitigation in the future. The recent 2050 roadmap communication from the European Commission clearly signals that the EU and its Member States need to plan for ever decreasing domestic emissions, and points to the critical importance of policy development being assessed with a longer-term perspective rather than on a 2020 horizon. (*ibid,* p12)

Together these outside influences highlight the wider context for encouraging greater public support for low-carbon lifestyles and associated behaviour change. Achieving Irish emissions targets is acknowledged as extremely difficult and public involvement is seen as a necessary component given the (political) difficulties of reducing emissions in the two highest sectors agriculture and transport. Thus there are increasing government calls for a 'national conversation' and there is a focus on promoting engagement as 'public buy-in'. The draft National Framework for Sustainable Development recognises the role societal change will play in meeting targets required for transition to a low carbon future:

> A societal change will have to occur and people should be helped to understand the different impacts of their lifestyle choices. Ireland has already funded a public awareness campaign and so a Communication Plan will be developed that is focused on key stakeholders and outlines the scale of the change that must take place, costs of inaction and the benefits and opportunities of transition (Department of Environment, 2011b, p35).

Thus, Ireland's political, economic and geographic location represents a novel perspective compared to northern Europe and UK where there is either a strong environmental track record and/or focus on top down political regulation in relation to environmental sustainability. Furthermore, Ireland is a compelling case for examining the difficulty of balancing economic and environmental interests, especially the challenge of reducing carbon emissions while maintaining economic growth. The focus on agriculture in Irish economy sets Irish LCT apart from the majority of EU countries, as agriculture is a significant contributor to national GDP and driving agricultural output is a key focus of Irish economic growth. Consequently Irish press representations of LCT offers alternate insights on the economic mantra of benefits associated with LCT (because Irish agricultural emissions cannot be significantly offset by renewable energy). Therefore, this research presents an opportunity to map unintended consequences on (potential) implications for public engagement.

## 5.2 Irish News Media and Public Perceptions Research

This section provides background on the state of news media coverage of science and environmental issues in Ireland as well as on Irish public attitudes, behaviour and understanding of environmental issues and specifically climate change.

Starting with the development of Irish press coverage of science and technology generally, research has identified a weak representation of science in public affairs and argued that 'the media emphasis on economic, employment and expenditure aspects of science strategy follows the government's lead' (Trench 2007 p140). This analysis, which drew on several studies of Irish print media from 1994 – 2007, also found that they promoted a 'celebratory or economistic relation with science'. While the study showed an increase in science reporting over the period, and highlighted that environmental issues, especially climate change were a 'favoured category', overall it showed that Irish press paid poor attention to social, cultural and political dimensions of science and technology as well as to local angles, compared to other locations. Thus, Trench's analysis suggests the Irish press focus on an instrumental view of science and prioritise the reporting of scientific innovation over other forms of knowledge associated with scientific endeavour and its societal implications.

Several recent studies assessing news media coverage and treatment of climate change confirm this view and indicate that there has been little journalistic innovation in the intervening decade. For example, Cullinane and Watson's (2014) analysis of climate change in RTE found coverage on the national broadcaster was very low and was dropping. They noted the absence, or infrequent, reporting of global climate negotiations and that the topic was rarely linked to other local climate-related issues. Wagner and Payne (2015) also found a decline in coverage and that Irish press appear to report climate change in a biased way by focussing on elite and political leaders' positions on climate change. This finding is consistent with analysis showing that Irish press prioritise elite interests with economic arguments about the opportunities of LCT (McNally 2015). Most recently, Mullally and Byrne's (2016) analysis of smart grid technology in Irish press, which highlighted significant public resistance to electricity infrastructure development and the increasingly political nature of LCT, cautioned that the narratives of economic optimism, economic recovery and economic growth around  transition have negative implications for shaping social learning. In particular, they argue that press coverage lacks attention to important details and fails to offer an engaging 'social narrative'.

Taken together these studies draw attention to the marginalisation of the social dimensions of climate change and the reductive quality of Irish news media treatment of socio-technical transition. In many ways, they support research indicating the 'banalisation' of climate change (Dugas and Young 2011) as well as Howard-Williams'(2009) findings of the failure to present solutions that have a social component. However, while all the studies suggest that Irish news media representations have negative implications for social uptake, especially public perceptions, engagement, knowledge or behaviour, their findings can only imply that connection. This study goes a step further; by examining press representations of LCT, it focusses on the local, tangible dimensions of climate change and systematically investigates the implications for the modalities of public engagement – thus presenting an analysis that explicitly investigates the social reality of engaging with LCT.

Irish Public Behaviour and Attitudes Research

Overall, local academic research has concentrated on the physical science dimensions of climate change, with considerable attention to climate and economic modelling, whereas few studies examine socio-cultural issues related to communication and behaviour change (for example see Fox 2014; Mullally and Byrne 2016; McNally 2015). Thus, there are relatively few studies on public understanding of, or engagement with, climate change in Ireland. The most up-to-date research indicates that Irish public perception of the seriousness of climate change is currently well below the European Union average (European Commission 2014). Only fourteen per cent of Irish people ranked the issue as the world's single most serious problem according to this survey. The study notes that this has dropped from a similar survey in 2008 when Irish perception of the problem was one of the highest across EU[39]. Furthermore, several Eurobarometer Reports on climate change indicate low levels of interest, concern and understanding about climate change in Ireland. For example, a survey on environmental attitudes found that unlike the rest of Europe, the Irish public is more concerned about the economy than climate change (Eurobarometer 2011a) while a report on climate change found that Ireland is just ahead of Portugal, at the bottom of the European nations, when asked whether they believe climate change is a problem. This report found a decrease in those indicating they have taken personal action to tackle climate change over the last three such surveys (Eurobarometer 2011b). This study also found that Irish

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[39] A googletrends search carried out in May 2013 to establish baseline interest and to help assess the overall patterning for 'climate change' and 'decarbonisation' as search terms in Ireland, found very few searches for any of the most likely key terms, which is suggestive of a general low level of online interest.

respondents felt the least personally responsible, rating national government, the EU, business and industry as having more responsibility for tackling climate change. Irish people also presented the highest numbers of those not knowing if they had taken personal action. National news media reports have also highlighted public confusion over the issue[40] although the Eurobarometer survey indicated that the public in Ireland felt well-informed about the causes and consequences of climate change (Eurobarometer 2011b). Significantly, this survey identified the Irish public as most sceptical about the connection between $CO_2$ emissions and climate change, with 50% agreeing that 'CO2 emissions has only marginal impact on climate change' (*ibid.*). These studies indicate poor levels of awareness, understanding and concern about climate change among the Irish public, however, the surveys are now also in need of updating.

## 5.3 Summary

This thesis targets Irish press as an important domain to begin mapping news media and LCT, because it represents an alternative to UK, US and northern EU studies which dominate the field. The chapter highlighted that Irish public debate about LCT, tied to the need to meet EU 2020 targets, prioritises economic arguments for decarbonisation. At the same time, with some of the most stringent carbon emissions targets and its dependency on increasing agricultural output, the Irish case study illuminates the difficulty of decoupling growth and emissions particularly in economies dependent on (significant) regrowth. Thus, it offers an opportunity to assess the unintended consequences of the mantra of 'economic benefits' in press representations of LCT and highlight their potential implications for citizen engagement with building transition pathways. Consequently, while Ireland is a unique case and the findings of this thesis are not presented as 'generalisable', they are informative for wider audiences. They have wider relevance as the mantra of economic benefits now prevails across EU in news and policy reports about LCT and tackling climate change. In other words, Ireland is at the coalface of debates that could occur in other countries in the future and the findings offer important insights about the implications of press representations of LCT  that are likely to be of wider interest, particularly in the context of the EU's climate leadership role.

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[40] RTE, Burning Question, 2010, explored the gap between public perceptions of climate change, scientific consensus and the role of news media (http://ecocongregationireland.com/archives/1158)

Thus, overall, an Irish case study is a good example of the general contradictions, tensions and issues associated with news media representations of LCT and this study is undertaken to provide an exemplar. In other words, building on Flyvberg (2006, cited in Uggla and Olausson, 2013), Ireland presents a critical case which illustrates the more general phenomenon of mediation of transition to low carbon future. Following Uggla and Olausson then, the intention is to contribute to the production of an exemplar rather than to contribute knowledge that is *necessarily* applicable to other locations.

With the theoretical, methodological and contextual basis of the research now established, the following chapters investigate how Irish print media represent a multi-dimensional, evolving challenge and discuss the implications of these themes in terms of how they shape public meanings, ways of talking and ideas about social practices needed to achieve LCT. Specifically, they map trends in press representations over thirteen years and reflect on the implications for cognitive, behavioural and affective engagement in order to understand how press treatment of LCT influences (potential) broader public engagement.

# 6

## Shaping Carbon Literacy and Cognitive Engagement

As the analytical framework illuminates how Irish press treatment shapes cognitive, affective and behavioural dimensions of public engagement with LCT, the following three chapters present and discuss the empirical research accordingly.  Thus the overall findings are synthesised in a final discussion  (Chapter 9) to comment on i) the value of a multi-modal perspective for analysing print media and public engagement with climate change; ii) the significance of focussing research attention on press treatment of LCT and iii) the particularities of the Irish case study.

Starting with how press themes shape public meanings of LCT (i.e.) carbon literacy and the implications for (potential) cognitive engagement with LCT, this chapter asks:

- *How does Irish print media treatment shape carbon literacy and (potential) cognitive engagement with LCT?*

As a complex multi-dimensional issue, discussion of LCT includes a range of social, financial and technical themes. The ideas deployed in press themes about LCT therefore promote particular ways of knowing about LCT and silence (or marginalise) others. In other words, press treatment shapes carbon literacy by routinizing the public meanings of LCT and, by privileging particular public meanings, prevalent theme shapes (potential) cognitive engagement with transition. Thus to address the research question, the study analyses trends in the deployment of conceptualisations of LCT and also asks the following sub-questions:

- *What ideas about LCT are deployed in Irish print media treatment*
- *How does prevalence of themes about LCT shape carbon literacy*
- *What are the implications of dominant theme for (potential) cognitive engagement with LCT*

In line with the over-arching aim of illuminating how press themes shape broader public engagement with LCT as an adaptive challenge and the emerging literature on public engagement, the focus is on evaluating how conceptualisations and associated themes reduce the complexities of LCT to the social and/or human scale. In other words, the analysis illuminates the extent to which press themes 'bring climate change home' by assessing how press treatment about the multi-dimensional challenge of LCT is 'socialised' or brought closer

to the lived experience.  Concern with everyday meaning making, lifestyles and/or expectations is a key feature of both the Social and Cultural Turn in climate change communication and is consistent with media theorists who highlight the need to make the issue more relevant to news audiences and thus argue for a contextual approach to climate change reporting. For example, Entman proposes

> highlighting the concrete stakes for them, their values and interests and identities, in the outcomes' rather than the usual 'game schema' approach and political manoeuvers, plans and predictions (2010 p114)

The discussion then examines how these trends shape carbon literacy, paying particular attention to how the prevalence of, and silences in, themes influence which public meaning(s) of LCT are routinely made available. Then, drawing on key issues and debates in the emerging literature on public engagement, the final section reflects on whether or how Irish press treatment circumscribes (potential) cognitive engagement with LCT.

Given the amount of data explored, it is impractical and of questional value to deploy in-depth and penetrating qualitative assessment of all categories identified as part of the TA. Therefore the analyses do not provide a broad-brush characterisation of the principle features of each media theme and associated conceptualisations of LCT. Instead, as the aim is to examine potential implications for broader public engagement, the empirical chapters outline implications of key trends in press themes for public engagement followed by more nuanced discussion of particular conceptualisations that offer insights on press treatment and public engagement with LCT.

Overview of Irish Print Media Reports about LCT

This section presents the overall figures for the frequency of articles across the total sample and reflects on the search terms and Irish print media coverage of LCT. The purpose of quantifying the data is to scrutinise the relevant importance of the key themes (following Teräväinen (2014)) and also to illuminate silences or marginalisation of themes across the timeframe.  Silences are important features in media analyses of environmental issues (Allan et al. 2000; Anderson 2015) because, as Monbiot (2015) points out 'There is nothing random about the pattern of silence that surrounds our lives. Silences occur where powerful interests are at risk of exposure'.  However, quantitative data offer limited insight into the implications of media treatment, which is the central concern of this study therefore the remaining sections offer in-depth qualitative elaboration.

As discussed in Chapter 4, this study analysed 200 articles out of the total corpus of 347 stories drawn from across a range of Irish press publications. The PhD Sample employed random stratified sampling based on the six broad themes identified in the Pilot Study (see Table 4). These themes showed that the Irish press prioritise discussion of LCT in terms of Targets and Regulations (35%); Environmental Concern & Climate Change (20%); Protecting Economy & Costs (18%); Sustainability & Technological Innovation (15%); Negative &/or Critical (11%); Radical Change (5 stories). Additionally, the Lexis Nexus searches revealed that while references to 'Carbon' first appeared in the *Irish Times* in 1992, it was not until 2007, following the release of the Stern Report, that LCT became a substantial topic of press discussion. Analysis of search term frequency reveals that 'Carbon Tax' was the dominant topic of debate over the entire timeframe. References to this term were found across all publications and it was also discussed as a topic of controversy and contestation, particularly in tabloid coverage, which was often highly critical of government actors. The *Irish Times*, which provided over two thirds of the articles in the entire dataset, is the dominant news organisation reporting on LCT (see Table 6). This dominance is reflected in the coding – the majority of references arise from the *Irish Times*. However, the decision to base the random sampling on broad themes about LCT (rather than on publications) meant the PhD Sample includes more stories from across the spectrum of publications. In other words, while *Irish Times* still dominates, this approach enabled the inclusion of more references from tabloid press (as these comprised the majority of stories within the Negative/Critical story type – see Table 4.2). Thus, this study offers a more citizen-centric approach to understanding implications of press constructions – while there are less stories about LCT in tabloid press, these are still important to include in a mapping of press constructions which aims to identify the resources made available to public(s) to engage with LCT.

| | Total Articles (347) | PhD Sample (200) | Refs Coded In Sample | Cognitive (Carbon Literacy) | Behavioural (Low Carbon Practices) | Affective (Carbon Repertoires) |
|---|---|---|---|---|---|---|
| Irish Times | 212 | 114 | 895 | 458 | 150 | 287 |
| Irish Independent | 28 | 19 | 144 | 74 | 22 | 48 |
| Irish Examiner | 58 | 40 | 276 | 133 | 47 | 96 |
| Irish Daily Mail | 2 | 2 | 9 | 3 | 3 | 3 |
| The Mirror & Sunday Mirror | 11 | 10 | 69 | 33 | 12 | 24 |
| Sunday Independent | 5 | 4 | 31 | 13 | 5 | 13 |
| Sunday Tribune | 10 | 5 | 44 | 24 | 6 | 14 |
| Sunday Business Post | 21 | 9 | 72 | 40 | 11 | 21 |

**Table 6: Details of Articles, PhD Sample and Distribution of References across publications**

Analysis of the volume of articles during the research period indicates a rising trend in coverage among Irish news media (see Figure 4). Additionally, observational analysis of press coverage of LCT post-2013 suggests it remains a newsworthy topic particularly in relation to articles about low carbon (climate smart) farming, renewable energy and citing of windfarms. Given the volume and persistence of coverage, it is argued that press discussion of LCT is emergent and that focused discussion of carbon reduction management has increased news value within the Irish national press.
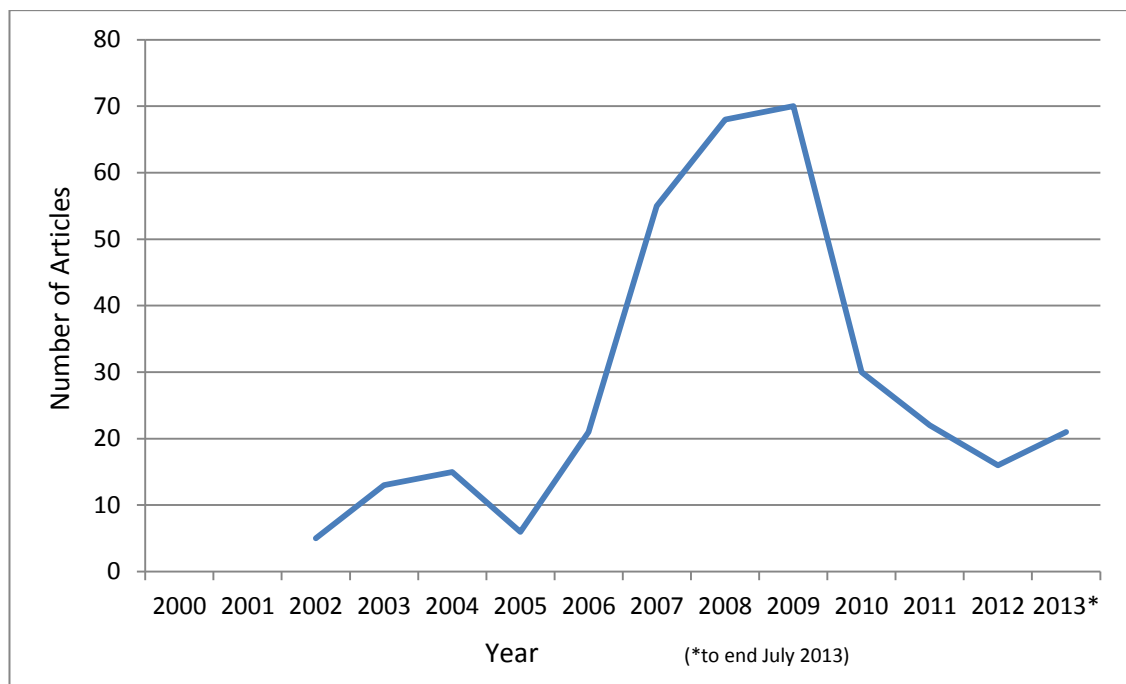


**Figure 4: Frequency of Irish Print Media Coverage of LCT**

The inductive TA resulted in 8 categories (conceptualisations of LCT) which were then grouped into three themes shaping cognitive engagement: *Describing the Problem*; *Promoting Solutions* and *Assigning Responsibility* (see Table 6.1). All references to LCT were coded and the process allowed for the same unit of text to be included in more than one theme. This resulted in 1,063 references across the study sample. As all the articles contained codes to at least one theme and as all references were coded to at least one category, the analysis was considered exhaustive. Following the analysis of trends across the multi-modal framework, these 3 media themes were further categorised into two overarching (macro) themes: 'Promises' and 'Threats' (see Figure 5). Significantly, these macro-themes are consistent with the two drivers identified in Nerlich and Shaw's (2015) metaphor analysis of science policy reports about international climate governance. Their

analysis found a tendency to highlight the centrality of reductive economic theories in climate governance and to polarise knowledge as a means of shaping the outcome

> 'the goal is almost always to return to what we can broadly or often explicitly recognise as business-as-usual scenario. There are only two possibilities; the existing norms or something much worse.' (*ibid.* p39)

## 6.1 Trends in Irish Print Media Themes about LCT

The range of themes and conceptualisations suggest that Irish press treatment reflects heterogeneous ideas about the nature of this challenge as involving social, technological and financial solutions and that LCT is represented as a politicised issue. However, the qualitative analysis of how press themes 'socialise' LCT and their prevalence reveals a narrow discussion of LCT and shows that the wide range of viable alternatives for understanding LCT and broadening Carbon Literacy is, in fact, marginalised.

*Assigning Responsibility* (39%) is the most prevalent theme about LCT (see Table 6.1 below) and presents views on who are the agents of change. It includes the most widely referenced conceptualisation 'State/Sectoral Intervention and Regulations' (28%) which promotes discussion of the need for climate change policy and government action. This indicates that press treatment of LCT is dominated by a Green Governmentality (Bäckstrand and Lövbrand 2007) or Administrative Rationalism (Dryzek 1997) discourse and that it privileges elite information flows. This is followed by *Describing the Problem* (36%) which outlines four rationales for LCT. These four conceptualisations tend to highlight economic perspectives for LCT, often reframing environmental concern as economic utility. Thus, they also suggest that press treatment prioritises elite interests with LCT over wider social considerations. The least referenced theme, *Promoting Solutions* (25%) presents two approaches to carbon emissions reduction: financial markets and technologies both of which are rarely critiqued or seen as contributing to environmental crises. This is noteworthy, as prominent claims makers associated with this theme are environmental groups (NGOs) and science organisations (EPA) and suggests that these claims-makers do not call the market into question or offer critiques of consumption.

This overview of trends indicates that press treatment prioritises representations of *who is responsible* and *why action on LCT* is needed, thereby primarily advancing views on 'what to think (about)'. This suggests press themes tend to reproduce claims-maker positions about the rationale for action rather than presenting critical discussion of viable solution processes.

This in turn indicates a preoccupation with establishment diagnoses of the problem over democratic discussion of solution options. Thus in terms of social (re)contextualisation, press treatment advances a narrow conceptualisation of LCT as it promotes the idea of political responsibility and elite action rather than everyday lifestyle change or public involvement in development of more creative solutions. It also asserts the agendas, preferences and framings of LCT in line with powerful business and political actors. These limitations on plurality in Irish print press treatment pose challenges for carbon literacy and potential cognitive engagement with LCT (discussed in 6.2).

**Table 6.1: Prevalence of Irish Print Media Themes Informing Carbon Literacy**

| Irish Press Themes | Categories (Press Conceptualisations) | Prevalence (based on Total References 1,063) | |
|---|---|---|---|
| Assigning Responsibility | | **410** *(39%)* | |
| | State/Sectoral Intervention and Regulations | 299 | *(28%)* |
| | Citizen Responsibility and Consumer Action | 111 | *(10%)* |
| Describing the Problem | | **385 (*36%*)** | |
| | Economic Growth and Efficiency | 130 | *(12%)* |
| | Environmental Responsiveness | 114 | *(11%)* |
| | Advocating Energy Transition | 109 | *(10%)* |
| | Future Scenarios | 32 | *( 3%)* |
| Promoting Solutions | | **266 *(25%)*** | |
| | Financial and Market Measures | 174 | *(16%)* |
| | Techno-Innovation & Low Carbon Solutions | 92 | *( 9%)* |
| Other | Miscellaneous | **2** | |

Prevalent press conceptualisations are also dominated by the language of modernity (i.e.) techno-managerial terminology associated with expert and elite discussion of carbon management. For example, references to carbon emissions are generally reported as abstract scientific quantities and are rarely made socially relevant. This is significant for two reasons, firstly references to carbon emissions are a mainstay of press coverage of LCT, often arising because of the publication of reports on carbon emissions[41], which suggests that considerable coverage is abstract or obscure for the general readership.

Secondly, and more significantly, the search terms were explicitly chosen to include lay public(s) articulations about carbon management and this indicates that media treatment of LCT (re)produces establishment discourse which distances the issue from the lived experience and may constrain carbon literacy. Likewise, prevalent conceptualisations notably frame discussion of LCT within the logic of efficiency, which constructs economic utility as the primary goal for evaluating carbon reduction management and decontextualizes the rationale

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[41] This also indicates the influence of PR and specific news sources on press coverage of LCT (see discussion pg 227 – 8)

for tackling climate change from its environmental and social dimensions. Thus, the chief concern becomes a form of carbon arithmetic, or 'carbon calculus' in which LCT is reduced to managing the $CO_2$ balance sheet at the expense of wider social, political and ecological ills (Hulme 2015).

The following section briefly introduces each theme (in order of prevalence) and assesses the extent to which prevalent themes 'socialise' LCT. Tables 6.2, 6.3 and 6.4 present sample texts highlighting pertinent discussion points (additional examples are available in Appendix 2.1).

*Assigning Responsibility*

The most distinctive aspect of this theme is that public knowledge of LCT is routinised as happening through 'a vertical mode of expert-driven analysis' (Stirling 2015) which evaluates action within the logic of efficiency and/or decision-making based on 'carbon calculus'. Although comprised of two conceptualisations, the primary preoccupation is on government action and regulations (28%) over citizen or community action (10%). Despite presenting both bottom-up and top-down perspectives, this theme predominantly advances an authoritarian view of LCT in which government action orchestrates change by enacting regulatory mechanisms to achieve targets which will then stimulate public, business and market behaviour change. In other words, government action is required to enable suitable conditions for market environmentalism. As this theme also promotes positive views of the economic and environmental benefits of government and citizen action on LCT it fits within the 'Promises' macro theme (see Figure 5).

'State/Sectoral Intervention and Regulations' (28%) is the most prevalent conceptualisation. It represents change as taking place through orderly top-down procedures which is  at odds with generally accepted ideas of transition as disruptive and involving intermediaries (Geels and Kemp 2007, Meadowcroft 2010) and analysis that claims 'socio-tech systems emerge haphazardly, unpredictably and from left field' (Urry 2011 p160). Significantly, as Stirling (2015) argues, the history of social and technical transformations suggests that change occurs in more 'horizontally distributive forms, with hope-inspired collective action, social mobilisation and democratic struggle playing more dominant roles' (p2).  Therefore, the prevalence of this conceptualisation obscures the wide diversity of stakeholder and citizen interests that are necessary for the 'horizontal politics' associated with societal transformation. This category notably features calls for 'transformative leadership' and/or 'radical transformation', but beyond calls for these processes, there is no critical assessment of what this transformation might involve. While this conceptualisation 'brings climate

change home' as a local issue,  press treatment is reductive and banal as it primarily focusses on evaluating local policy-making and critical assessment  is restricted to discussion of government (in)action particularly of the Carbon Tax and Climate Change Bill.

**Table 6.2a: Sample texts for State/Sectoral Intervention and Regulations**[42]

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*Characteristic/Typical Statements*:

'Last Thursday the Dail approved spending EUR270m on carbon allowances between 2008 and 2012. These allowances effectively allow the government to buy its way out of international commitments to reduce harmful carbon-gas emissions.'

*Out with the old, in with the flue, Sunday Tribune, 17.12.06*

'Fianna Fáil, Fine Gael and Labour must show voters before the general election how they will cut Ireland's carbon emissions, the Green Party has said. Proposing a 3 per cent cut in emissions in each of the next 10 years, the Green Party leader Trevor Sargent said all political parties must unite to tackle the crisis.'

*Carbon emissions an election issue, say Greens, Irish Times, 6.04.07*

'Government certainly has a role to play in terms of guidance and fiscal incentives for businesses to be more sustainable, says Curran.'

*Sustainability edges up the business agenda, Irish Times, 4.05.09*

'Her colleague, Liz McManus, said the proposed Bill was inadequate and that overall responsibility for the targets should rest with the Taoiseach, as recommended by a report she prepared for an Oireachtas committee.'

*Climate change Bill to formalize emissions targets, Irish Times, 12.12.09*

*Exceptions/Atypical statements:*

'Minister for the Environment John Gormley said that opportunities would arise for business but that businesses needed to lead the transition to a low-carbon economy.'

*Cowen stresses economic challenges of climate change, Irish Times, 10.07.08*

'Ironically, great progress has been made in the efficiency of low-carbon technologies such as wind, solar and wave energy in recent years. Whether realpolitik will allow governments to prioritise investment in the low-carbon industry in time to avoid the worst effects of irreversible climate change remains an open question.'

*No relief as climate change accelerates, Irish Times, 30.05.13*

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'Citizen Responsibility and Consumer Action' (10%) promotes one of the two 'socially relevant' conceptualisations of LCT (see also 'Future Scenarios') and is frequently referenced in press treatment. As expected, it presents a wide-ranging discussion relevant to citizen involvement with LCT that resonates with best practice in the emerging public engagement literature, including references to political engagement, linking action to the causes of climate change as well as questioning consumption and societal distribution and inequity. However, bottom-up mobilisation is overshadowed by references to top-down initiatives and

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[42] These texts illustrate how each theme is represented and support the discussion of implications for potential cognitive engagement. Following Laksa, 2014; Carvalho and Burgess 2005 , this approach helps '… provide transparency between empirical material and argumentation' (Olausson 2011 p286).

calls for individual behaviour change (e.g.) the government's 'Power of One' climate change campaign[43]. Significantly, these initiatives promote behaviour change in the form of 'small changes', consumer change or overly simple solutions which have been critiqued in the literature (Corner and Randall 2011; discussed in Chapter 7). Moreover, references in this category are generally framed within the logic of efficiency and the focus on behaviour change constructs individuals as the problem rather than high carbon lock-in and also avoids discussion of systemic or structural problems and the causes of climate change. In addition, although references are made to the need to change everyday lifestyles, they omit advice or evaluation directed at specific societal groups such as families, teenagers, mothers, fathers

**Table 6.2b: Sample Texts for Citizen Responsibility and Consumer Action**

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***Characteristic/Typical Statements***:

'CHANGES IN MOTOR taxation, with all vehicles to be rated exclusively on the basis of their CO2 emissions (with larger ones such as SUVs paying proportionately more), are designed to enable motorists to make more informed choices in buying new vehicles - so that, ultimately, the "gas guzzlers" will be shunned as much as energy-wasting fridges.'

*Several Shades of Green, Irish Times, 22.12.07*

"The Governmental commitments under the Kyoto protocol are only a start. Every person has responsibility to reduce their carbon footprint, and this must be done quickly now that the very obvious effects of climate change are upon us."

*Wiping your carbon footprint clean, Irish Times, 19.09.08*

'ORDINARY CITIZENS need to mobilise to ensure that world leaders work towards reaching a comprehensive deal on global warming at December's UN climate change conference in Copenhagen, according to the head of the European Environment Agency'

*Call to lobby politicians over climate change, Irish Times, 21.09.09*

***Exceptions/Atypical statements:***

'This is not about the government dictating to people. This is about us as a society and how we want to live, this is all about quality of life, and our contribution to the huge problems that our planet faces . . . this has to be done in an almost non-political way".'

*We're a gas nation and now we're going to have to pay the price, Sunday Tribune, 15.12.02*

'Mending our ways will mean accepting that our current levels of consumption are unsustainable. But can we bring ourselves to change our lifestyles radically, before a terrible climatic catastrophe forces us to do so?'

*The pain of necessary change in this unforgiving climate, Sunday Independent, 14.01.07*

'Transport, a huge contributor to greenhouse gas emissions, is one of the many areas where we can improve. You could say we're car-mad. The average car in Ireland travels a staggering 24,400km per year, which is 70% higher than Germany, 50% higher than Britain and 30% higher than the US. But, there are practical reasons for the high use of private transport here, including a scattered population, the proliferation of one-off houses in the countryside and poor public transport. How to reduce our use of the car is a major challenge.'

*Get on your bike to save the planet, Irish Examiner, 24.05.10*

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[43] Discussed in Chapter 5

and thus fail to personalise the issue for readers which suggests that the primary audience are elites. Furthermore references to barriers to citizen and community action are rarely the subject of discussion (see section 6.3). Given these factors, as well as the focus on consumer and individual behaviour change over collective action and mobilising political efficacy, this conceptualisation is also considered reductive.

*Describing the Problem*

The four categories in this theme present alternate views on the rationale for LCT. The primary preoccupation is on 'Economic Growth and Efficiency' (12%) followed by 'Environmental Responsiveness' (11%) and 'Advocating Energy Transition' (10%) with minimal references to 'Future Scenarios' (3%).  As expected, this theme highlights the discursive struggle over the rationale for LCT. It is dominated by experts and elites and generally deploys ideas about LCT within the current system of production and consumption. Significantly, references rarely highlight or question the systemic barriers to public involvement with LCT. Thus, this theme predominantly deploys ideas about LCT as maintaining the status quo. This, together with the marginal references to 'Future Scenarios' (which are arguably important socially relevant aspects of carbon literacy), indicates that press treatment of the public meaning of LCT is reductive and banal.  Additionally, while advancing a range of establishment rationales for LCT, this theme predominantly draws on optimistic economic certainties to make LCT cogent and appealing; therefore, it fits within the macro-theme of 'Promise' (see Figure 5).

The third most prevalent conceptualisation, 'Economic Growth and Efficiency'*,* advances two perspectives on LCT both of which set the terms of debate within an economics and technology framework. The first, prior to 2008 is critical of LCT and questions the economic value of the carbon tax and the costs for business. Post-2009 this category presents economic crisis and the need for regrowth as the main problem and describes the economic benefits of LCT as consequential for all. As a result, this category omits references to environmental protection or concern and asserts economic utility as the paramount paradigm for evaluating LCT. Overall, it advances public knowledge of the benefits of a low carbon economy with some critique of financial measures and 'onerous targets' on national competitiveness, rather than presenting alternate solution options. This is highly significant in relation to shaping carbon literacy and public knowledge about the trajectory of transition pathways. As Nerlich (2012) points out, how the problem of transition is framed and discussed, influences which solutions are seen as possible  and thus who are viewed as the responsible agents of change. As a result, Nerlich argues there is a need for caution in relation to the seductive appeal of

economic models and metaphors, as the solutions they promote 'may be neither sustainable nor just' (*ibid*. p44). Additionally, there is little discussion of social inequity or distribution issues associated carbon reduction activities or any questioning of consumption. Instead, references promote policy recommendations, in particular, the presentation of sectoral interests (i.e.) this category promotes elite and establishment rationales on reducing carbon emissions and meeting Kyoto targets such as concerns about carbon tax, protecting competitiveness and , maintaining farming production. Therefore, press treatment of the third most prevalent theme also offers reductive and banal representations of LCT.

**Table 6.3a: Sample Texts for Economic Growth and Efficiency**

*Characteristic/Typical Statements*:
But the captains of industry are likely to take a firm contrary stance if the carbon tax idea raises its head above the parapet. No-one likes to pay more taxes, and companies have warned of job cuts and the loss of competitive advantage if carbon taxes are introduced.
*Stern measures on climate change will be very taxing for business, Sunday Tribune, 5.11.06*

'THE INTRODUCTION of a carbon tax could lead to economic growth and increasing competitiveness, according to a leading think-thank on the environment.'
*Carbon tax linked to economic growth, Irish Times, 27.09.08*

'Mary Kelly of the EPA said: "The projections show the impact of the slowdown in the economy. "However, because emissions are reducing due to the downturn this must not lead to complacency." The cost of failure to meet targets could be hundreds of millions of euro as international agreements demand hefty penalties.'
*Ireland losing green fight, The Mirror, 14.03.09*

'So there will be interesting discussion in the Cabinet on the carbon tax, which is seen by many experts as the cheapest way to reduce emissions.'
*Carbon tax casts a shadow, Irish Examiner, 3.09.09*

'He insisted the levy would work in favour of the economy, would stimulate business by encouraging efficiency, as well as creating jobs.'
*Gormley insists carbon levy in budget will be revenue-neutral, Irish Times, 30.10.09*

'The debate has moved on from one of strict compliance to reduce greenhouse gas emissions and increase the share of renewable energy, to a much more strategic discourse about how Ireland must prepare to become a low-carbon economy. We need to identify and plot a sustainable and affordable pathway to transition Ireland as a low-carbon country; but even more to be a world leader where we have a natural competitive advantage.'
*We have potential to be world leaders in the green economy, Irish Independent, 1.12.11*

*Exceptions/Atypical statements:*
'In a period where it is increasingly difficult to levy new taxes, carbon is the new gold for the Government.'
*Carbon is gold for politicians, The Mirror, 7.12.07*
'None of this has reassured objectors, who are concerned about the noise and visual impact of onshore turbines and also see the export of wind energy to Britain as equivalent to "selling the family silver". But, as one developer said, "Selling 'family silver' will occur, but it'll be sold at market value." And, in any case, it's renewable.'
*Sales in our Wind, Irish Times, 6.04.13*

Compared to other conceptualisations in this theme, 'Environmental Responsiveness' typically links LCT and climate change. However, it advances a number of positions on LCT and the environment and possibly represents the most distinctly Irish conceptualisation of transition, specifically in relation to highlighting inherent tensions involved in balancing economic and environmental rationales for LCT. Different perspectives also appear to dominate over time[44], indicating that press representations of LCT are sensitive to the social context (which is consistent with research by Uusi-Rauva and Tienari 2010). For example, references highlighting barriers to public involvement with LCT in everyday life feature pre-2008, whereas stakeholder and government initiatives promoting 'small actions' such as consumer change are prominent post-2008. This shift corresponds with an instrumental view of public engagement which prioritises social acceptance of top-down, economic imperatives for LCT.

Two views stand out: firstly, that environmental protection is too costly and will reduce national competitiveness and secondly, following the Stern report, arguments challenging earlier negative economic pronouncements on LCT and tackling climate change. Other references focus on the costs of climate change impacts and $CO_2$ emissions penalties; calls for Climate Change law as well as the advantages of Ireland's low carbon farming model (the greening of agriculture). Thus this category promotes the logic of efficiency with claims that 'climate policy can be consistent with good economics' and references to 'win-win solutions' as well as vague environmental rhetoric calling for 'fundamental change', 'imagination, innovation and new ways of working' but more often dramatic fear appeals emphasizing the need to 'save the planet'. It also draws on carbon calculus to legitimise food production goals and increasing agricultural emissions ahead of meeting climate targets. However, while linking economic crisis and environmental catastrophe presents some of the complexity of LCT, this category is also reductive as it lacks social critique. For example, there is very little discussion of the social impacts of LCT initiatives and the role advanced for citizens are primarily as carbon conscious consumers. Most significantly, only one article across the entire dataset presents a non-establishment perspective on citizen involvement with transition[45] and press critique is primarily aimed at government (in)action on Kyoto targets and reducing $CO_2$ emissions. As a result, press treatment of 'Environmental Responsiveness' is banal and

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[44] This signals the state of flux in press conceptualisations of LCT and the influence of claims makers on shaping the public meanings and cognitive engagement with LCT. This influence was noted across all categories in this theme and was particularly marked in 'Environmental Responsiveness' and 'Economic Growth and Efficiency'.

[45] *'Green' fire station sends carbon footprint up in smoke*, Sunday Tribune, 4.07.10

does little to broaden the public meanings of LCT in terms of adding social dimensions of carbon literacy.

**Table 6.3b: Sample text for Environmental Responsiveness**

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***Characteristic/Typical Statements***:

"If we fail to meet our Kyoto target, we're facing annual fines of E1.3bn, and that falls on the taxpayers of this country. The targets are real. Our legal obligations are real. We can't exclude ourselves, we've got to face up to it, and clearly the whole green energy tax is quite central."

*We're a gas national and now we're going to have to pay the price, Sunday Tribune, 15.12.02*

'In the current economic climate it will be hard to convince people of the need for action. However, we need to reinforce the message that climate change policy can be consistent with good economics if it encourages energy efficiency and reduces our dependence on expensive and finite fossil fuels.'

*Cowen stresses economic challenges of climate change, 10.07.08*

'ECONOMIC RECOVERY when it comes must involve Ireland developing a low-carbon smart, green economy, the Environmental Protection Agency (EPA) said yesterday.
'Launching the agency's annual highlights for 2008, EPA director general Dr Mary Kelly said the environment was an asset under threat and early warnings about the potentially catastrophic effects of climate change must be heeded.'

*EPA calls for move to low-carbon economy, Irish Times, 3.04.09*

'The purpose of the tax is to encourage responsible consumption of products or services that produce carbon and thus to help protect the environment by reducing carbon emissions.'

*Budget 2010 – New carbon tax a route to green jobs, Sunday Tribune, 13.12.09*

***Exceptions/Atypical statements:***

'Climate change has profound implications for virtually all aspects of human wellbeing, from jobs and health to food security and peace within and among nations. Yet too often, climate change is seen as an environmental problem when it should be part of the broader development and economic agenda. Until we acknowledge the all-encompassing nature of the threat, our response will fall short.'

*Clear, credible signal on climate change must be sent, 9.11.06*

'Yesterday's carbon budget was billed as an attempt to save the planet by reducing emissions, which is supposed to make us all feel good.'

*Carbon is gold for politicians, The Mirror, 7.12.07*

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'Advocating Energy Transition' (10%) promotes energy transition as the solution to energy security and a valuable contribution to economic rejuvenation, through the development of new green industries which will create 'thousands' of jobs. As a result, energy transition is discussed as a topic which affects everybody and is often personalised with references to impacts and benefits for farmers, households and commuters. Despite this however, discussion of clean and renewable (energy) technology is generally divorced from references to environmental protection, tackling climate change or the social dimensions of energy change. For example, wind and water resources are often referred to as 'assets' in articles about 'scaling up' technology which constructs the environment as a department of the economy. Likewise references do not question energy consumption, the reality of the high carbon lock-in of our lifestyles, or promote societal responsibility. Furthermore, much of the

discussion encourages the expectation that energy is essentially a replaceable resource, and this, as (Kurz *et al.* 2005) found in their analysis of public talk about water and energy use, legitimises public discussion of energy consumption rather than raising questions about tensions between economic growth and environmental concern. In other words, press treatment of energy transition prioritises the view that the only thing that has to change is the type of energy we use, rather than how much we are consuming.

**Table 6.3c: Sample text for Advocating Energy Transition**

*Characteristic/Typical Statements*:
'The package of measures designed to tackle climate change also sets targets for moving from fossil fuels to renewables such as wind, wave and biomass. Under this plan, Ireland will have to change its almost total dependency on imported oil and ensure that 16% of all energy comes from renewables by 2020.'

*Republic hit by toughest CO2 emissions target, Irish Examiner, 24.01.08*

'We have to begin the transition to a low-carbon economy and start changing how we create and use energy, he said. '

*Cowen stresses economic challenges of climate change, Irish Times, 10.07.08*

'That's an acute situation, and the best long-term solution is for us to build alternative fuel supplies that aren't vulnerable to international gas prices. ''Wind fits into that scenario. It is the most commercial of renewables, and it's the best hedge we can have against rising fossil fuel prices," he said.

*Ryan to push carbon tax issue, Sunday Business Post, 27.07.08*

"The good news is there is potential for significant job creation in retrofitting up to one million buildings to improve their energy efficiency by 2020."

*Climate policy report welcomed, Irish Times, 2.10.12*

'There is more to it for Ireland than reducing emissions, however important that may be. The country has world-class renewable resources in abundance -- wind and water being the two obvious examples -- but has yet to determine how best to develop these assets and the potential scale of the investment.'

*We have potential to be world leaders in the green economy, Irish Independent, 1.12.11*

*Exceptions/Atypical statements:*
'And, as the fastest growing economy in Europe, Ireland has a particular responsibility to adopt a more efficient strategy in the use of energy so as to minimise climate change.'

*Carbon tax must be introduced, Irish Times, 25.08.04*

"Not only businesses, but farmers, commuters and households will have to start adapting to a new way of life as Ireland will have no option but to reduce - in the most fundamental manner - its current over-dependency on fossil fuels."

*Report calls for carbon taxes and parking levies, 30.09.08*

'The idea that we're going to replace oil and natural gas with solar and wind, and nothing else, is a hallucinatory delusion. This position has a powerful ally in Dr James Hansen of Nasa who has consistently urged a radical decarbonisation of global energy supplies as our last shot at averting catastrophic climate change. While strongly supporting renewables, he adds: "It is not feasible in the foreseeable future to phase out coal unless nuclear power is included in the energy mix."

*Science does not support critics of nuclear power, Irish Times, 6.05.13*

This conceptualisation also pays considerable attention to energy policy, infrastructure change and costs (i.e.) the most economically beneficial methods of energy generation, all of which are presented in techno-managerial language (i.e.) press treatment of energy transition reproduces establishment interests. Given that energy (and thus energy policy discussion) permeates everything we do, the lack of social (re)contextualisation is highly significant for carbon literacy and energy researchers argue '….policy could and should be, interesting, creative, inspiring' (Tyszczuk and Udall 2015). This also has implications for carbon literacy as it makes energy policy invisible and thereby reduces public agency and ability to act to create change. According to Tyszczuk and Udall (*ibid.*) this conceals 'where we might want to make an innovative or ethical decision'. Likewise, while establishment claims about the cost-benefits of energy efficiency are a frequent topic, assumptions that energy efficiency technology results in reduced consumption are unchallenged and associated discussions of energy demand reduction or questions about societal energy use are absent (see Chapter 7). Additionally, press treatment of technology infrastructure change presents energy transition as unproblematic with few references to 'risky technology' such as nuclear or fracking. Thus, press conceptualisation of energy transition is also reductive and banal.

As the least referenced conceptualisation, 'Future Scenarios'(3%) offers stark illumination of the extent to which the social dimensions of LCT are marginalised in press representations. Moreover, despite its potential to represent social concerns and aspirations, press treatment of this category offers a vague vision of a low carbon future dominated by elite claims-maker interest in LCT. Thus it offers few references to what a *future society* should or could be like, or discussion of 'the constellations of social forces that might bring about such transition' (Urry 2011 p140). Instead it presents 'the carrot' of policy rhetoric of economic growth accompanied by 'the stick' of apocalyptic environmental collapse to suggest the future. This is significant for carbon literacy because it indicates that the underlying assumption reproduced in media treatment, is that LCT will not be driven by social forces, but rather by government/sectoral intervention and financial solutions. However, as previously discussed, analysis of transition processes suggests they are less planned and more socially and culturally situated (Urry 2011). This highlights a further problem with the press's focus on elite claims-makers. The deployment of ideas about a carbon constrained world is confined to establishment rhetoric which paints an optimistic economic vision of 'profound change' uniquely devoid of any social implications of technological transformation. Notably, there is little discussion of technology beyond economic benefits and an absence of debate about the

possibility of technological disruption or negative impacts of technology (e.g.) concerns about data privacy and smart technology or changing landscapes and health or well-being.

Researchers, however, point out that this dominant utilitarian focus 'under-represents the story of cultural and non-material impacts' (Adger et al. 2011 p2). They argue that alternate issues and framings, including symbolic, emotional and spiritual dimensions such as place and landscape where 'people create their lives and through which their lives derive meaning' are essential elements of generating public connection with LCT (*ibid*.). Likewise, Carvalho et al. (2011) call for more compelling social visions and highlight the need for public discussion about developing an equitable future low carbon society over a wealthier one. Furthermore, the focus on negative, terrifying future vistas run contrary to the recommendation that a low carbon future is best represented in a positive light (Hall 2014) and by making low carbon alternatives 'fashionable' (Urry 2011), in other words, making LCT culturally desirable or part of new social norms. Therefore, while this conceptualisation draws attention to local, instrumental concerns about policy and infrastructural change, the absence of discussion related to societal expectations or aspirations indicate it sketches a narrow and banal account of possibile alternate futures.

**Table 6.3d: Sample text for Future Scenarios**

*Characteristic/Typical Statements*:

'However, the situation also provides Ireland with a unique opportunity. It is at the dawning of the era of a carbon conscious consumer and a carbon competitive market place.

"If Irish agriculture can find ways to meet these challenges, it will be positioned to take advantage of these trends. The skills and research developed in the process would be valuable not only in Ireland, but in Europe and the wider world," she said.'

*Conference hears call for strategic rethink on cutting emissions, Irish Examiner, 9.01.09*

"We need to be thinking about the creation of a new transformational approach, involving a mutually beneficial partnership between business and Government, which will be in the long-term interest of current and future generations," she added.

*Nation can become 'global hub for carbon credit trading', Irish Examiner, 10.03.09*

'The transformation will be costly, but many times less than the bill for bailing out global finance and far less costly than the consequences of doing nothing. Many of us, particularly in the developed world, will have to change our lifestyles. We will have to shop, eat and travel more intelligently. We will have to pay more for our energy, and use less of it.'

*An appeal to Copenhagen, Irish Times, 7.12.09*

*Exceptions/Atypical statements:*

"In 2050 we will still work and have friends and do what we do now, but the world will be a very different place."

*Famous golf course 'could vanish by 2050', Irish Examiner, 14.10.08*

'Bee hives, bat houses, insect colonies, wild gardens and vegetables - no, it's not a hippie commune, it's Dublin's latest vision for the future of its fire stations.'

*'Green' fire station sends carbon footprint up in smoke, Sunday Tribune, 4.07.10*

*Promoting Solutions*

The most distinctive feature of this theme is its focus on 'Financial and Market Measures' (16%) over 'Technological Solutions' (9%). This relative silence in press treatment of technological dimensions differentiates the Irish case from comparable studies of print media and climate change mitigation (see Chapter 9). *Promoting Solutions* is potentially one of the most important for shaping carbon literacy as it contributes to public debate about the alternate choices for achieving LCT thus facilitating essential social questions about 'How To' move to a low carbon future. However, references to solutions are predominantly utilitarian, repeatedly focussing on what they will achieve (e.g.) incentivising behaviour change rather than on the problems they may create or socio-cultural and political implications. In particular, the negative implications of financial or market measures for society or discussion about societal impacts of technical innovation is seldom considered. In addition, the focus on financial and market measures, which promotes responsibility at the level of liberal markets, leaves unasked and answered questions about consumption. Likewise, references rarely challenge the limits of technology in relation to the scale of the problem, the reality of 'green growth' or the viability of linear progress espoused by establishment figures.  As a result, it offers little in terms of informing democratic struggle and political engagement with LCT and therefore presents a reductive and banal account of possible transitions pathway. Despite its utilitarian tone, this theme generally advances a positive view of the economic benefits of LCT and is therefore categorised within the macro-theme: 'Promises'.

The second most prevalent conceptualisation, 'Financial and Market Measures' (16%) offers statements about financial solutions and generally promotes establishment actors' views on Carbon Tax, Energy Tax and Carbon Markets highlighting economic utility. However, these are often decontextualized from references to environmental protection or social concerns. Thus, the primary concern is identifying the most cost-effective ways of meeting targets and reducing carbon emissions. As critics point out, this assumes status quo practices and values can be left unchanged and existing social arrangements do not need to be altered (Blue 2015a). One of the most repeated references is to 'putting a price on carbon' as the 'tough measure' that will reduce (environmental) pollution, incentivise behaviour change and address need to meet Kyoto targets. As a result, this category also frames the public meaning of LCT within the logic of efficiency and promotes discussion of carbon calculus over societal transformation or questions about social distribution, ethics or consumption.  In addition, this category avoids discussion of the 'systems' which create pollution and the contribution of markets and technology to the problem. In other words, this conceptualisation places blame

on citizens and businesses for creating emissions rather than the capitalist modes of production and consumption. Thus, this conceptualisation advances simplistic evaluations of financial measures, which are at odds with the complexity and scale of the problem and, because it focusses on elite interests and information flows, this category is also reductive and banal. While some references question the environmental efficacy of market mechanisms, especially references to carbon credits, overall, this conceptualisation presents optimistic accounts of the economic benefits of financial measures.

**Table 6.4a: Sample text for Financial and Market Measures**

*Characteristic/Typical Statements*:

'The most effective way of altering polluting and profligate behaviour is to penalise it. The now defunct carbon tax was to apply across the board, from industry and agriculture to transport and domestic fuel use. Bodies such as the ESRI and the OECD were of the view that a carbon tax in Ireland was necessary in order to alter behaviour throughout society, and so limit the growing damage to our environment.'

*We will pay for carbon emissions, Irish Times, 16.09.04*

'A RAFT of tough measures aimed at hitting motorists in the pocket are proposed in a new report on cutting Ireland's greenhouse gas emissions. A carbon tax on all fuels, congestion charges for motorists and levies on workplace parking are among the ideas floated in the report.'

*Report targets drivers in bid to cut emissions, Irish Independent, 30.09.08*

'A carbon tax, in essence, is the most efficient means of embedding the true cost of carbon in all economic decisions, from corporate investments to the choices we as consumers make every day.'

*Time for carbon tax to move beyond rhetoric, Irish Times, 10.09.09*

'Irish Dairy Industries Association director Michael Barry said a carbon tax will inflate the cost of domestically produced food products relative to imports.'

*Carbon tax to 'undermine the competitiveness of Irish exporters', Irish Examiner, 12.12.09*

'During the Celtic Tiger years, Ireland's greenhouse gas emissions spiralled out of control and it was speculated that the Government might have to spend more than EUR1bn in purchasing carbon credits to comply with Kyoto.'

*We've turned the gas down, The Mirror, 23.10.10*

'The carbon credits market, envisaged at one time as possibly becoming as big in the commodities sector as oil, is deep in the doldrums as a result of the global recession. A scheme designed to bring the power of the market to the drive to reduce carbon emissions has been a victim of unfortunate timing.'

*Market for carbon credits runs out of steam, Irish Times, 21.12.12*

*Exceptions/Atypical statements:*

'While it agreed that climate change was a major global issue begging address, the association felt the proposed carbon tax would not have resulted in a change in behaviour in the road haulage sector.'

*Decision welcomed as one of common sense, Irish Times, 11.09.04*

'These allowances effectively allow the government to buy its way out of international commitments to reduce harmful carbon-gas emissions. It is a legitimate response but a short-term one which does little to make Ireland greener and cleaner.'

*Out with the old, in with the flue, Sunday Tribune, 17.12.06*

'Techno-Innovation and Low Carbon Solutions' (9%) presents a constructive view of technological innovation as the means of achieving LCT with considerable discussion of how it will contribute to the low carbon economy. References repeatedly highlight the benefits of sustainable development especially clean and green energy as economic drivers. A second dominant idea promotes the efficiency of low carbon production associated with Irish farming and related expert concerns with measuring and validating carbon reduction. As a result, this category is also driven by the logic of efficiency, which highlights the production of economic benefits in environmentally friendly ways. Discussion of risky technology or controversial approaches such as nuclear energy or fracking is rare as are references to social dimensions of technology (see Chapter 8). The predominant view is of unproblematic technological advance - there is no doubt that technology will address carbon reduction needs and citizens are positioned as unproblematic consumers of new low carbon products. The only question is how to finance technological development and the need for market certainty to ensure scalability of new and alternate technologies. Hence, this conceptualisation prioritises the need for government intervention to ensure smooth linear change and presents an optimistic account of LCT.

**Table 6.4b: Sample text for Techno-Innovation and Low Carbon Solutions**

| |
|---|
| ***Characteristic/Typical Statements***: |
| 'Clean technology could create jobs and wealth and be a huge potential for economic growth, he said'<br><br>*Republic hit by toughest CO2 emissions target, Irish Examiner, 24.01.08* |
| 'The EPA says these targets will be met because of improvements in the energy efficiency of homes and more fuel-efficient cars, including the rollout of electric vehicles.'<br><br>*Recession fuels 'unprecedented' fall in emissions, Irish Independent, 23.10.10* |
| 'Yes, agricultural emissions are a problem we can address only if we push the science and probe farming practices.'<br><br>*Ireland needs to be ambitious on climate change, Irish Times, 1.03.13* |
| ***Exceptions/Atypical statements:*** |
| 'In our carbon-constrained world, opting for a highly fuel-efficient vehicle, and to drive less when possible, are socially responsible choices. So too is upgrading your insulation ahead of your flat-screen television.'<br><br>*Time for carbon tax to move beyond rhetoric, Irish Times, 10.09.09* |
| 'Our research reveals that remarkable learning on how to reduce emissions is taking place in Irish businesses, public bodies and community groups.'<br><br>*Ireland needs to be ambitious on climate change, Irish Times, 1.03.13* |
| 'None of this has reassured objectors, who are concerned about the noise and visual impact of onshore turbines and also see the export of wind energy to Britain as equivalent to "selling the family silver". But, as one developer said, "Selling 'family silver' will occur, but it'll be sold at market value." And, in any case, it's renewable.'     *Sales in our wind, Irish Times, 6.04.13* |

Overview of Irish Print Media and Carbon Literacy

The preceding analysis shows that overall Irish press themes deploy reductive and banal accounts of LCT and do not adequately represent LCT as a multi-dimensional challenge. Cutting across themes, the discussion highlights that press treatment inadequately represents LCT as a local issue and fails to bring LCT closer to the lived experience, which is a key concern of emerging literature on public engagement with LCT (Bulkeley *et al.* 2011, Rowson and Corner 2015). Instead, the prevalent conceptualisations help to define a vision of LCT that is separate from discussion of the social and cultural implications and the need for social transformation. In other words, Irish press treatment narrows the visibility of carbon as a social, material and cultural issue and in doing so, fails to localise LCT in the sense outlined by Slocum, of translating transition 'into problems that are materially and culturally relevant to citizens and also *to change what is relevant*' (2004 p433 author's italics). Furthermore, the analysis indicates that this was accomplished through a number of (related) means, notably (i) by employing the language and logic of elites; (ii) the 'crowding out' of socially relevant topics and associated with this, a lack of social critique. This has consequences for carbon literacy as it reduces ability of citizens to make informed choices about LCT, specifically in relation to seeing beyond economic priorities and individual interests. The section also highlighted the extent to which Irish press treatment routinises public meanings of LCT as involving unproblematic linear change, which is at odds with the history of transitions as unpredictable, messy and driven by intermediaries beyond elite and/or establishment actors.



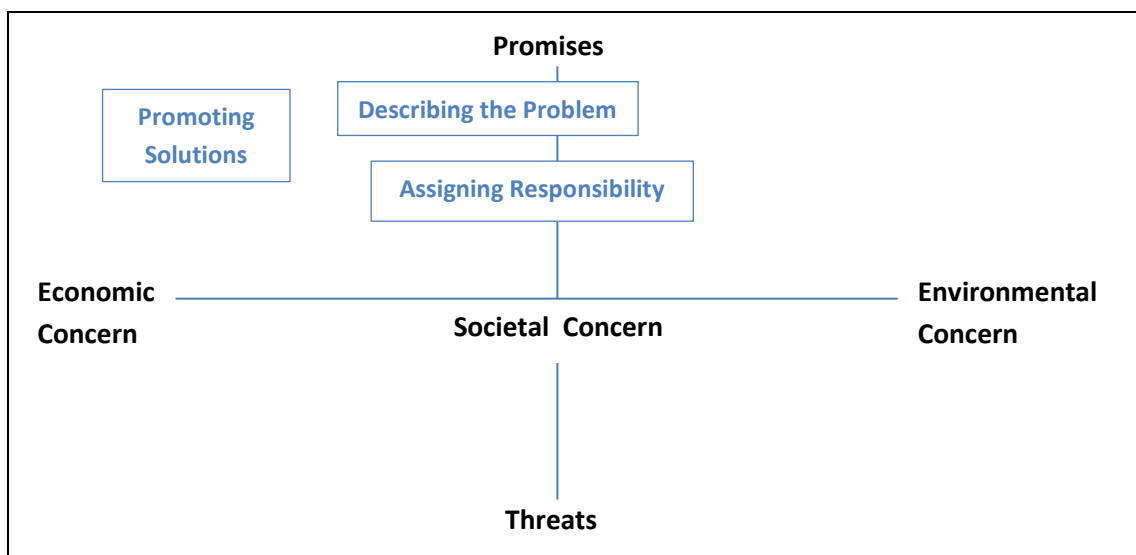**Figure 5: Irish Print Media Themes Routinising Carbon Literacy**[46]

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[46] A composite map of Irish Print Media Representations of LCT highlighting trends in media themes across the multi-modal framework is presented in Chapter 9 in a synthesis of the findings.

As a result, the dominant press theme routinises the public meaning of LCT as maintaining the status quo and promotes social acceptance of establishment policy perspective that constructs change within the existing social order. In doing so, prioritises 'continuity over change'. This implies, that overall, press treatment contributes to the prescription of narrow public meanings rather than broadening the conversation and informing public(s) of how to think about LCT. Thus, the dominant press theme limits carbon literacy and potentially constrains wider public involvement in debate and/or decision-making about developing responses. Therefore, it is argued that by promoting social acceptance of elite interests with LCT, Irish press representations circumscribe potential cognitive engagement.

The next section illuminates *how* dominant press themes about LCT circumscribe cognitive engagement. This is important because, moving to a low carbon future depends on wide societal engagement on a range of levels from everyday lifestyle change, to participation in debate and decision-making about approaches to transition and support for public policy (Whitmarsh, Seyfang, et al. 2011). It also requires more compelling social visions and public information and education about the low carbon workforce (Carvalho et al. 2011). In other words, cognitive engagement with LCT is a key component of transition pathways and it is important to understand how press treatment may be shaping opportunities for socially-embedded accounts of LCT and thereby influencing meaning-making about the conditions of possibility for action.


## 6.2 Implications for Cognitive Engagement with LCT

This section critically examines the implications of trends in press treatment for (potential) cognitive engagement with LCT by assessing the most prevalent conceptualisations with reference to debates between top-down and bottom-up formats for public engagement (Ockwell *et al.* 2009, Whitmarsh *et al.* 2013). In other words, it employs ideas from the politics of climate change and social psychology of public engagement to illustrate the ways in which press treatment acts as socio-cultural or political barriers to engagement. The analysis also draws on both the Social and Cultural Turn in Climate Change communication. These fields advance a view of climate change as a unique collective action problem that is implicated in every aspect of our lives. Thus in their approach to longstanding concern about limited public responses to climate change, rather than aiming to unlock a predetermined level of public behaviour change through scientific knowledge claims or psychological 'magic triggers', these scholars employ a wider range of views on transforming knowledge into

action (Norgaard 2011, Wolf and Moser 2011). For example, recent work by Rowson and Corner (2015) that proposes developing a new social identity for climate change because people fail to see themselves as part of the problem or solution, usefully synthesizes many of the key ideas. In particular, emphasizing the need to move beyond deficit models of engagement aimed at individual behaviour change, *The Seven Dimensions of Climate Change*, draws attention to the significance of values and political engagement as well as the need to consider systemic challenges as viable approaches to mobilising collective action and these are therefore central to the following assessment.

The most prevalent theme, *Assigning Responsibility,* is comprised of two categories: 'State/Sectoral Intervention and Regulations' and 'Citizen Responsibility and Consumer Action'. This indicates that Irish press treatment reflects both top-down and bottom-up formats for stimulating public engagement with environmental change. As a result, this analysis offers an opportunity to assess where Irish press treatment stands in relation to a key debate on formats for public engagement. Advocates of top-down formats, which promote government action and a regulatory approach to behaviour change claim this is the best way to reduce carbon emissions at the scale and within the timeframe needed. This view also, optimistically, argues that regulation is beneficial as it could catalyse the social innovation and new technology development required to tackle climate change (Ockwell et al. 2009). The top-down format also accords with the research finding that the public expect government leadership and policy measures to tackle climate change (Lorenzoni, Nicholson-Cole, *et al.* 2007).  In contrast to this prescriptive approach, advocates of bottom-up formats argue that stimulating social demand for change and encouraging voluntary action is needed, as this increases citizen agency and facilitates public accountability (Bäckstrand and Lövbrand 2007). By promoting social change and collective action including public participation in developing more creative carbon reduction solutions, these formats come closer to democratic ideals for public participation. As a result, they are advocated over approaches that focus on educating public(s) or convincing them to adopt pre-determined ideas about suitable behaviour. A third line of thinking, proposes the need for both top-down and bottom-up approaches and, cognisant of the limitations of behaviour change alone, advances the need for political engagement (Ockwell et al. 2009; Ockwell et al. 2010).

The trend analysis identified twice as many mentions of top-down approaches (references to government action, 28%), compared to bottom-up formats (references to community and consumer action, 10%), indicating that the prevalent Irish theme privileges a top-down, techno-managerial understanding of LCT. This suggests that Irish press prioritise

conceptualisations of LCT consistent with the top-down environmental discourses of Green Governmentality (Bäckstrand and Lövbrand 2006, 2007) and/or Administrative Rationalism (Dryzek 1997). This is noteworthy as researchers argue these discourses detract attention from the collective and social nature of the problem (Uusi-Rauva and Tienari 2010s). In other words, focusing on responsibility at the level of international and national policy-making removes or distances attention from responsibility at the everyday level and thereby circumscribes cognitive engagement. This is in line with the psychology literature, which argues top-down formats fail to address many of the individual barriers to engagement such as the externalisation of responsibility for action and blame (Spence and Pidgeon 2009). According to this literature, external interventions such as regulations may reduce individuals' intrinsic incentives to act, in addition, environmental concern is 'crowded out' because public(s) then identify responsibility for action with governments (Djerf-Pierre 2012).

Top-down formats are also associated with compliance, especially 'forcing green behaviour' (Ockwell et al. 2009) which critics argue puts limitations on societal agency. For example, Bäckstrand and Lövbrand's (2007) analysis of the implications of Green Governmentality for participation highlights that it places scientific experts and advisers in an authoritative role in the construction of 'eco-knowledges' as well as in the legitimation of methods to measure, predict and manage environmental risks thereby marginalizing or silencing non-expert voices and ways of knowing. Critics also draw attention to the limits top-down approaches place on societal agency (Meadowcroft 2009) and point out that they maintain authoritarian power dynamics (Stirling 2014a) both of which are at odds with democratic ideals for public engagement and increased recognition of the value of political engagement and self-efficacy (Ockwell et al. 2009). The prevalence of top-down formats is also problematic as it contradicts press and claims-maker rhetoric promoting LCT as 'revolutionary' and involving 'transformation'.

Thus, the most prevalent conceptualisation of LCT circumscribes cognitive engagement by advancing narrow approaches for public responses to LCT. In particular, it sets the terms of the discussion as technocratic interests, which critics argue marginalizes alternative voices and positions on the issue (Blue 2015). This circumscribes the creation of meanings that may challenge a given political hegemony (Gunster 2012) as well as distancing public discussion of the issue from every day concerns and the lived experience of transition. The finding that Irish print media treatment prioritises a top-down perspective on LCT is consistent with studies arguing press representations follow establishment positions ( Djerf-Pierre et al. 2015; Shaw and Nerlich 2015; Laksa 2014; Bennett 1990). This is significant from a cognitive

engagement perspective because it shows Irish print media do not deploy any alternative conceptualisations for understanding LCT beyond those already established in policy considerations. This finding is also consistent with analyses of representations of climate change in UK press (Carvalho 2005, Carvalho and Burgess 2005).

Although Irish press prioritises discussion of top-down conceptualisations of responsibility, considerable discussion is devoted to i) 'Financial and Market Measures' (i.e.) advancing the view that the most (cost) effective way to tackle emissions lies at the level of liberal markets, and ii) 'Economic Growth and Efficiency', which positions the rationale for LCT within a neoliberal agenda. The prevalence of these conceptualisations of LCT is important as it accords with recent research arguing that Irish newspapers primarily draw on an ecological modernisation discourse to construct the issue of climate change (Wagner and Payne 2015)[47]. However, while an ecological modernisation discourse dispenses with government control and advances a win-win rhetoric that argues there are cost-optimal solutions to environmental challenges (Bäckstrand and Lövbrand 2007) it also prescribes limited roles for public(s) and narrow perspectives on what to think about LCT. This is because by advancing markets and financial measures as the most effective way to change behaviour (individual and business), this discourse avoids social justice issues or questions about current social institutions and promotes market environmentalism.

Critics of market-driven measures claim they fail to encourage public involvement as they minimise or avoid the need for citizen agency and public discussion of technological and/or lifestyle change. In particular, pointing out that market approaches obscure issues of morality, ethics and justice, these critics contend that there is also a need to move beyond the fetishisation of economic growth and recognise the social dimensions of climate action. This is because, as Nerlich, (drawing on Wiman 1995) notes, it is easier to believe in future financial and technological miracles than to 'see' the social, historical and cultural dimensions of climate mitigation (2012 p44). Furthermore, as the recent market collapse highlights, because ecological modernisation positions elites as the responsible agents of change, it follows that market entrepreneurs, economists and businesses must then be called on to correct or address a market failure.  This has led scholars to call for the deployment of alternate frames for acting, such as individual and community morality to encourage the mobilisation of wider cohorts of actors (Hulme 2009b).  Market environmentalism is also

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[47] Wagner and Payne's study examines media construction of anthropogenic climate change and the different findings may reflect differences in the search terms. This PhD study also includes a wider set of news organisations. Additionally, their study found a marked drop in coverage post-2009 whereas this research notes LCT is increasingly newsworthy 2007 – 2013.

challenged on the basis that it focusses attention on an 'economics of avoided carbon emissions' (Wiman 1995 cited in Nerlich 2012) and therefore reduces LCT to simply altering the quantity CO2 in the atmosphere (Nerlich and Shaw 2015). As a result, ecological modernisation does not offer a fundamental rethinking of societal institutions or the system of production and consumption associated with causes of climate change.

This discourse also limits cognitive engagement with LCT by promoting extrinsic over intrinsic values as the rationale for action because it reinforces materialism and self-interest (Crompton 2010). Values play a powerful role in shaping individuals' engagement with environmental issues (Corner *et al.* 2014) and research highlights that intrinsic motivations 'engage values that underpin our decisions as citizens, voters and consumers' (Crompton 2008 p5) and are positively are associated with mobilising lower-carbon lifestyles (Howell 2014). Thus, in terms of shaping everyday action, the literature on values challenges the efficacy of economic incentives for pro-environmental behaviour and energy reduction associated with the extrinsic values advanced in ecological modernisation. Instead, it argues that 'theoretically, these frames oppose each other in terms of social values' (Corner and Randall 2011 p25). Furthermore, researchers question the long-term outcomes of economic incentives arguing that while they influence short-term behaviour this may not be maintained once incentives are removed.

Despite the prevalence of economic and market conceptualisations, the position taken here is that Irish print media treatment promotes a top-down administrative approach to LCT. This is because overall, press treatment advances government action and regulatory intervention as a pre-requisite of financial and market measures, and this perspective is closer to Bäckstrand and Lövbrand's (*ibid.*) Green Governmentality than an ecological modernisation discourse. This view of Irish press treatment is consistent with recent analysis of Irish public receptivity to climate change and decarbonisation (Fox 2014)[48]. The study argued that 'a state-endorsed response to climate change permeates Irish civil society' and that 'Climate change issues have overwhelmingly come to be owned by experts and [that] this technocracy downplays local connections and moral arguments and tends to alienate the general public' (*ibid*. unpaginated). In other words, from a cognitive engagement perspective, public knowledge of tackling climate change accords with a (top-down) Green Governmentality approach. Fox also notes study participants 'felt particularly removed from the "technical

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[48] This sociological study of public receptivity to climate change in Ireland examines how societal structures shape representations of 'climate change', and individuals' responses to them.

veneer of dominant depictions of climate change" (i.e.) they felt uneasy or lacked knowledge to engage with ongoing debate about decarbonisation' (*ibid.*).

As a result, this analysis finds that Irish press treatment prioritises a top-down vision of responsibility for LCT in which government and elite action shapes the conduct of human (and market) behaviour.  More significantly, it constructs the idea of government responsibility as 'affecting the choices, aspirations and lifestyles of individuals and groups' (*ibid.*) by means of disciplining carrot and stick incentives to affect individual behaviour change. In doing so, press treatment advances the public meaning of LCT as 'a matter best left to technocratic decision making and/or market forces' (Maeseele 2015 p398) and may therefore be said to impede democratic debate by contributing to processes of de-politicisation (*ibid.*). Moreover, despite the political prioritising of the 'transition to sustainability' in Irish public debate about tackling climate change, as a result of EU2020 directives and as a response to economic crises (Mullally 2012), press treatment prioritises a narrow discussion of top-down administrative aspects that is focussed on an economic eco-turning over social innovation (*ibid.*). Thus, while Irish print media treatment references policy debate and political (in)action, this conceptualisation primarily promotes social acceptance of establishment views and is not politicised.

Irish press discussion of responsibility also deploys ideas about 'Citizen Responsibility and Consumer Action' which is notable as it indicates that despite advancing a public meaning of LCT in which lay public(s) lack agency and are on the receiving end of political decision-making, press treatment also promotes (and influences) public meanings of bottom-up engagement. While considerably less prevalent than references to government action, this is significant as it indicates that press treatment could shape cognitive engagement with LCT by advancing references to society as actors and discussion of social justice, solidarity, collective action as well as potential bottom-up forms of political engagement. However, this is not the case; instead, Irish press prioritises consumer action and is dominated by references to government campaigns promoting 'small actions' and consumer change (e.g.) purchasing energy efficient products. In addition, while this conceptualisation presents some references to people's everyday lives, critical acknowledgement of practical barriers to engagement, such as high carbon lock-in (Urry 2011) or the social equity and distribution challenges of LCT (Ockwell et al. 2009) seldom feature. As Ockwell et al. point out

> structural and institutional barriers to low carbon behaviour require direct government interventions and are clearly a constraint on individual agency and of low carbon behaviour change' (2009 p309)

Signficiantly, however, press discussion of these barriers are only raised in the context of annual budget announcements and thus may be said to be marginal references as they rarely include an in-depth analysis of the structural or systemic barriers to engagement or of socio-technical lock-in. This is in line the finding that Irish press discussion reduces public involvement to role of consumers and is primarily concerned with cost-saving (Fox 2014; see Chapter 7 for discussion of behavioural engagement).

Thus representations of citizen action in Irish press stands in contrast to the growing literature arguing for an expanded role for citizens that includes self-efficacy, community cohesion and social inclusion (Whitmarsh *et al.* 2010) and Bäckstrand and Lövbrand's (2007) discourse of civic environmentalism, in which citizens are involved in collaborative processes and the co-production of environmental solutions. Instead, this conceptualisation, driven by government climate change campaigns, predominantly advances references to individual voluntary action motivated by economic incentives. As a result, it resembles the 'social marketing' form of engagement described in Carvalho and Peterson's (2012) tripartite model of climate change politics and communication. These researchers argue 'social marketing' involves the lightest form of social intervention as it is dominated by persuasive rhetoric, which does not 'promote the political mobilisation that would enact the vast transformation necessary to address climate change' (*ibid.* p83). Furthermore, the focus is on short-term pragmatic actions that fit within economic and political imperatives (*ibid.*). In the Irish case, this materialises as exhorting citizens to 'do their bit' for the environment and is often found in references advocating eco-lifestyles and articles' featuring the government's 'Power of One' campaign. In both cases, responsibility for action is individualised and the political realm is reduced to lifestyle choices, in other words, they exclude references to communities acting collectively in the public sphere.  Likewise, Corner and Randall argue that social marketing maintains the 'prevailing values of the dominant political rationality embedded within it' (2011 p1010) and question whether these typically 'small behaviour change' initiatives offer a proportional response to address the scale of the climate change problem. Overall, press treatment offers relatively few references to citizen-led forms of political participation such as citizens advocating alternate forms of action and political conflict or actions beyond those presented by establishment actors (see Chapter 7). As a result, it also advances narrow public meanings of bottom-up formats and therefore circumscribes (potential) cognitive engagement with LCT.

This broad analysis of deployment of ideas in Irish press representations indicates that the most prevalent theme, *Assigning Responsibility* circumscribes (potential) cognitive

engagement because it is dominated by a top-down perspective which offers narrow public knowledge of possibilities for action and limits societal agency. The prevalence of 'Financial and Market Measures' and 'Economic Growth and Efficiency' which also advance a top-down format for transition focussed on a technocratic greening of industrial production, lend this argument further support. The prevalence of these conceptualisations, which together constitute over half of Irish print media discussion of LCT (56%), demonstrates that civic action is subordinate to the realm of elites, who are routinised in press treatment as the primary actors. This, as Gunster (2012) notes, downplays the normalisation of local climate activism or low carbon citizenry as the key public concern. The additional point being made here, therefore, is that press treatment of LCT is dominated by discussion of responsibility for action, which prioritises government and establishment actors. This in turn suggests that Irish print media treatment presents a consensus view of the public meaning of LCT which runs contrary to the agnostic notion of plurality and the contribution of dissensus for motivating public engagement (Carvalho 2010; Maeseele 2015, discussed in Chapter 8).


## 6.3 How Irish Print Media Shape Cognitive Engagement with LCT

This chapter presented an overview of themes shaping cognitive engagement in Irish press and assessed the deployment of broad public meanings about carbon reduction activities. The findings present a useful picture of what knowledge about the multi-faceted challenge of LCT is routinely made available in the Irish print media.  It also acts as a window into how media treatment over 13 years privileges particular public meanings of, and solutions for, LCT as well as who is represented as responsible for action on LCT. Overall, the chapter showed that while Irish press provide a variety of public meanings, its fails to socially (re)contextualise LCT thereby impeding carbon literacy. Cutting across themes, the analysis revealed that the Irish press privilege narrow conceptualisations of LCT because they inadequately represent LCT as a local issue and fail to bring LCT closer to the lived experience. The related finding, that Irish press treatment amplifies top-down formats for citizen engagement with LCT, highlights that critiques of stakeholder public engagement initiatives as authoritarian and instrumental also apply. As a result, the chapter argues that Irish press privileges the deployment of public meanings that circumscribe (potential) cognitive engagement with LCT. The findings also underline the relevance of targeted investigation of how press report on the multi-faceted issue of LCT rather than investigations of climate change more generally. This is particularly significant post-COP21 as public debate and news media interest begin to focus on actions to mitigate climate change and the processes for reducing carbon emissions.

The most important findings arising from this analysis however are its insight on the value-laden nature of press treatment of LCT and the implications of the lack of social critique. The chapter illuminated how the dominant theme and conceptualisations of LCT prioritise and reproduce existing patterns of social activity, thus promoting public knowledge of LCT as a process in which existing social arrangements are maintained rather than an opportunity for radical social transformation as called for by Hulme (2015) among others. According to Hulme, climate mitigation (and thus LCT) also involves 'dealing with the social and ecological effects of climate' and requires more than an arithmetic balancing of CO2 emissions to achieve control of the 'planet's carbon budget'. Moreover, Hulme argues the focus on 'carbon calculus' normalises carbon management as 'trust in numbers ahead of justice on the ground'. Thus, the problem with the expert-driven calculative approach to LCT that dominates Irish ptrdd treatment is that

> it acts as a proxy for ethical choice and avoids or replaces discussion of 'the pressing needs of wealth re-distribution, human welfare and social justice' (*ibid.*).

In addition, by prioritising LCT as a government responsibility, Irish press treatment frames the challenge as 'a matter best left to technocratic decision making and/or market forces' (Maeseele, 2015, p398) and may therefore be said to impede democratic debate by contributing to processes of de-politicisation (*ibid*). In other words, Irish press discussion of LCT primarily places responsibility for most of the difficult ethical, cultural, political and economic questions in the hands of politicians and, increasingly, business interests to work out.

While research studies have established that press representation of climate change promotes elite concerns with economic issues[49], and was therefore expected, the prevalence of references to 'citizen responsibility' is unexpected. Although this suggests press treatment advances discussion of bottom-up perspectives and potentially, co-production of solutions, the analysis showed this theme primarily promotes consumer engagement and focusses on individual behaviour change over collective, public sphere engagement[50] (see Chapter 7). More significantly, it indicates the influence of elite interests in shaping carbon literacy and thus how powerful claims-makers establish their perspective on potential citizen action associated with LCT.

Whilst informative, these findings have limitations. In particular, Irish press themes do not necessarily reflect the representations of LCT across other news media (i.e.) broadcast and

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[49] For example, Howard Williams (2009); Young and Dugas (2011), Djerf-Pierre et al. (2015).
[50] This is because the majority of the references promote public information campaigns.

online media or media coverage in other countries. This is significant, as media(ted) public engagement is culturally contingent (Phillips *et al.* 2012a). Therefore, cross-cultural comparisons of news media representations would be an interesting avenue for future research.

Likewise, although this study covers a highly significant timeframe from 2000 – 2013[51] it requires updating. The thesis established that LCT is now a topic of Irish press interest. As a result, it would be important to chart the transformations in and prevalence of themes post-2013. Future research should examine the extent to which economic interests and the logic of efficiency dominate press treatment. Anecdotal evidence suggests that Irish print media lends even more weight to economic arguments for LCT and elite concern with maintaining growth and may therefore now privilege a (weak) ecological modernisation discourse. This view is based on an observed increase in press reports advancing the benefits of renewable energy (especially windfarms) as well as the advantages of Ireland's low carbon agriculture model for meeting the challenges of Food Harvest 2020.

Furthermore, although the analysis observed the influence of claims-makers on the deployment of ideas about LCT, the research design did not explicitly seek to analyse the impact of coverage on readers, or to report on claims-makers or voices of authority. However, the prevalence of themes promoting top-down agendas and formats for public engagement, as well as expert-driven knowledges of LCT suggests that further analysis along these lines is warranted. In other words, the research design does not address important questions about why media treatment deploys specific themes and the ideological basis for media treatment or examine media organisations and production or journalist practices. Likewise, it did not test media effects of these themes or questions about audience reception. Both of these questions are important areas for future research (see Chapter 10).

In line with the goal of presenting a multi-modal analysis of press representations of LCT, the following two chapters assess Irish press themes in terms of how they influence behavioural and affective dimensions. These chapters contribute to knowledge of the way press treatment normalises ideas about citizens' low carbon practices as well as how it mainstreams ways of talking about LCT, thereby shaping motivations for societal responses to transition at the everyday level. In doing so, they contribute an in-depth, nuanced analysis of whether and how press treatment acts as socio-cultural and -political barriers to broader public engagement with LCT.

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[51] This includes several notable points of media interest such as initial discussion of LCT during the Irish EU Presidency, COP15, Rio+20, as well as the global economic crisis and Irish national policy on LCT

# 7

## Normalising Low Carbon Practices & Behavioural Engagement

This chapter adds to the analysis of cognitive engagement by investigating press representations of the ways public(s) reduce carbon emissions in their daily lives (i.e. low carbon practices) and outlining the implications for (potential) behavioural engagement with LCT.  More specifically, it zones in on what ideas about citizen actions or roles to reduce carbon emissions are normalised in press representations of LCT and then critically reflects on the implications for (potential) behavioural engagement with LCT.  In line with the view that LCT is an adaptive change, the focus is on assessing the extent to which press themes 'socialise LCT' and therefore, whether and how press treatment socially (re)contextualises ideas about citizen involvement with LCT as part of everyday life.  Therefore, this chapter aims to illuminate the different themes influencing lay public normativities about the types of citizen action to reduce carbon emissions in every day life. As discussed in the theoretical framework (Chapter 3) the analysis draws on  the understanding that press treatment contributes to the reconfiguration of public conversation about low carbon behaviour and citizen roles to reduce carbon emissions. In other words, it draws on the view that press themes about low carbon behaviour or practices, normalise the distribution and circulation of ideas about the materials, competencies and meanings that make the conditions of environmental and socially sustainable practices possible.  This chapter therefore addresses the research question:

- *How does Irish print media treatment normalise ideas about potential behavioural engagement with LCT?*

However, as LCT involves a range of social, financial and technical solutions, it also includes multiple roles and opportunities for citizen mobilisation. Thus ideas about low carbon practices deployed in press themes promote particular ways of acting and silence (or marginalise) others. In other words, by advancing particular ideas about low carbon practices and privileging certain roles and actions, the prevalent theme normalises (potential) behavioural engagement with transition. Therefore, to address the research question, the study also asks the following sub-questions:

- *What are the trends in press themes about reducing citizens' carbon emissions*
- *What citizen actions to reduce carbon emissions are normalised in press treatment*

- *How does press treatment normalise ideas about potential behavioural engagement with LCT*

Behavioural engagement has overtaken cognitive engagement as the central focus of initiatives to mobilise citizens around global environmental change (Whitmarsh *et al.* 2010, Wolf and Moser 2011) for two significant reasons. Firstly, in response to growing recognition that individuals, families and citizens play a central role in meeting the ambitious carbon-reduction efforts required to achieve LCT and therefore, that public engagement involves public actions in both the private and the public sphere (Ockwell *et al.* 2010).  Secondly, interest in behavioural engagement follows numerous studies highlighting the value action gap[52] and wide acceptance of the limitations of information provision alone for mobilising lifestyle changes or public acceptance of policy to tackle environmental change (Lorenzoni, Nicholson-Cole, *et al.* 2007). Instead, drawing on economic and psychological theories, the implicit normative goal underpinning behavioural engagement is to change 'undesirable behaviour' and/or encourage the 'right attitude' through financial incentives and/or persuasion.  Thus, behavioural engagement involves 'people's active response through some kind of action' and is differentiated from cognitive engagement through its direct focus on action rather than aiming to generate awareness or understanding of an issue (Moser 2009 p157).

Behavioural approaches are typically associated with government information campaigns and official initiatives to tackle climate change. For example, policy initiatives to reduce household emissions in the UK focus on motivating behaviour change through social marketing (Webb 2012). Likewise, two government-led environmental campaigns in Ireland, 'The Race to Waste' and 'The Power of One', also concentrated on individual behaviour change. However, the limits of behavioural approaches have come under increasing scrutiny in the context of recent conceptualisations of public engagement as an inter-related process. In particular, critics of climate change campaigns driven by behavioural engagement question the suitability of deploying behavioural triggers based on economic and psychological theories, arguing it neglects wider social factors such as the influence of public values, emotions and/or attitudes of individuals. Significantly, they point out that behavioural approaches focus on individual actions and thus fail to accommodate understandings of climate change as a collective challenge, which therefore also requires communications that instil a sense of

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[52] The disparity between reported citizen concern for the environment and their low willingness to substantially alter behaviour (Ockwell *et al.* 2009)

political efficacy and fosters the merits of civic engagement (Ockwell *et al.* 2010). Within this line of thinking, scholars note that while encouraging individuals to decarbonise their lifestyles is vital to achieving LCT, it is not the only option open to citizens. Notably, these scholars claim that behavioural approaches are insufficient as they ignore important individual and structural barriers to engagement. According to Ockwell et al. these barriers

> present intractable challenges which undermine reliance upon voluntary action by individuals and imply a need for profound – and costly – social change (2010 p342)

Furthermore, noting the tendency to frame public(s) as consumers who passively adopt prescribed behaviour changes and /or who consent to proposed policy measures (Hoppner and Whitmarsh 2010), researchers argue that behavioural engagement initiatives are instrumental (Webb 2012) and limited as such policy initiatives primarily seek to 'serve incumbent interests rather than contribute to socially sustainable and democratic decision-making' (Hoppner 2009). Synthesising these ideas, Hoppner and Whitmarsh (2010) argue the focus on behavioural engagement primarily in terms of individual consumerism fails to take sufficient account of the socio-political dimensions of engagement and is therefore a limited approach because

> Engagement can take place in the private sphere (e.g. individual action through green consumerism, conservation behaviour) and in the form of socio-political participation. … the latter is a vital element of democracies and helps to stimulate people's belief that they can make a difference' (*ibid.* p48 )

This brief overview of positions on the rationale for and limitations of behavioural engagement initiatives illustrates two important concerns that shape the assessment of press treatment. Firstly, it underlines the significance of who is called on to act at different fora for engagement (i.e.) it highlights the distinction between individual over collective action and secondly, it emphasises the implications of different fora for engagement on changing cultural values and social norms. As a result, it draws attention to how fora for behavioural engagement open up or close down opportunities for potential citizen agency, responsibility and political efficacy. This, in turn, highlights how the privileging of ideas about the fora for engagement in press treatment facilitates the maintenance of 'business as usual' behaviours and practices and constrains the possibilities for public debate about LCT as a process of social transformation.

As a contrast to the individually located theories from economics and social psychology, which dominate ideas about citizen engagement, the assessment of press themes also draws from the emerging literature on social practices and LCT. Significantly, a social practice view

of social action draws attention to the consideration that much of public behaviour is habitual (Reckwitz 2009; cited in Shove 2014) rather than the product of rational choice or self-interest. As a result, social practices situate behaviour in the context of wider material and social structures that need to change as well as individual actions. Therefore, rather than focussing on individual behaviour as the problem to be fixed and blaming citizens for their high carbon lifestyles, a social practice perspective focusses on the problematic 'systems of behaviour' which 'capture citizens and retain cohorts of suitably devoted practitioners' (Shove 2014 p418). In other words, Social Practice Theory pays analytical attention to the systems that reproduce the practice (*ibid.*). While there are different schools of thought on Social Practice Theory (*ibid.*) it is generally agreed that social practices are socially accepted ways of doing things, for example, that we travel by car over walking or cycling, or the social norm of daily showering associated with contemporary ideas about freshness[53]. Because much of our energy use is habitual, Social Practice Theory is increasingly employed within research on energy demand reduction (Butler *et al.* 2014, Shove 2014, Shove and Walker 2014, Strengers 2014) as an alternate perspective for understanding public engagement. Therefore, critical insights from these empirical studies are also employed to reflect on whether or how ideas of social choice, values and agency feature in press representations of carbon reduction activities.

Most significantly, by drawing attention to social structures rather than individual behaviour, a social practice lens sheds light on alternate orientations on configuring LCT in daily life. As Butler et al. (2014) succinctly note, social practices facilitate new insights into 'the contours of social change in everyday life and daily activity' (p10). In doing so, it offers the possibility of illuminating how wider social dimensions of citizen action to achieve LCT may be silenced (*ibid.*). Therefore, it also highlights the failure of prevailing (elite) voices and perspectives on LCT to challenge energy intensive lifestyles, question high-carbon lock-in and reframe the social norms that shape everyday actions in currently unsustainable ways. However, while facilitating valuable alternate insights on the structural barriers to citizen action, a social practice lens also downplays the importance of individual and collective agency. As Klintman and Bostrom point out this is problematic because

> … entirely ignoring agency runs the risk of overlooking the significance of grassroots initiatives and social movements from below, although such movements always need facilitating structures to grow (2015 p317)

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[53] Social practices associated with carbon capability (Whitmarsh, Seyfang, *et al.* 2011) for example, include habits around: travel, housing, food and energy use

Crucially in an analysis of press representations, social practices under-recognises the 'purposive agency of citizen-consumers' (*ibid.* p317). As a result, Klintman and Bostrom (*ibid.*) propose that social motivations presents an important alternate approach for understanding the gap between what people claim to be concerned about and what they do in practice (Klintman 2013). Like Social Practice Theory, this line of thinking is critical of conceptualising behaviour change based solely on formal rationality and, in the context of motivating climate-friendly, low carbon practices, maintains that people act for reasons beyond climate risks. In other words, 'it contends that social motivation over-rides economic, practical and even moral factors' (*ibid.* p314). Instead, this approach seeks to stimulate socially motivated actions by foregrounding social norms, and the conscious and unconscious processes that 'strengthen and maintain social relations, mark status, make cultural distinctions' (*ibid.*). Klintman claims 'material accumulation may contribute to social motivation' (2013) and that there is power in informed consumption. Distinctively, however, this highlights the need for improved forms of information, which includes raising the political and daily choices of citizen-consumers (*ibid.*). Therefore, a social motivations lens provides an alternate positive reading of extrinsic (or material) motivations in relation to press treatment of citizen-consumers (discussed below). It also resonates with scholarship advocating the need to make low carbon practices fashionable (Urry 2011).

This overview highlights three diverging perspectives for understanding and evaluating themes about reducing the carbon intensity of daily life. While they represent a necessarily brief outline of the growing scholarship on behavioural engagement with LCT, their inclusion ensures that the analysis takes the main debates about the processes driving citizen involvement in daily carbon reduction activity into account. The next section begins with a discussion of the trends in Irish print media themes about behavioural engagement. It critically examines the implications of trends on the deployment of ideas about low carbon practices (or behaviours), paying particular attention to how the prevalence of, and silences in, press themes influence which low carbon practices are prioritised and the extent to which they advance radical shifts from our high carbon lifestyles. In other words, it assesses whether press treatment promotes continuity over change by interrogating the ways in which themes advance ideas about citizen involvement in social transformation or the maintenance of 'business as usual'. The final section reflects on the implications of the dominant theme for potential behavioural engagement. Thus, acknowledging the variety of possibilities for citizen mobilisation in

different spheres of daily life, this evaluation of press representations of LCT investigates how themes normalise *the types* and *fora* for citizen engagement.

## 7.1 Trends in Irish Print Media Representation of Low Carbon Practices

The inductive TA generated five categories illuminating different types of public action to tackle carbon emissions or roles advanced for citizens to reduce carbon emissions. These categories were grouped into two press themes corresponding to the two dominant fora for public engagement (Hoppner and Whitmarsh 2010): *Private Sphere Practices* and *Public Sphere Practices* (see Table 7.1). The coding process identified all references to ideas about low carbon practices or to roles advanced for citizens and each reference was assigned to a single category. This process resulted in 139 references across the study sample and illuminated two noteworthy trends in media representations of low carbon practices.

Firstly, over half the articles (57%) do not include references to low carbon practices or ideas about citizen action to reduce emissions. This is a notable finding as it underlines the extent of the marginalisation of the social dimensions of tackling carbon emissions. It is also consistent with the finding that press treatment privileges government responsibility and financial or market measures (over citizen responsibility) as the main approach to achieve LCT (see Chapter 6).  Furthermore, the marginalising of discussion about citizen action shows that the privileging of elite or top-down meanings of LCT has implications on both the cognitive and behavioural dimensions of potential public engagement.  This is significant because it suggests that ' … the routines and expectations that sustain and drive interest in change are those of elites' (Shove and Walker 2010 p471). Thus it highlights the need for i) greater critical analysis of ideas about LCT in press treatment and ii) more alternate voices and perspectives on citizen action in order to challenge and broaden press discussion about forms of citizen mobilisation. Secondly, whereas 'Carbon Tax' dominated references shaping the public meaning of LCT, representations normalising citizen actions and low carbon practices are dominated by references to 'Carbon Footprint'. Significantly, these references prioritise discussion of carbon measurement, which indicates the maintenance of the logic of efficiency and carbon calculation in discussion of low carbon behaviour or practices. In other words, press treatment is part of the normalisation of positive (and unchallenged) discussion of smart farming and low carbon methods in place of critical reflection on the failure to meet 'stringent' Kyoto targets (see Chapter 8). The themes were also assessed as to whether they represented the rationale for citizen engagement with low carbon practices as 'Promises' by positively promoting benefits of behaviour change or 'Threats' by negatively highlighting

problems (see Figure 6). This contributes to analysis of the two overarching (macro) themes in the multi-modal map of trends in Irish print media representations of LCT (Chapter 9).

Overall, press representations of citizens' roles in reducing carbon emissions in daily life normalise ideas about varying degrees of consumer engagement as well as top-down invited (organised) spaces of collective action. The analysis found press themes advanced a limited range of ideas about citizen involvement in LCT as a multi-dimensional issue. In line with the literature on the fora for public engagement, Irish media treatment promotes ideas about citizen action taking place in both the public and private public sphere. However, references advancing ideas about private sphere actions, dominate over representations highlighting citizens' public sphere actions and thus discussion of more creative forms of collective action (see Table 7.1). The overwhelming prevalence of *Private Sphere Practices* (84%), suggests Irish press themes privilege limited views of behavioural engagement that ignore the awareness of LCT as a collective problem and a political issue and thus this theme obscures the view that LCT also entails 'social change'. Overall, the analysis indicates that this theme advances predominantly prescriptive and normative conceptualisations of individual action (discussed below). This is significant because, as discussed, critics point out that individual forms of behavioural engagement are often instrumental, promoting intrinsic values and individualism, both of which are at odds with building environmental concern and long-term public engagement. In addition, scholars point out that the focus on individual actions obscures questions about the need to tackle our high carbon infrastructure and fails to challenge the social norms associated with high carbon lifestyles.

The qualitative analysis also shows that references to *Public Sphere Practices* (16%) are not only marginalised in Irish press treatment, but that the repertoires of collective or community action advanced are primarily invited spaces of collective action (rather than claimed spaces (Hoppner and Whitmarsh 2010; discussed below). Furthermore, press treatment rarely promotes positive forms of bottom-up collective engagement or highlights the significance of the systems of governance or provision on citizens' carbon reduction activities. Noticeably, *Public Sphere Practices* were often utilitarian, families or communities are invoked to give weight to particular (establishment) agenda's for LCT (e.g.) 'an extra push is needed, with families all over the world putting this message to political leaders' ('Call to lobby politicians over climate change', *Irish Times*, 21.09.2009). They also rarely advance references to radical social transformation or to activities encouraging self-efficacy or collective agency in reducing carbon intensity of daily, which scholars argue are important attributes of behavioural

engagement with LCT. Consequently, this theme lacks critical reflection or analysis of either individual or structural barriers to engagement and promotes limited and banal ideas about community involvement with carbon reduction.

This overview of trends shows that *Private Sphere Practices* and *Public Sphere Practices* prioritise social acceptance of predominantly elite perspectives on 'appropriate' behavioural engagement. The deployment of limited, banal perspectives on citizen action is especially significant in the context of the enormity of the challenge of climate change mitigation, wide acceptance of the need for large-scale citizen involvement and calls for more creative or co-produced solutions to achieve social transformation (Bäckstrand and Lövbrand 2007, Moser and Dilling 2007a).

Qualitative Analysis of Themes About Low Carbon Practices
The following section briefly examines how each theme normalises ideas about the type of action advanced for citizens. It assesses whether they present active or passive forms of citizen action by focussing on whether press treatment includes discussion about our highly carbonized lifestyles, or the systems of production or governance that could facilitate broader behavioural engagement. It also illuminates the ways in which prevalent conceptualisations promote 'continuity over change' with respect to reducing the carbon intensity of everyday lifestyles. In doing so, this section sheds light on the extent to which press treatment acts as socio-cultural or -political barrier to ideas about low carbon practices and behaviour. Tables 7.2 (a-d) and 7.3 present sample texts highlighting pertinent discussion points (see additional examples in Appendix 2.2).

*Private Sphere Practices*
The most prevalent theme about low carbon practices advances various degrees of consumer engagement to reduce 'citizens' carbon footprint and increase energy efficiency by switching to low carbon products (and less frequently, to new low carbon technologies). Notably, consumer engagement is generally promoted in terms of cost savings. For example, references tend to highlight the economic benefits before the low environmental impact of new energy choices. This theme is comprised of the following categories: 'Consumer Acceptance' (11%) which prioritises cost savings and promotes changing consumer trends. 'Personal and Household Behaviour' (16%) which promotes environmental and economic benefits of behaviour change. 'Low Carbon Living and Consumerism' (35%) which focusses on actions to reduce carbon footprint and raise awareness of carbon intensity of everyday life

and 'Organisational (Work) Practices' (22%) which advocates going green as a strategic approach to business growth and meeting environmental regulations.  Overall, the analysis shows this theme focusses primarily on individuals as consumers and employees rather than as citizens or voters.

**Table 7.1: Prevalence of Irish Press Themes Normalising Ideas about Low Carbon Practices**

| Irish Press  Themes | Categories (Press Representations) | Prevalence of References (%) |
|---|---|---|
| Not Present | | 114 *articles* *(57%)* |
| Private Sphere Practices | | **117  *(84%)*** |
| | Low Carbon Living and Consumerism | 49  *(35%)* |
| | Organisational (Work) Practices | 31  *(22%)* |
| | Personal and Household Behaviour | 22  *(16%)* |
| | Consumer Acceptance | 15  *(11%)* |
| Public Sphere Practices | | **22   *(16%)*** |
| | Community and Societal Action | 22  *(16%)* |

While the dominance of *Private Sphere Practices* was expected, the analysis produced two unexpected findings. Firstly, the prevalence of 'Low Carbon Living and Consumerism' (35%), which suggests the deployment of innovative ideas about reducing carbon emissions. Secondly, the emergence of 'Organisational (Work) Practices' (22%) noted during the inductive coding process. References in this category occur primarily post-2009 and as the second most frequent category, it highlights the extent to which low carbon practices are discussed as a 'business' rather than a lifestyle or feature story in Irish press treatment. This category is also one of the few to discuss LCT in relation to planning for the future and to highlight that low carbon actions are part of bigger questions about long-term changes and rethinking the future. Significantly, these categories were also the two most referenced conceptualisations accounting for over half of the references to citizens' carbon reduction actions (57%). However, while this gives the impression that the most prevalent theme encompasses a variety of positions on individual behavioural engagement, in particular deploying ideas about more active forms of low carbon practices and encouraging innovations in low carbon living, the in-depth analysis indicates that this is not the case.

Significantly, this theme advances few references to fundamental transformation in the ordinary activities of daily life or future daily life and references to consumers focus on encouraging consumption by swapping existing products for new low carbon technologies. Thus, citizens are mobilised to enact technological consumer change rather than promoting questions, or raising awareness of, unsustainable consumption habits. In doing so, this theme prioritises passive forms of low carbon behaviour. In addition, discussion of changing

consumer trends focusses on a narrow range of products such as lightbulbs, energy efficiency in the home and cars. References to reducing behaviours that could adversely affect continued economic growth, such as less flying and meat consumption or activities that require minimal consumer demand such as walking or cycling are rare. Thus, this theme omits critique of cultural norms that may challenge the prevailing economic paradigm. Moreover, by prioritising references to individual consumers, this theme obscures the role that consumption plays in causing climate change by generating greenhouse gases. In other words, it promotes consumer sovereignty and economic benefits of consumer change, thereby reinforcing materialism and self-interest which scholars argue challenge environmental sustainability and pro-environmental behaviour. As a result, it fails to recognise that individuals are not merely individual consumers, but citizens also motivated by deeper values and desires (Moser and Dilling 2007a). Furthermore, *Private Sphere Practices* do not primarily promote environmental behaviour and discussion of environmental concern is limited. In other words, environmentalism is restricted to a narrow subset of behaviours, from an early focus on eco-friendly actions such as recycling waste to more recent emphases on energy retrofitting and efficiency. Thus, Irish press treatment normalises low carbon actions in line with maintaining economic growth rather than fostering long-term environmental protection.

As well as advancing passive actions and limited rationales for carbon reduction activity in everyday life, categories in the dominant theme take very little account of the different socio-economic backgrounds and barriers to consumer engagement. As a result, this theme omits discussion of important social inequalities and distribution issues that may limit citizens' ability to reduce the carbon intensity of their lifestyles. Press treatment therefore also limits possibilities for wider discussion of alternative pathways to reduce emissions. In other words, *Private Sphere Practices* excludes discussion of the social realities and economic difficulties of reducing emissions for large groups of citizens. By promoting individual action as convenient, small-scale actions that result in cost savings, this theme therefore presents an unproblematic view of citizen mobilisation that is at odds with the complexity and difficulty of transforming from high-carbon lock-in. Thus, because it prioritises the economic benefits of small-scale consumer change, it fits within the macro-theme 'Promises'.

The most prevalent conceptualisation of citizen action, 'Low Carbon Living and Consumerism' (35%), uniquely includes references to carbon reduction and the need to alter the carbon intensity of daily life, for example, by 'minimising personal carbon emissions'. In other words,

this category raises awareness of citizen action as making low carbon choices and presents information about leading a low carbon life in contrast to 'saving the planet' and emphasising environmental concern. It includes some references to community action where this indicates a community of individual actions, for instance 'carbon conscious' consumerism, and is therefore distinguished from 'Community and Societal Action' which focusses on forms of collective social action. The comparatively large number of references in this category reflects the range of potential carbon reduction actions advanced: from motoring, to domestic energy, food miles and discussion about 'redesigning capitalism'. The presentation of ideas such as 'carbon conscious consumers' and 'responsible consumption of products' indicates a provocative and pragmatic approach to educating public(s) about low carbon practices. For example, it raises questions about high carbon lock-in, pointing out that 'current levels of consumption are unsustainable' and highlighting the difficulty of decarbonisation, as well as referencing the need to change 'systems' rather than individual behaviour.  In doing so, it avoids polarising behaviour as either good or bad and thus attaching blame and guilt to everyday activities associated with high carbon lock-in. For example, it proposes 'new ways of life' rather than prescribing punishments for 'polluters'.

As a result, this conceptualisation uniquely advances a more constructive framing of individual actions to tackle climate change, in line with calls by Hall (2014) and offers a more diverse presentation of the social reality of reducing high carbon lock-in. However, while it provides the least reductive conceptualisation of the challenges of reducing energy dependency and resource depletion, analyses of the structural and systemic barriers are, in fact, the exception. Likewise, despite references to citizen 'responsibility', discussion of specific low carbon practices beyond regulatory actions to change lightbulbs and increase motor tax (i.e. forced consumer engagement) is generalised and limited, particularly post-2009. As a result, this category does little to rematerialize carbon in everyday life by advancing practical awareness of the relative contributions of different activities to carbon emissions and does not stimulate the adoption of more wide-ranging low carbon behaviours or practices as highlighted by Whitmarsh et al. (2011). Thus, because it limits awareness of the rationale for carbon reduction to economic or regulatory imperatives, it fails to offer the level of citizen-consumer information likely to stimulate social motivation proposed by Klintman (2013). Likewise, it is debatable whether this category makes low carbon activity fashionable as advocated by Urry (2011). Ultimately, the strength of this conceptualisation lies in its promotion of rhetorical aspirations rather than its practical utility.

**Table 7.2a: Sample text for Low Carbon Living and Consumerism**

*Characteristic/Typical Statements:*

'Follow a "low-carbon" diet. When you have a choice between Irish and foreign-grown fruit and vegetables, choose the local produce. Cut down on processed and packaged food. By eating local, organic and unprocessed food you can reduce your food carbon emissions by 76 per cent, according to the UK's East Anglia Food Link. Avoid packaging: buy loose veggies, or choose products in glass or paper.'

*How green is my living? The Irish Times, 16.07.05*

'Thus it provides an opportunity for people to audit their lifestyle to determine ways of playing their part in reducing carbon emissions. So many human activities contribute to carbon emissions - from showering in the morning, using lighting at night, or using automotive transportation to work or recreation.'

*Carbon footprint – Responsible ways to save the planet, Irish Examiner, 6.05.08*

'For when you look at it in the most fundamental way, the future of the planet essentially depends on how we live our daily lives. Not that that's always easy. Are we going to walk, or cycle, a lot more often rather than drive; are we going to save diminishing oil supplies by cutting down on home heating and are we going to get really serious about recycling?'

*Get on your bike to save the planet, Irish Examiner, 24.05.10*

'"… if we are to stop people going in an unsustainable way from A to B, then we have to offer them a better alternative C. It's about eating better, wasting less, travelling lighter and being energy clever," the Green Party leader, Eamon Ryan said.'

*Out with melting ice, in with living a balanced life, The Irish Times, 22.06.13*

*Exceptional/Atypical Statements:*

Mending our ways will mean accepting that our current levels of consumption are unsustainable. But can we bring ourselves to change our lifestyles radically, before a terrible climatic catastrophe forces us to do so?

*The pain of necessary change in this unforgiving climate, Sunday Independent, 14.01.07*

'It describes the "Scottish Carbon Enlightenment", involving a "huge array of social experiments" which leads to "unleashed creativity on a grand scale". It talks of "low carbon living" being achieved through technology, individual and collective behaviour change, and changes in culture, values and expectations.'

*St Andrews could be lost to coastal erosion, The Irish Times, 14.10.08*

'Transport, a huge contributor to greenhouse gas emissions, is one of the many areas where we can improve. You could say we're car-mad. The average car in Ireland travels a staggering 24,400km per year, which is 70% higher than Germany, 50% higher than Britain and 30% higher than the US. But, there are practical reasons for the high use of private transport here, including a scattered population, the proliferation of one-off houses in the countryside and poor public transport. How to reduce our use of the car is a major challenge.'

*Get on your bike to save the planet, Irish Examiner, 24.05.10*

'Success depends on profound behavioural changes in consumption, travel and heating. The potential benefits are huge, but the costs are also arguably high and therefore divisive. How high? We can't say because nobody yet knows how to reduce emissions at 5 per cent per year over many decades, which is necessary to keep global warming under 2 degrees.'

*Ireland needs to be ambitious on climate change, The Irish Times, 1.03.13*

The second most prevalent conceptualisation of carbon reduction activity normalises

discussion about increasing sustainability within the business and farming sectors (often

referred to as 'greening'). 'Organisational (Work) Practices' (22%) typically promotes the idea of sustainability as a strategic activity to 'make business leaner and more efficient' and that 'when you cut carbon, you cut costs' which indicates a pragmatic approach to carbon reduction. Thus, this category highlights the economic utility of 'embedding carbon into the bottom line' over environmental concern and, by advancing the commodification of carbon reduction as a business strategy, suggests the rationale for low carbon practices is based on calculative, managerial approach to the environment. However, the limits of a managerial approach are discussed in just one of the few critical references in this category, which points out that while sustainability is a part of business activity 'there's a deficit in terms of the actual steps being taken to address it'. Likewise, this category rarely highlights the link to environmental concern, with only a few exceptional references advancing the idea that low carbon practices challenge climate change and resource depletion. The prevalence of this category also reflects the distinctly commercial focus of Irish press treatment of LCT observed during the coding process[54]. Interestingly, it also includes some references to cultural industries and changing practices within rock bands and the film industry, in lifestyle section reports.

The main organisational practices are staff behavioural change, especially around energy efficiency, and developments in low carbon farming through adoption of new technology. References to Carbon Footprint and concern about measuring or 'validation' of carbon emissions, which promote the 'logic of efficiency', are also key features. They normalise discussion of the management and measurement of carbon emissions through techno-scientific knowledge in order to maintain growth and business profitability rather than radical (re)thinking of production and consumption. Thus, this category rarely mentions alternate or disruptive positions on work practices or discuss barriers to low carbon activities.

**Table 7.2b: Sample texts for Organisational (Work) Practices**

| |
|---|
| *Characteristic/Typical statements:* |
| 'Radiohead's pulling out of Glastonbury could send out the signal to other bands that they need to reduce their environmental impact. Radiohead's report includes an eco-friendly touring template that other bands could easily replicate.' |
| *A live issue, The Irish Times, 14.03.08* |
| 'OWNERS AND occupiers of commercial buildings "picking themselves up off the floor after getting the latest ESB bill" have become part of a growing movement to reduce energy costs by "greening" Ireland's building stock, a property conference heard last week.' |
| *Buildings go green to save money, The Irish Times, 15.10.08* |

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[54] For example, business and lobby group publications and conferences about LCT receive frequent coverage and sectoral claims-makers are voices of authority in news articles about LCT (McNally 2015).

"Every organisation can save money through knowing its carbon emissions and taking steps to reduce them through more effective energy supply and usage, improved travel policies and effective water and waste management. The CMT will provide the knowledge and the resources that can help businesses and organisations in Ireland learn that when you cut carbon, you cut costs."

*Firms warm to climate bid, The Mirror, 30.04.09*

'The main source of methane in beef production comes from the digestive system of all animals. By increasing growth rates through better dry-matter intake, feed utilization and improved feed conversion efficiencies animals will grow faster and more efficiently and total methane emissions per kilo of beef produced will be lowered.'

*Going eco-friendly makes good sense, Irish Independent, 7.02.12*

'Referring to the "many opportunities to reduce emissions that would also be profitable for farmers", they say there is "a need to attend to the reasons why some farmers do not change practices, to understand local ways of farming and to consider the types of supports that would more effectively encourage change".'

*Climate report is a dismal technocratic document, The Irish Times, 22.02.13*

"Energy efficiency is a priority for many companies and retrofitting is an investment which yields immediate and substantive savings to the bottom line," said Mr O'Brien. Aramark is currently implementing the country's largest energy efficiency campaign in 250 state buildings on behalf of the OPW in order to assist with the reduction of 20% in total carbon dioxide emissions. "We have found that through staff behavioural changes alone, savings of up to 20% can be achieved"

*Consultancy firm to create 25 jobs, Irish Examiner, 6.05.13*

*Exceptions/Atypical statements:*

Sustainability, and particularly the carbon footprint, is becoming a recognised part of business activity. Despite that, there's a deficit in terms of the actual steps being taken to address it.

*Sustainability edges up the business agenda, The Irish Times, 4.05.09*

"The bees are a fairly big part of the project. We are not keeping up with the bee count but we won't be going around selling honey," explained McCabe. He added that homegrown vegetables and a wild garden are all part of a rethinking of how to run a modern workplace.

*'Green' fire station sends carbon footprint up in smoke, Sunday Tribune, 4.07.10*

"The EU aims to reduce greenhouse gas emissions by 80pc by 2050," he explained. That will certainly involve changes not yet imagined and agricultural research and practice will need to be in high gear."

*Grass-based milk systems 'greenest', Irish Independent, 10.07.12*

'Personal and Household Behaviour' (16%) advances carbon reduction activities for householders and consumers focussing on energy efficiency, sustainability in the home, motoring and reducing pollution (especially as waste). Notably, this category describes individual carbon reduction actions as involving 'simple changes to our routines' or as providing 'a "win, win, win" for the consumer and the environment' and it is shaped by coverage associated with two public information campaigns: 'The Race to Waste' and 'The Power of One'. A large number of references in this category therefore highlight eco-awareness and advocate pro-environmental behaviour, which indicates a normative approach to educating public(s). However, while underlining the conceptual link between everyday actions and negative environmental impacts, this conceptualisation, which is

primarily associated with a green agenda and the Green Party influence on government environmental policy, also exemplifies some of the main critiques of information-deficit approaches as the primary means of mobilising citizen with carbon reduction activity. In particular, the tendency to judge, apportion blame and target citizens as 'polluters' for contravening 'correct' environmental behaviour gives rise to several articles that are highly critical of the imposed green agenda. For example, '…every time I put the sheets in the tumble-dryer I have to deal with the guilt'. In addition, its propensity to blame citizens for their 'bad' behaviour stands in direct contradiction to the understanding of consumption as habitual and routine rather than the result of conscious decision-making (Whitmarsh et al. 2011 p59).

Furthermore, drawing on a green agenda, press treatment in this category regularly labels citizen behaviour as 'polluting' or 'bad'. Related to this, several references frame the public and public behaviour as the problem thereby advancing the need for 'incentives' to 'push' the public towards low carbon alternatives or that the public require 'tools for behaviour change'. In doing so, these references normalise compliance with passive forms of carbon reduction action in line with pre-determined instructions about 'appropriate' behaviour change absent of democratic societal discussion as to what constitutes 'appropriate' behaviour (Owens and Driffill 2008).

Overall, 'Personal and Household Behaviour' emphasises small individual changes, and references to the broader issue of radical societal change or the need to make fundamental choices about lifestyle change are the exception. Thus, the main critique of this category concerns the scale of the actions advanced for citizens. Scholars point out that many personal/household responses focus on the simplest form of energy conservation, whereas the actions required are at a much larger scale (Corner and Randall 2011, Scerri and Magee 2012).  In particular, Corner and Randall's (*ibid.*) analysis of small-scale household actions associated with social marketing initiatives[55] notes that while useful, such actions are ultimately flawed. They argue many social marketing initiatives around energy efficiency are simply designed to 'sell' social goods and therefore these techniques do not contain 'the right set of tools for catalysing the individual, social and political shifts that will be necessary to make the transition to a low-carbon society'(*ibid*. p1013). Furthermore, they claim studies show that the public response to such 'one way' public engagements is 'cynicism' and caution.

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[55] For example, calls for citizens to switch off household lights or phone chargers.

**Table 7.2b: Sample texts for Personal and Household Behaviour**

> ***Characteristic/Typical Statements:***
>
> 'Here, Elaine Nevin, director of Eco-Unesco, will explore the environmental impact of our daily activities, and how we can reduce that impact by making simple changes to our routines.'
>
> *Eco Warrior: All the fun of the eco-fair, Sunday Business Post, 19.08.07*
>
> 'The campaign will also include significant efforts aimed at changing the behaviour of individuals, as well as a significant multimedia advertising campaign aimed at raising awareness of climate change, its causes and its implications. "It will give people the information and tools they need to change their worlds in a climate-positive way," he added.'
>
> *Climate issue affects every sector – Ahern, The Irish Times, 30.11.07*
>
> 'Only the most hardened sceptics now doubt the reality of climate change, but getting people to take action is much more difficult. One part of our brain knows what's happening, yet most of us continue to fly to foreign destinations, procrastinate about getting the house properly insulated, and to skip hastily over newspaper articles prophesying doom.'
>
> *Alarm bells are call to act on climate change, The Irish Times, 1.12.07*
>
> 'He said the aim would be to provide a "win, win, win" for the consumer and the environment by promoting fuels that reduced air pollution, helped the climate and minimised the cost to the consumer.'
>
> *Lower carbon tax considered for smokeless fuel, Irish Examiner, 6.05.13*
>
> ***Exceptions/Atypical statements:***
>
> EVERY time I put the sheets in the tumble-dryer I have to deal with the guilt. I listen to make sure there is no car on the drive, lest a green visitor arrives to discover my closet carbon footprint…. Such is the persistence of the green agenda that it has begun to affect normal people and, to my horror, I found myself visiting carbon-footprint sites to see how bad a person I was, whether I could improve, or how much credit I could take for an extra sunny day in summer.
>
> *Nip this green folly in the bud, Sunday Independent, 25.03.07*
>
> 'We will see lifestyle changes, but I hope we will choose to facilitate music events for as long as possible. The contribution to civilisation and the enjoyment we get from live music are highly valued in Ireland. People will have to sacrifice long-haul holidays to go to music events and art exhibitions, but these are cultural high points and we will continue to cherish them," he adds.'
>
> *A live issue, The Irish Times, 14.03.2008*
>
> 'The minister called for change in people's behaviour which he hoped would be encouraged by new cycle lanes in Dublin and giving passengers real time information on when buses would arrive at stops.'
>
> *Gormley defends 'hard decisions' in budget, Irish Examiner, 16.10.08*

Similarly, based on their analysis of household values around sustainability, Scerri and Magee (*ibid*) also suggest that reductive discussion of low carbon behaviour needs to be challenged in pursuit of the goal of greening society. They recommend '…a shift from privileging the communication of scientific 'facts' and eco-efficient 'tips' and encourage dissemination of information that explains how and why consumption choices within a growth-oriented economy are not always automatically ecologically beneficial (p399). As a result, this category downplays the sense that the actions needed to reduce carbon intensity of everyday life involves collective action and/or politically thinking through the challenges of high carbon

lock-in and engaging with bigger questions of societal, structural or systemic change. For example, Butler et al. (2014) argue pro-environmental behaviour prescriptions such as driving less or purchasing insulation 'tends to position such practices as entirely the consequence of discrete individual economic choices that are unconnected to wider structures or our relations with others' (p2). This underlines the significance of the type of information provided for challenging high carbon lifestyles and the limitations of press treatment in terms of rematerialising carbon in 'Personal and Household Practices'.

'Consumer Acceptance' (11%) focusses on incentivising consumer engagement by promoting the cost-savings of low carbon products. As a result, this category prioritises 'selling low carbon products' over discussion of individual behaviour change and predominantly advances discussion of low energy lightbulbs, electric cars and energy retro-fitting in the home. Unlike 'Personal and Household Practices' references in this category rarely link to environmental protection and focus instead on economic benefits. For example, articles typically advise readers to 'Insulate your attic and save 20% of your fuel bill', 'Buy a low-emission hybrid car' or that 'Being a good corporate citizen also pays off in the battle to win customers'. Significantly then, while increasing awareness of low carbon products, the overtly utilitarian emphasis on the cost benefits of changing purchasing patterns raises doubts as to whether this category 'makes low carbon fashionable' as advocated by Urry (2011) or stimulates the informed social motivation advanced for citizen-consumers by Klintman and Bostrom (2015).

**Table 7.2d: Sample text for Consumer Acceptance**

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***Characteristic/Typical Statements***:

'Insulate your attic and save 20 per cent of your fuel bill. A family can reduce their household's greenhouse gas emissions - from 13 to three tonnes - by installing a solar hot water panel, a wood pellet stove, and switching to a green electricity provider. A solar thermal panel for supplying hot water to an average family of four to six people costs EUR 4,000-EUR 6,000 including VAT.'

*How green is my living, The Irish Times, 16.07.05*

Buy a low-emission hybrid car, such as a Honda Insight or a Toyota Prius, which run on petrol and batteries.

*How green is my living, The Irish Times, 16.07.05*

'A spokesman added: "Placing a levy on cheaper, but less energy-efficient, incandescent bulbs will encourage people to switch to using more energy efficient options. This will result in savings for the consumer in the long run".'

*Bright Idea; Higher tax for lightbulbs as nation goes greener, The Mirror, 3.04.07*

'In the short term, it seems that any scrappage scheme introduced in December's Budget will only present incentives to those who scrap their old cars for new low-emission or electric vehicles. Perhaps this will finally be the impetus to push electric cars towards the mainstream Irish motorist.'

*Forum highlights electric uncertainty, The Irish Times, 9.09.09*

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More importantly, while 'Consumer Acceptance' promotes new energy products, press treatment of this topic is reductive and banal as it refrains from discussion of either the socio-political or cultural dimensions of energy use. This is significant because research on the cultural dimensions of energy and resource use indicates that rational choice theories of behaviour change, which underpin much public policy (and as this category also shows, press discussion), do not adequately account for the complexity of energy use in everyday life (Strengers 2014; Henwood et al. 2015). This school of thought argues instead that energy use involves more than pragmatic or functional considerations. Therefore, these researchers propose that the cultural and symbolic dimensions of engaging with energy use, such as issues of identity, attachment to place, energy biographies and practices as well as moral and emotional dimensions should also be taken into account when conceptualising behavioural engagement (Hargreaves 2011, Shove 2014, Strengers 2014, Henwood *et al.* 2015). These studies highlight fundamental energy use fallacies[56]. In particular, they argue that convenience is not a foundational value in public(s) energy consumption (Strengers 2013; Henwood et al. 2015). For example, Henwood et al.'s study of energy biographies found energy use

> also shapes our sense of identity and of what constitutes a 'worthwhile' life. People may develop strong emotional attachments to particular practices and these maybe inherently unsustainable (eg driving high performance cars) or more sustainable (eg permaculture) (2015 p 85).

Furthermore, this category fails to address the structural and infrastructural barriers that may preclude individuals from reducing the carbon intensity of their daily lives. Press treatment rarely tackles the social distribution and inequality issues associated with purchasing low carbon alternatives, such as the affordability of retrofitting of energy inefficient housing stock or that alternatives to driving are often not available or simply more expensive. Likewise, there is scant treatment of the unfairness of penalties such as those arising from carbon taxes

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[56] For example, studies question the premise that energy efficiency products always lead to reduced costs and/or consumption. While Strengers' (2013) analysis of smart energy technology and everyday practices found that rational self-interest is a reductive and insufficient conceptualisation of the challenges of changing energy consumption in the home.

associated with home heating and motoring, despite the lack of alternatives to high carbon infrastructure and intensive lifestyles.

The analysis indicates that this theme promotes passive rather than active repertoires of low carbon actions and/or behaviours focussed on energy change. Overall, individual citizens are mobilised to enact consumer change in line with the prevailing economic paradigm rather than by changing consumption patterns, which may interfere with the larger agenda of maintaining economic growth. This marginalises public discussion of the social dimensions of energy demand reduction that lie beyond a limited understanding of the citizen's role as individual users or consumers, and forecloses possibilities for more creative societal solutions. It also represents a major challenge to long-term environmental sustainability as, paraphrasing Shove and Walker (2014), promoting citizen engagement with energy efficiency absent of wider public discussion about what energy is for, and thus how or why society might change current energy use, is anything but neutral.

> It is important to recognise that policies that are designed to deliver similar services but with less energy are anything but neutral – they play an important part in *reproducing* the status quo and in sustaining and legitimising contemporary material arrangements and practices. (*ibid*, p53)

The dominant theme also presents energy change as a resource base that is 'managed' or 'organised' by 'political', 'economic' or 'technological' means and therefore promotes a top-down (authoritarian) perspective on energy change. This indicates that press treatment privileges elite visions of LCT, which obscures the possibility for new or alternative understandings and expectations about consumption in everyday life. Likewise, prioritising individual behaviour change decreases the potential for considering LCT as a social issue. As Brown et al. (2001) argue, 'If the media focus blame and responsibility on the individual, it is likely that the problem will not be considered a social problem that merits public or government attention' (*ibid.* p752).

In general, *Private Sphere Practices* silences the wider socio-political and cultural dimensions of LCT by omitting discussion of either the challenge of high carbon lock-in or any references to the barriers to citizen engagement. This is significant for two reasons, firstly the focus on different degrees of consumer engagement and changing individual behaviour avoids discussion of the basic premise that high energy use is unproblematic or that is it desirable (Butler et al. 2014). Secondly, it obscures reference to fundamental transformations in the ordinary routines or activities of daily life, thereby marginalising political efficacy and addressing barriers in the form of prevailing cultural values or social norms (Ockwell et al.

2010), which are important elements of broader behavioural engagement with LCT.  As a result, this theme promotes the maintenance of existing lifestyles and expectations about reducing the carbon intensity of everyday life and therefore prioritises 'continuity over change'.

*Public Sphere Practices*

This theme presents a range of ideas about citizens' role in reducing carbon emissions involving both local community and wider collective forms of activity.  References raise awareness about reducing collective carbon emissions through information provision and education about eco-lifestyles as well as calls for citizen participation in dialogic events and various forms of political engagement. While this suggests that *Public Sphere Practices* potentially advances novel ideas about broader behavioural engagement and fosters citizen involvement in discussion or actions to promote social change this is only partially the case. Instead, the majority of actions advocated conform to Carvalho and Peterson's (2012) second mode of public engagement and simply enhance the role of citizens in policy-making processes through public participation arrangements. More precisely, citizens are called on to act in instrumental processes and press treatment predominantly advances elite driven calls for pre-scribed citizen forums and collective action (discussed below). While these initiatives go some way to addressing concerns about the necessity of political engagement given the scale of the transformation proposed, they are limited. Carvalho and Peterson argue

> The far-reaching transformations that are needed to respond to climate change and to move to a different model of energy production and use require involvement of citizens at the political level: decisions have to be made in a democratic way that is simultaneously inclusive and effective in the long term. (2012 unpaginated)

Thus, the conceptualisation of citizen action in invited spaces is not in line with the more creative or co-produced formats advocated in the literature on civic engagement with climate change (for example, Backstrand and Lovbrand 2012) or the agonistic pluralism advocated in Carvalho and Peterson's (2012) third mode of public engagement.  As a result, press treatment advances reductive ideas about collective/community actions in three significant ways. Firstly, while *Public Sphere Practices* recognises the need for fundamental change to daily patterns of life and that reducing high carbon lifestyles will involve societal change, for example, references highlight 'as society adjusts to new patterns of behaviour', 'underpinned by real commitment to radical change', these references are the exception. Overall, there is little sense of public actions as involving societal choices, or problems for societal decision-making beyond elite interests with balancing techno-managerial implications and pro-

environmental agenda. Therefore, this theme is primarily prescriptive, advancing (top-down) ideas for collective action.

Secondly, related to the previous point, this theme prioritises calls for invited spaces of collective engagement (Hoppner and Whitmarsh 2010). These establishment (top-down) organised events[57] are critiqued in the literature as instrumental approaches which reinforce existing power dynamics (Blue 2015). The focus on invited (over 'claimed' or 'self-organising') spaces of collective action is evident in several references to delivering collective citizen engagement. For example, references to 'Delivering a low carbon economy', 'Governments needed to be much more ambitious about delivering a low-carbon economy' and 'families all over the world needed'. The focus on 'delivering' suggests that citizens are passive receivers or recipients of establishment ideas about a low carbon future. Furthermore, this theme includes several references to high profile environmental organisation-led climate change marches and protests, which capture press interest by virtue of their status as eye-catching photo opportunities[58].

Thirdly, press treatment tends to promote negative over positive or constructive engagement activities. For example, references tend to reify collective action as resistance to government action (e.g.) windmill protests and/or frame citizens as threatened by change (e.g.) renewable energy infrastructure or as a means of tackling government (in)action (e.g.) climate change marches. Collective protest is also primarily framed as a 'problem' for government rather than an opportunity to raise legitimate questions about the challenges of LCT and stimulate public analysis of high carbon lock-in. Additionally, press treatment of citizen action tends to frame citizens as victims, who are 'fearful' or 'concerned' about the uncertainty of new technology, rather than empowered citizens involved in constructive collective action. For example, there was an absence of references to Transition Towns or community energy schemes[59], both of which highlight the benefits of local community action. While collective resistence is important, it is not the only expresssion of citizen or community action and researchers point out that there are many benefits to promoting positive and constructive forms of citizen action in press treatment (Gunster 2012; Hoppner and Whitmarsh 2010; discussed in section 7.2) Thus, because this theme is dominated by representations of

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[57] These spaces generally aimed to build bottom-up support for a green agenda
[58] It is noteworthy that these references resonate with the classification of journalistic reporting of climate change as 'spectacle' (Cottle 2009; cited in Horsbol 2013).
[59] This omission is addressed in press coverage post-2013. However, observational analysis suggests that constructive representations of citizen action are the exception whereas representations of citizen protests and a press discourse of spectacle dominate.

collective action as involving resistance (to technological innovation), protest (against government inaction) or frames citizens as victims and obscures positive forms of citizen actions and responses to LCT, it promotes a negative rationale for citizen action and is categorised within the macro-theme 'Threats'.

The only category in this theme, 'Community and Societal Action' (22%), represents a marginal conceptualisation about reducing high carbon lifestyles. Although the collective actions advanced link to environmental concerns (e.g.) highlighting negative environmental impacts and the need for action on climate change, they primarily promote calls for invited (top-down dialogic) initiatives, or collective resistance to renewable energy. The predominance of references to invited initiatives contributes to the view that this category advances partial forms of political engagement with LCT. For example, it includes few references to lobbying, voting or positive forms of collective engagement (there are notably few references to Transitions Town initiatives, community energy schemes, or other non-establishment alternatives to high carbon lifestyles). In addition, this category prioritises ideas about collective action in line with economic imperatives and the logic of efficiency. For example, several articles advance elite concerns with economic solutions 'we must come together to decide what we can do more of – what we can do more efficiently – in order to make real progress on our carbon emissions'. These references indicate how invited spaces of engagement may also close down pluralism and epistemic diversity in relation to ideas about citizens' role in reducing carbon emissions. Crucially, these top-down formats circumscribe public debate by 'marginalising perspectives and issue frames' (Blue 2015). This critique highlights the value of Carvalho and Peterson's (2012) third mode of public engagement in relation to broadening democratic debate. Therefore, by privileging invited forms of engagement and elite interests in promoting collective action within an economic paradigm, press treatment of 'Community and Social Actions' also disenfranchises 'legitimate dissent on the grounds that alternative perspectives are not perceived as sufficiently reasonable or rationale' (Blue 2015, discussed in Chapter 8). In particular, few references advocate citizen actions or behaviour changes that challenge existing (unsustainable) social norms around energy consumption or consumer trends or question our high carbon lifestyles. This omission is problematic because, as Blue points out

> While proposed solutions demand that people undergo change in lifestyle, behaviour and expectations, this is only to be accomplished within the existing system of economic and political relations in which technological and market-based solutions reign large. The problems of climate change are not perceived to be the result of existing political and economic systems as such but of excessive behaviours within those systems. (2015 p10)

Thus, the dominant depiction of collective mobilisation advances ideas about instrumental participation in invited spaces in which citizens are called on to support (pre-determined) policy changes and/or to protest against the failings of governments (national and international) to enact climate governance policy. However, it is arguable whether *Public Sphere Practices* promotes 'continuity over change'. On the one hand, this theme advances potentially innovative ideas about collective and public sphere actions linked to environmental concern, and is unique in terms of normalising collective and community ideas about low carbon practices. On the other hand, it downplays the wider discussion of public sphere engagement and circumscribes socio-political empowerment, which scholars argue is an important dimension of behavioural engagement with LCT (Ockwell et al. 2010; see section 7.2). Therefore, because it promotes establishment views and rationales for collective action and thus only offers a limited challenge to the existing regime, press treatment of *Public Sphere Practices* is also categorised as promoting 'continuity over change'.

**Table 7.3: Samples text for Community and Societal Action**

| |
|---|
| ***Characteristic/Typical Statements***: |
| "Unless we can convince people that this is compatible with jobs growth, it won't be politically practical. It cannot be done on the basis of austerity policies. People will not vote for that." |
| *Bright spark leading the way, Irish Independent, 13.03.08* |
| 'With the scientific evidence hardening all the time, governments needed to be much more ambitious about delivering a low-carbon economy. An extra push is needed, with families all over the world putting this message to political leaders.' |
| *Call to lobby politicians over climate change, The Irish Times, 21.09.09* |
| '"It is time for Government, the public, local government, business, industry, farmers, the energy sector, the forestry sector and others to come together to decide what we can do more of - what we can do more efficiently - in order to make real progress on our carbon emissions".' |
| *Climate policy report welcomed, The Irish Times, 2.10.12* |
| 'It is designed as a participation platform where individuals, businesses and local groups will be able to upload, promote and discuss low-carbon solutions.' |
| *EU's new campaign asserts climate action saves money, The Irish Times, 9.10.12* |
| ***Exceptions/Atypical Statements:*** |
| 'Residents of Stonehall area have been lobbying councillors in recent days to vote against the rezoning. According to a spokeswoman for the Concerned Residents of Stonehall and Environs, residents are fearful for the future of their school that is fast increasing in numbers, and the added pressure the roads infrastructure will have to bear if this project goes ahead. Also noise levels will be a huge cause of concern, and the uncertainty concerning the possible health implications from the plant itself.' |
| *Council to decide on power plant rezoning, The Irish Times, 16.04.12* |
| 'There were very few facts and figures about melting Arctic ice, freak flooding, hurricanes and extreme heatwaves at this week's Dublin Climate Gathering. Instead a group of about 80 people - academics, technology experts, politicians, entrepreneurs, students, business leaders, artists, homemakers and environmental campaigners - mapped out their vision for a low-carbon society.' |
| *Dublin Climate Gathering dropped global-warming scare tactics in favour of a new green narrative, The Irish Times, 22.06.13* |

> 'Yes, policy will not work unless it engages the interest and ingenuity of public agencies, firms, local authorities, researchers, civil society organisations, communities and families in exploring new possibilities and learning from their innovations.'
>
> *Ireland needs to be ambitious on climate change, The Irish Times, 1.03.13*

Overview of Irish Print Media and Ideas about Low Carbon Action

The analysis shows that Irish print media promote limited repertoires for citizen action. It reveals that media treatment rarely highlights the social dimensions of energy transition, such as involving future social upheaval, the barriers to high carbon lock-in or positive forms of collective action. Furthermore, it rarely links citizen action to discussion of tackling climate risks or environmental concern. It also highlighted that *Public Sphere Practices* does not foster broader ideas of behavioural engagement with social change. Therefore, it is argued that press treatment of low carbon practices silences the wider social reality of LCT as encompassing public choices about the trajectory of technological innovation and discussion of public action that challenges existing social and material arrangements.  This indicates that Irish media themes act as socio-cultural and political barriers to broader behavioural engagement with carbon reduction activity.
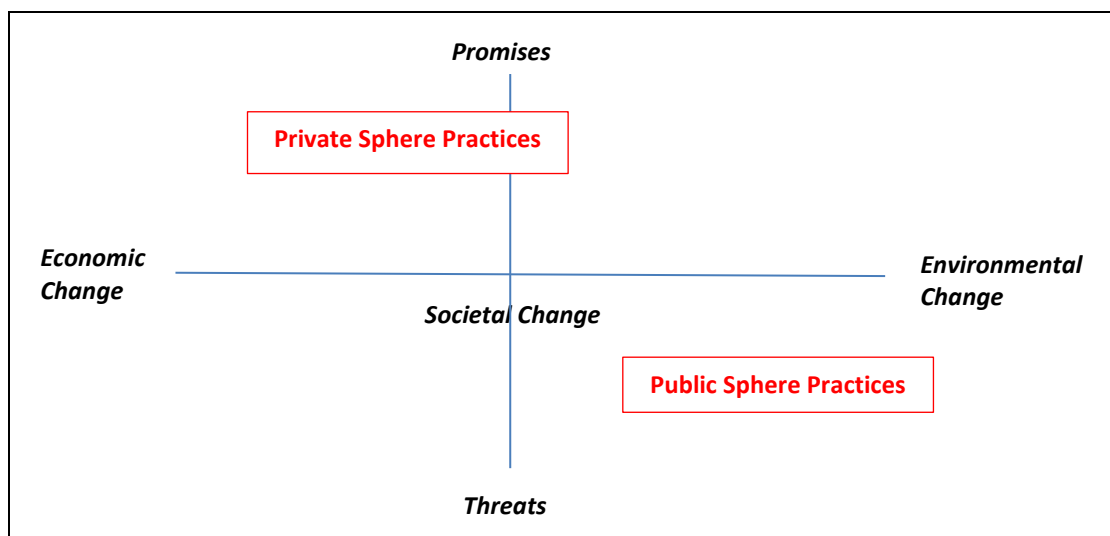


**Figure 6:  Irish Print Media Themes Normalising Ideas about Low Carbon Practices**

The next section reflects on the implications of trends about the fora for behavioural engagement with LCT focussing on how the prevalent theme (*Private Sphere Practices*) normalises ideas about citizen agency, responsibility and political efficacy. Thus, as discussed earlier, it examines an expanded conceptualisation of behavioural engagement drawing on ideas about carbon capability (Whitmarsh et al. 2011). This approach is adopted over conceptualisation of behaviour change as private sphere environmentalism, in line with the critique that the latter is

a tool for cultivating "green" attitudes and behaviours in individual citizens' which therefore leaves 'questions of democratic and collective action on the sidelines' (Latta, 2007; cited in Hoppner and Whitmarsh 2010, p49)

## 7.2 Implications for Behavioural Engagement with LCT

The most distinctive aspect of press treatment of low carbon practices is the overwhelming prevalence of references advocating *Private* (84%) over *Public Sphere Practices* (16%). While this finding is not unexpected,[60] it confirms that Irish press treatment also prioritises specific ideas about the fora for citizen mobilisation. In particular, this has implications for public discussion of citizens' behavioural engagement with LCT as, by privileging *Private Sphere Practices* and promoting consumer engagement, Irish press treatment prioritises the deployment of ideas advancing individualism and consumerism as the cornerstone of citizens' carbon reduction activity. However, doing so also closes down opportunities for public discussion highlighting citizens' political efficacy and collective responsibility.  The analysis also showed that *Public Sphere Practices* privileges invited rather than claimed spaces of engagement, which indicates that press treatment limits the distribution and circulation of ideas promoting citizen agency. The following discussion therefore elaborates on three significant concerns about the privileging of ideas about the fora for citizen action. In other words, it assesses the implications of press prioritisation of private sphere actions and invited spaces for public sphere action on citizens' behavioural engagement with LCT.

Firstly, the focus on individualism and consumerism stands in contrast to the behavioural engagement literature, which argues for a more wide-ranging understanding of citizens' role in reducing carbon consumptive patterns (Hoppner and Whitmarsh 2010; Ockwell *et al.* 2010; Whitmarsh *et al.* 2011).  According to this view, prioritising private sphere engagement is insufficient as citizen involvement is bound-up in questions involving politics and ethics, in addition to regulating and/or performing actions to, ostensibly, reduce carbon emissions. It is also at odds with the view that single approaches to behavioural engagement fail to address the range of drivers and barriers to citizen mobilisation (Whitmarsh *et al.* 2010). Thus, by marginalising representation of public sphere engagement, press treatment obscures the socio-political dimensions  of transition which stands in contrast to scholarship which argues that the failure to highlight political efficacy feeds into political disengagement and amplifies

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[60] For example, Hoppner (2009) identified the dominance of private sphere engagement in UK policy documents.

the sense that citizens' actions lack efficacy (*ibid*; Carvalho 2010; Carvalho and Peterson 2012). This is relevant because, as Hoppner and Whitmarsh argue,

> ... people's perceived efficacy and motivations to engage can be influenced by their perception of how other people behave and with what effects' (2010 p61).

This suggests that press normalisation of particular fora for public engagement may also have implications for citizens' perceptions of self- and political-efficacy. Significantly, this perspective resonates with researchers who argue that press treatment could present a greater display of wide-ranging citizen engagement actually taking place as it can have positive effects in terms of establishing social norms and demand for a broader set of citizen engagements, especially political engagement (Carvalho 2010a, Hoppner and Whitmarsh 2010, Gunster 2012). Significantly, Gunster's research (*ibid.*) indicates that alternate news media reports of local projects and views on changing carbon intensity of everyday life have an important influence on collective action.

A related school of thought highlights that focussing on individuals is ethically contentious as it assumes that everyone is equally responsible and equally culpable, (Agyemon et al. 2007; cited in Fleming et al. 2014 p414). These scholars point out that individualism obscures public discussion of social inequality, and that 'citizens are led to feel personally responsible for resolving socially created problems' (*ibid.*)*.* Furthermore, Scerri argues individualism marginalises political engagement and the articulation of collective responsibility because 'in place of agency in a regulating body politic, individual citizens are called upon to take initiatives and shoulder responsibilities themselves.' (2009 p477). Critics also maintain that individualism compromises ethical commitments to the ecosphere by obscuring the unsustainability of much social activity and that individualism  may also contribute to public acceptance of an 'ethics lite' in which citizens simply exercise self-interest as green consumers. According to Fleming et al. (2014) this is problematic as it positions people as 'ubiquitous consumers' and normalises values that are at odds with tackling climate change over the long-term. This is significant because, as Kurz et al. (2010) point out

> In many ways, consumerism is the very thing that is at stake in the politics of climate change, and that it is precisely this that makes the notion of drastic reductions in carbon emissions such a rhetorically fraught issue for both sides of politics in many nations around the globe. (p625)

Thus, by focussing on private sphere engagement as the mainstay of citizen behaviour change to reduce carbon emissions, press treatment marginalises societal discussion about the

impact of global capitalism. Instead, it emphasises behaviour change in line with green consumerism in which citizens

> are called upon to pro-actively participate in personal use commodity as a way of engaging in 'democracy through the wallet' (Rayner *et al*. 2002 cited in Scerri 2009 p477).

However, scholarship drawing on social motivation theory challenges negative conceptualisations of consumerism limited to individual self-interest. This line of thinking suggests an alternate, optimistic reading of private sphere engagement in press treatment. As discussed, Klintman and Bostrom (2015) argue that empowered citizen-consumers can also contribute to social change through activities such as boycotting climate-burdening goods and buycotting climate-friendly products and studies suggest that consumer-citizens have political power (Stolle and Micheletti 2013; *ibid.* p311). These studies highlight that 'people believe they have a stronger power to make positive societal change as consumers than by using traditional means such as voting' by exercising conscious consumption choices (*ibid.*) Thus private sphere engagement can also include forms of political and ethical consumerism. Crucially however, these positive dimensions of consumer engagement are contingent on individuals acting as groups (for instance as part of social movement consumer campaigns) and on the quality of information provision associated with consumer engagement. Therefore, because Irish press treatment of citizen-consumer action does not support either of these criteria, a positive reading of private sphere engagement cannot be applied to Irish press treatment.

A second critique of private sphere engagement highlights that it amplifies the dominant economic model. This line of thought argues that privileging ideas about private sphere engagement feeds into the neoliberal agenda because it positions citizens as individual, rationally calculating actors and puts less emphasis on collaborative endeavours (see Chapter 9)*. This is problematic, according to Strengers (2014), because conceptualising behaviour change as driven by rational self-interest hides as much as it reveals and 'potentially hinders progress towards a low carbon energy future'. Therefore the focus on private sphere engagement silences important collective aspects of building successful transition pathways such as the societal relevance of fashion and fads (Urry 2011), social routine and habit (Strengers 2014), and discussion of how people become locked-into social practices (Shove and Walker 2010; Butler et al. 2014).

Thirdly, and most significantly, prioritising ideas about citizen actions as private sphere engagement runs orthogonal to the conceptualisation of LCT as system innovation, which highlights the significance of the social (Geels 2002). Geels argues 'system innovations are not only about changes in technical products, but also about policy, user practices, infrastructure, industry structures and symbolic meaning' (p1257). In other words, prioritising private sphere engagement only partially fulfils requirements of citizen mobilisation with LCT as this process involves public discussion about changing social and physical systems as well as changing individual actions or behaviour. As Urry points out 'innovations therefore presuppose a societal as well as a business model for their successful emergence' (2011 p131).

This discussion shows that press themes circumscribe behavioural engagement by privileging of ideas about the fora for citizen action. In particular, the focus on private sphere and invited spaces of engagement circumscribes awareness and discussion of the collective nature of the problem, which limits ideas about community involvement in developing (or co-producing) transition pathways. These are particularly important insights in the context of the emerging literature on behavioural engagement with LCT, which advocates an expanded role for citizens including defining climate change responses and shaping social change. Thus, this analysis shows that Irish print media themes may also act as barriers to potential behavioural engagement. To address this deficit, scholars suggest press treatment should present positive examples of community action, for example by promoting citizen actions that facilitate self-efficacy, democracy, community cohesion and social inclusion[61]. Thus, in line with the emerging literature on public engagement, this analysis argues Irish press treatment should also promote

> ... examples of what people are doing and the benefits of community engagement
> rather than primarily emphasising where groups oppose actions or public apathy and
> incapacities (Hoppner and Whitmarsh 2010 p61)

## 7.3 How Irish Print Media Normalise ideas about Low Carbon Practices

Mindful of the contribution of both individual and community mobilisation to achieve carbon reduction targets and build successful transition pathways, this chapter shed light on whether and in what ways print media themes normalise ideas about citizens' carbon reduction activities including changing existing social arrangements and norms about everyday

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[61] This dataset included just one article highlighting local collective action as a positive force for change ('Green fire station sends carbon footprint up in smoke' Sunday Tribune, 4.7.10) and only two or three articles dedicated to personal accounts of 'eco-living' and reports on citizen protests.

lifestyles. To do so, it investigated press representations of i) *the types* of citizen activity or low carbon practices to reduce the carbon intensity of daily life, and ii) *the fora* for citizen mobilisation and implications for behavioural engagement with LCT.   The analysis showed that the prevalent theme promoted individual consumer engagement in line with maintaining existing lifestyles and thus that press treatment prioritised private sphere engagement.

Analysing trends across both *Private* and *Public Sphere Practices* shows that press treatment advances a narrow range of actions to reduce the carbon intensity of everyday life and that both themes limit ideas about collective forms of action and the political dimensions of citizen engagement with tackling high carbon lock-in. This trend was particularly noticeable around discussion of energy transition (a key focus of Irish press coverage) and runs contrary to calls for more creative approaches to citizen engagement as well as calls to include a range of voices on LCT. Furthermore, the public roles and low carbon behaviours advanced prioritised 'small changes' which is at odds with the reported scale of the challenge and the urgency of tackling climate change by reducing emissions. In other words, Irish print media treatment, consistent with public information campaigns, primarily advanced ideas about 'small' and 'convenient' individual lifestyle changes. Significantly, however, research indicates there is public scepticism about how 'small changes' will be effective in combatting 'catastrophic' climate change (Scerri and Magee 2012). Additionally, analysis of *Public Sphere Practices* showed that press treatment promotes negative rather than constructive forms of community action, marginalises references to either the systems of provision and governance and the social or cultural barriers to citizen engagement - all of which circumscribe broader conceptualisations of behavioural engagement. Thus, Irish print media themes about behaviour change limit the deployment of ideas about citizen low carbon practices to discussion of personal responsibility in line with top-down governance. Therefore, overall, this chapter argues that the power of community action is largely written out of Irish print media discussion of citizen actions to reduce carbon intensive lifestyles.

A key finding of this analysis is that press treatment of low carbon practices does not provide the resources to help citizens tackle the value action gap, thereby reducing the disparity between knowledge and behaviour or action. More specifically, Irish print media themes insufficiently increased the visibility of carbon by re-materialising energy use in day-to-day activities and failed to present a range of views about the choices for leading a low carbon life. They also fail to challenge the limits of individualism or offer any critique of consumerism. As a result, it may also be argued that press treatment fails to challenge the

social organisation of denial (Norgaard 2011). Most significantly, by focussing on narrow, limited accounts of consumer engagement press treatment may contribute to new forms of climate scepticism. As Capstick and Pidgeon (2014) point out, promoting individualism powered by consumerism over collectivism and political action amplifies doubts about the efficacy of personal responses, which contributes to response scepticism (see Chapter 9).

The chapter highlights a number of avenues for further research and limitations of this study (both discussed in Chapter 9). However, three limitations are worth noting here. Firstly, as discussed in Chapter 6, it is important to update analysis of press themes post-2013 and examine how press treatment of low carbon practices post-2013 impacts on these findings. Observational assessment indicates that there is i) increasing press coverage of 'resistance' stories, especially public protests over windfarms, ii) increasing interest in agriculture-related work practices and iii) decreased discussion of (green agenda) eco-living. Secondly, analysis of the factors influencing deployment of Irish press themes about low carbon practices such as how Irish news organisations' production and content processes shape press treatment represents an important area of future research. As Brown et al. (2001) note

> 'it is easier from a journalism point of view to suggest personal strategies than to suggest that people should protest and organise because personal strategies do not antagonise and neither do they take journalists outside the bounds of supposedly value-free journalism.'

In other words, it is important to remember that the focus on personal actions also conforms to journalism norms and to investigate the rationale for, and factors driving, these norms. Thirdly, what are the effects of dominant Irish press themes on whether or how citizens' engage with LCT in their daily lives. While the findings suggest that press representations potentially reinforce passive roles for citizen engagement (by privileging ideas about maintaining consumption) and are in line with recent Irish news media reception studies (Fox 2014[62]), the implications discussed in this chapter are speculative. Consequently, it draws attention to the need to assess public views about citizen engagement and/or mobilisation with carbon reduction activities in their daily lives.

Finally, there is much more to be said about the implications of Irish press themes about low carbon actions. In particular, the analysis focussed on behavioural engagement and social practices and only briefly referenced social motivations in the discussion of citizen-consumers. Therefore, future research could explore these approaches (and others) in more

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[62] Fox (2014) found Irish press representation, 'reduces public involvement to the role of consumers who can save money from better energy efficiency'.

detail. In other words, there is scope for future analysis to employ a range of frameworks for understanding and explaining social action in print media analyses of climate change.

The following chapter investigates how press treatment shapes motivations to reduce carbon emissions in daily life or affective engagement with LCT. In other words, it examines press articulations about LCT in terms of  how they act as a discursive resource and mainstream ways of talking about low carbon transition rather than how they broaden public meanings or low carbon actions.

# 8

## Mainstreaming Carbon Repertoires and Affective Engagement

The final dimension of public engagement analysed in this thesis examines print media articulations about LCT and maps trends in the deployment of carbon repertoires. In other words, drawing on the understanding of affective engagement as 'an emotional response such as interest or concern' (Lorenzoni, Nicholson-Cole, *et al.* 2007), it investigates the potential emotional responses triggered by the deployment of carbon repertoires and thus how press treatment 'connects' public(s) with LCT. In particular, this chapter sheds light on the implications of press treatment by presenting novel insights on the different ways of talking about LCT that are made publically available and illuminating how this topic is discussed. To do so, the discussion assesses whether press treatment presents compelling and poignant ways of talking about LCT and thus contributes culturally relevant resources to foster wider public discussion. It also examines the prevalence of specific ways of talking about LCT that society has at its disposal thereby identifying possible silences in the deployment of carbon repertoires. As a result, the chapter contributes to understanding about how print media treatment mainstreams public concern and interest rather than public knowledge about LCT and the central research question posed in this chapter asks:

- *How do carbon repertoires deployed in Irish print media mainstream potential affective engagement with LCT?*

To address this question, the chapter draws on the Cultural Turn in climate change studies (Hulme 2013; Moser and Dilling 2007) in that it acknowledges the value of exploring wider facets of influence on public engagement. As Hulme (*ibid.*) argues this approach turns analytical attention on all aspects of human life in relation to climate change, rather than just or primarily economics, environment or physical sciences. Thus, in relation to public engagement, it also opens up the possibility for assessing emotional, aesthetic or spiritual engagement with ideas about LCT thereby moving beyond dominant approaches that focus on communicating rational arguments. Thus, this perspective recognises that public engagement and (dis)engagement are 'not simply the products of dissemination of calculative assessments, but involve emotional and affective relations as well' (Phillips and Dickie 2014 p85). This view is supported by increasing awareness among environmental risks scholarship, that while more accurate information about climate risks may be necessary, it 'is not sufficient to generate appropriate public concern … or to allay public fears' (Leiserowitz

2006 p47). This has led to greater interest in understanding the role of affect and emotions as important components of social judgements and decision-making about climate change (*ibid.*) as well as in public engagement with ecological issues (Moser 2007, Lertzman 2015). However, both affect and emotion are complex and overlapping concepts that incorporate a wide range of possible definitions. For example, Wetherell notes definitions of affect range from 'emotional states and subjective experiences' (e.g. feelings) to 'general modes of influence, involvement and change' to 'a psychological notion focussed on the "emotions" as these are generally understood' (2012 p2). Thus, while there are psycho, neuro, bio or social understandings of affect, this study employs a more general understanding or the concept. The aim here is to bring a 'psychosocial texture' (*ibid.*) to the analysis of press articulations and assess whether carbon repertoires trigger or motivate public interest and basic emotional concerns through language use, rather than assessing actual emotional experiences (discussed in 8.3).  Thus, as discussed (Chapter 4) analysis of affective engagement in this study of press constructions of LCT assesses how language use motivates both experiential and evaluative possibilities for engaging. Thus, it advances the purely knowledge-based discussion of cognitive engagement which informs awareness of the public meanings of LCT (Chapter 6) and enables more in-depth analysis and discussion of the possibilities for political engagement. As a result, affective engagement includes discussion of 'Conflict and Contestation' and 'Consensus' as well as 'Distancing' and 'Empowerment' themes (described in section 8.1).

The Cultural Turn also presents an alternate conceptualisation of the communications challenge addressed in engaging public(s) with LCT. In particular, it targets climate change fatigue, public apathy and the social organisation of denial around climate change (Norgaard 2011) rather than a lack of public knowledge or expertise as the communications challenge. Thus this school of thought prioritises the need to 'break the climate silence' by encouraging necessary conversations in everyday encounters between individuals and others and overcoming cultural barriers (Rowson and Corner 2015).  As a result, this chapter investigates how carbon repertoires convey messages that make LCT culturally relevant. To do so, it assesses the linguistic resources deployed in press articulations of LCT, focussing on how they make LCT appealing or poignant and thus motivate public(s) to become more emotionally, ethically or personally involved (or not) with LCT. Therefore, this chapter also asks

- How do press themes about motivating engagement perform as affective inputs?

- What are the main linguistic resources of the dominant carbon repertoires[63]?
- How do dominant carbon repertoires mainstream (potential) affective engagement with LCT?

The analysis in this chapter therefore focusses on how language use in different carbon repertoires fosters (or not) emotional and experiential concerns such as desirability, resilience, hope or fear as well as resistence and dissensus. It draws on a growing literature in media studies of climate change that examines the way that verbal communication (language use) and message framing evokes particular feelings or experiences and therefore motivates engagement or (dis)engagement with the topic of global environmental change. These studies draw on a social constructivist approach to language (Potter and Wetherell 1994) which argues that language is not neutral and that language use illuminates different ways of articulating reality (*ibid.*). In other words, the language we use has implications on whether, how and why we act.

> Social life is produced by its words and concepts provide people with new ways of experiencing themselves and their world, with new ways of being, knowing and most importantly, acting (or not acting). (Giddens 1993 p86)

Therefore, different ways of talking about LCT have implications for motivating public engagement because they trigger particular emotional or experiential concerns. The influence of language on climate change communication and the view that print media texts have power is well-recognised (Bushell et al. 2016; Fløttum et al. 2014; Hellsten et al. 2014; Nerlich et al. 2010; Pettenger 2007). In particular, this literature has shown that news texts have the power to arouse emotional currency and foster affective (dis)engagement (Smith and Leiserowitz 2014; Spence and Pidgeon 2010; Whitmarsh 2009). These studies also show that many of the dominant linguistic norms, tropes and descriptive evaluations associated with climate change may be slowing down our ability and motivations to galvanise action. Thus by evaluating the deployment of carbon repertoires in press treatment of LCT, this study goes beyond simply describing the linguistic features, it also illuminates whether they foster public (dis)engagement by drawing on the literature about how verbal communication motivates public(s) concerns and evaluations of this challenge. As a comprehensive overview of this literature is beyond the scope of this chapter, the following discussion outlines the key debates, which frame the assessment of how carbon repertoires perform as affective inputs (section 8.3).

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[63] Dominant repertoires were those that are most prevalent and currently deployed in Irish press treatment of LCT

In general, the literature on verbal communications about climate change is dominated by psychology and risk perception studies to increase salience of climate risks (Meijnders *et al.* 2001, Spence *et al.* 2012, Smith and Leiserowitz 2014, McDonald *et al.* 2015, Jones *et al.* 2016). Overall, these studies prioritise instrumental approaches to public engagement aimed at building support for climate governance and/or fostering behaviour change. Alternatively, the emerging literature on public engagement emphasises communication strategies that motivate personal and collective responses to carbon reduction activity (Rowson and Corner 2015; Upton 2015; Hall 2014; Moser 2009; Moser and Dilling 2007; Lorenzoni and Pidgeon 2006; Moser and Dilling 2004). These studies move beyond notions of engagement as motivating individual behaviour change or social acceptance of policy, and seek instead to foster public concern as well as collective and self-efficacy by connecting public(s) with local actions. In other words, these literatures differ in how they conceptualise the communication challenge and the goal of public engagement. Thus there is great variation between the different schools of thought especially with respect to insights on two central aspects of climate change communication, namely whether i) fear appeals and ii) psychological distance or closeness motivates engagement (discussed further in 8.3). It is worth noting here however, that psychological analyses of fear appeals appear to both confirm and counter their value as part of risk communication strategies to promote behaviour change and policy support (Smith and Leiserowitz 2014). Likewise, risk perception studies both support and question the efficacy of psychological distance (McDonald *et al.* 2015).

Overall, critical assessments of fear appeals highlight that they do not sufficiently recognise the cultural context or barriers to engagement such as rising public apathy about climate change and 'apocalypse fatigue' or 'stealth denial' (Nordhaus and Shellenberger 2009, Rowson and Corner 2015). Moreover, while advocates maintain that fear appeals motivate engagement with climate governance by raising awareness of climate risks (Meijnders et al. 2001; Smith and Leiserowitz 2014) this does not equate to engaging public(s) with LCT. For example, it is questionable whether fear appeals foster engagement with choices about decarbonisation as they do not contribute to the construction of how society can (or should) act in local contexts. In addition, this study finds Devine-Wright's (2013) critical review of the literature on psychological distance compelling. Significantly, Devine Wright argues that the framing or definitions of 'local' and 'distant' are ambiguous in these studies, thus raising doubts about their conclusions. Finally, a major question unaddressed by much environmental psychology research pertains to the longevity of their findings (Jones *et al.* 2016). In particular, it is unclear whether the reported outcomes are retained over the long-

or even medium- to short-term. As a result, this chapter follows scholarship highlighting the social and cultural influences on environmental risk perceptions in relation to building affective engagement (Leiserowitz 2006, Lorenzoni, Nicholson-Cole, *et al.* 2007, Spence and Pidgeon 2009, 2010b, Weber 2010). The key ideas in these studies are also advocated in van der Linden et al.'s (2015) insights for improving best practice in public engagement with climate change. Thus, they provide a useful summary of the perspective taken in the interpretation of carbon repertoires deployed by Irish print media.

> … instead of a future, distant, global, nonpersonal and analytical risk that is often framed as an overt loss for society, we argue policymakers should a) emphasize climate change as a present, local and personal risk; b) facilitate more affective and experiential engagement; c) leverage relevant social group norms; d) frame policy solutions in terms of what can be gained from immediate action; e) appeal to intrinsically valued long-term environmental goals and outcomes. (*ibid.* p758)

van der Linden et al.'s (*ibid*) insights are also consistent with Moser's (2009) analysis of the politics of public engagement with climate change which cautions against a one-size fits all approach, and emphasises the need for

> … careful attention to the emotional impact of climate change communications, sending messages that prevent evoking fear or overwhelm and instead convey empowerment, positive visions and practical, enabling help (*ibid*. p 170)

Adopting this perspective does not imply that behavioural approaches or communication about climate science and policy support is unnecessary for public engagement. Instead, it underlines the view that the focus on behaviour and governance address narrowly focused agendas that are not consistent with the conceptualisation of public engagement with LCT as involving a wide project of social transformation. In other words, as discussed in Chapter 1, which draws on O'Brien and Selboe (2015), LCT is understood as a complex adaptive challenge involving social, political, cultural and human processes, rather than a simple technical problem.

With these issues in mind, this chapter examines how press articulations bring climate change home by assessing how dominant carbon repertoires perform as affective inputs and therefore whether they are motivating in ways that are meaningful to the population at large. The analysis shows that how press articulations make LCT linguistically appealing (or not) has implications for (potential) affective engagement with transition and can also shed light on the cultural barriers to public engagement. Specifically, it sheds light on whether press articulations of LCT challenge 'apocalypse fatigue', public apathy and/or public doubts about our collective ability to tackle climate change. In doing so, this chapter contributes to

knowledge of media(ted) public engagement with LCT by putting an analysis of carbon repertoires into conversation with latest thinking about motivating public engagement with climate change. It also extends print media studies research on language use and sense-making about climate change (Hellsten et al. 2014; Smith and Joffe 2013; Nerlich 2012; Hulme 2009; Carvalho and Pereira 2008; Ereaut and Segnit 2007; 2006) by targeting analytical interest specifically on press discussion about reducing carbon emissions.  Thus, the findings go beyond i) media-centric analyses of implications of press coverage and concern with salience and bias, and  ii) deficit models of engagement to offer insights on how deployment of carbon repertoires in  press treatment of LCT connects with public(s).

Presentation of Findings

Given the large number of repertoires identified in Irish press articulations about LCT, the data discussed in this chapter represent a necessarily selective overview of the deployment of carbon repertoires in Irish press. Consequently, the discussion of how Irish print media articulations mainstreams affective engagement is organised into two main sections  i) an overview of the themes about motivating public engagement and ii) an in-depth evaluation of the dominant carbon repertoires and the implications for affective engagement.

The first section classifies the four themes in terms of the discourses underwriting the carbon repertoires in each theme (see Figure 7 below[64]). It outlines the main features and variability in Irish press articulations about LCT by highlighting how the storylines and tone perform as affective inputs for engaging public(s) with LCT. This is followed by an analysis of the trends in the deployment of carbon repertoires to shed light on the prevalence and marginalisation of press articulations about LCT (see Table 8.1). The dominant repertoires in each theme are then evaluated in terms of their linguistic resources (see Figure 8). The second section then assesses the implications of the dominant carbon repertoires on (potential) affective engagement with LCT.  Sample texts highlighting discussion points are presented in Tables 8.2 – 8.5 and additional samples of all carbon repertoires are provided in Appendix 2.3.

## 8.1 Overview of Print Media Themes about Motivating Citizen Engagement

The TA generated 20 categories (carbon repertoires) indicating different ways of talking about LCT made available in Irish press (see Chapter 4). These repertoires were identified

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[64] See Appendix 1.9 for development of carbon repertoires.

during the coding process as lending poignancy or immediacy to LCT through their linguistic features. They were then grouped into themes corresponding to key ideas in the literature on motivating public engagement with global environmental change. This process produced four themes about how carbon repertoires motivate public engagement with LCT: *Consensus*, *Controversy and Contestation*, *Distancing* and *Empowerment*.[65]

Carbon repertoires in the *Consensus* theme present the 'commonsense position' on LCT. These repertoires are associated with a strategic communications approach to public engagement or consensus messaging (Pearce *et al.* 2015) and the formulation or framing of 'optimum ways of wording messages so that the public will absorb them' (*ibid.* p614). In other words, repertoires in this theme promote verbal resources that foster social acceptance of prescribed outcomes, which runs counter to conceptualisation of engagement as involving 'critical' or 'inclusive' dialogue (*ibid.*). Morevoer, scholars argue that the notion of consensus is problematic in environmental debates because it constrains power relations by favouring agreement over argument (Peterson *et al.* 2006, Blue 2015). In particular, critics of consensus approaches in this domain claim it is at odds with the essence of sustainability because 'evolution to sustainability … requires variation … and in democracy, variation derives from dissent.' (Peterson *et al.* 2006 p578).

Consequently, the opposite approach to motivating public engagement, *Contestation and Controversy* is viewed positively in the context of broader public engagement because it fosters the potential of democratic dissent. Thus it contributes to a discursive space that facilitates the political form of engagement advocated by Carvalho and Peterson (2012). This approach argues that alternate perspectives and discursive contests are an important element of democratic public engagement (Blue 2015). Thus, this theme includes ways of talking that challenge the status quo and 'entrenched assumptions, interests, power-structures and imaginations' (Pearce et al. 2015 p619). In doing so, repertoires in this theme act as a constructive form of dissensus by encouraging broader societal engagement through more creative and transformational conversations. In other words, it represents the possibility of stimulating ways of talking that are part of social processes for creating change.

The *Empowerment* theme presents the most recent thinking about motivating engagement with global environmental change. Repertoires in this theme offer linguistic resources that inspire citizen action through optimistic and constructive ways of talking. Thus, in line with

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[65] As discussed in Chapter 4, themes are based on the researcher's familiarity with the literature.

cultural scholarship about public engagement, they embody or promote different ways of expressing positive and realistic ideas for reducing emissions, generally focusing on citizen actions either in communities, as individuals or in local/regional contexts (Corner et al. 2016; Corner and Rowson 2015; Hall 2014).

Lastly, the linguistic devices in the *Distancing* theme characteristically, employ fear appeals, promote psychological distancing or advance simplistic modes of action. These resources are critiqued within cultural scholarship (Corner and Rowson 2015; Hall 2014; O'Neill and Nicholson-Cole 2009; Ereaut and Segnit 2007; 2006; Moser and Dilling 2007) and psychology research (van der Linden et al. 2015; Smith and Leiserowitz 2014; Spence and Pidgeon 2010; 2009). These studies highlight that threatening scenarios, tempo-spatial distance and unrealistic solutions act as negative affective inputs because they  fail to connect with citizens or undermine citizen agency. Therefore this theme is primarily associated with fostering (dis)engagement.

Irish Print Media Discourse about LCT

Drawing on Dryzek's (1997) conceptualisation of discourse as coherent stories and the trends in deployment of carbon repertoires (see Table 8.1), the analysis of discourses underwriting the dominant repertoires indicates that Irish press present three main storylines about LCT as involving Economic Benefits, No Alternative/Choice or Bleak Future[66]. Thus negative

| **Distancing** | **Consensus** |
|---|---|
| *Carbon Catastrophism\** <br> *Green Governance\** <br> Techno-Optimism <br> Carbon Enlightenment (*Weak*) | Carbon Fetishism (*Positive*) <br> Carbon Utilitarianism (Leadership) <br> *Carbon Utilitarianism (Optimistic)\** |
| Carbon Enlightenment (*Strong*) <br> *Green Consciousness\** <br> Carbon Justice (*Cosmopolitanism*) | *Carbon Scepticism\** <br> Techno-Scepticism <br> Carbon Fetishism (*Negative*) <br> Carbon Utilitarianism (*Critical*) <br> Carbon Justice (*Communitarianism*) |
| **Empowerment** | **Controversy & Contestation** |

(\*) = dominant discourse in each theme

**Figure 7: Discourses Under-writing Irish Print Media Articulations about LCT**

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[66] Repertoires in the *Empowerment* theme are marginal in Irish print media.

storylines about LCT are a notable feature of Irish press. In line with this view, there are few references to 'magic solutions' in Irish press treatment of LCT, which is also notably absent of a techno-fix discourse and is also generally silent about the reality of achieving LCT.

Overall, they present dramatic storylines of catastrophic (climate and economic) impacts. Crucially, press storylines rarely present citizens as actors other than as 'vulnerable victims' of unfair environmental regulations (as found in the communitarian form of Carbon Justice). Likewise, citizens are more often constructed as passive agents in dramatic storylines predicting catastrophic (climate and economic) impacts, rather than as active agents of change in more optimistic visions of possible post-carbon futures. There is also an absence of relatable faces (and visual representations of LCT in general[67]), as well as community voices and personal stories of achieving LCT. Indeed, press storylines predominantly reference 'national interests' over regional, community or individual interests even though the latter are the sites where the everyday changes will take place and be felt the most. As a result, press treatment champions vague promises or threats about economic and environmental impacts rather than stories about tangible actions involving local communities and is therefore dominated by aspirational rather than inspirational storylines. Futhermore, these storylines do not help make LCT a social fact and thus facilitate the 'necessary conversations' which Corner and Rowson (2015) maintain are necessary to motivate broader public engagement by making the issue more socially relevant.

Significantly, Irish press discourse includes a range of challenges to LCT which suggests that the *Contestation and Controversy* theme may encourage dialogue and act as a motivation for political engagement by presenting a variety of voices on LCT. However, the main challenge to LCT centres on opposition to the perceived environmental authoritarianism of Green Governance and obligations to 'onerous' or stringent targets for reducing CO2 (discussed below). In other words, the dominant discourses in this theme support the prioritisation of economic growth and meeting Food Harvest 2020 targets and do not contest discourses in the *Consensus* theme.

This brief introduction to the implications of Irish press articulations about LCT sheds light on the how LCT has been 'built into society' (Mullally and Byrne 2016) through the routinisation

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[67] The analysis highlighted there is currently a limited range of images about LCT. In particular, the focus on LCT as a business news story is evident as visual representations are primarily of solar panels/technology as well as generic images of cattle and scorched lands.

of press storylines. It begins to establish the dominant, publically-available paradigms for interpreting and talking about LCT in a local context and in doing so, provides a background map of the public life of LCT in Ireland. It also helps illuminate the discourses that may need to be challenged or even contested (*ibid*.). Overall, it shows that the deployment of carbon repertoires are highly influenced by, and sensitive to, the changing social context. For example, the *Consensus* theme repertoires reflect increased business and politial articulation of economic arguments for LCT following the financial crash. This is noteworthy as it highlights the impact of external events and dominant actors on the 'palette of sense-making devices' (Ereaut and Segnit 2006) deployed by the press and thus the influence that voices of authority have on mainstreaming particular motivations for public (dis)engagement with LCT. The next section offers more detailed insight on how the linguistic resources in each theme work collectively to tell the story of LCT, focussing on whether they present socially relevant, compelling storylines and how they connect this issue with everyday concerns. A map outlining each theme including carbon repertoires and typical statements is presented in Figure 8 (below).

Mapping Irish Print Media Themes about Motivating Citizen Engagement

*Distancing* Theme

Discourses in this theme employ some of the most dramatic and sensational storylines about LCT and are closely associated with environmental organisations and journalists. The most prevalent discourse, Carbon Catastrophism presents stories about a 'Bleak Future', while its counterpoint, a weak variant of Carbon Enlightenment, presents more light-hearted storylines about 'small changes' and is associated with 'bright-siding' – a social marketing technique which has received criticism for down-playing the severity of the climate challenge (Spratt 2012). Critics also argue that the 'simple solutions' message contradicts the scale of the threat portrayed in Carbon Catastrophism and thus may foster cynicism and doubts about climate change (Ereaut and Segnit 2006). Another prevalent discourse in this theme, Green Governance focusses on global events, especially international climate governance as well as EU policy frameworks. In doing so, it associates discussion of LCT with distant events involving elites and bureaucratic concerns. They also focus on the 'national' or 'public' duty to meet international obligations as well as highlighting the threat of legal and financial punishment for failure to achieve the necessary targets. The final discourse, Techno-optimism features stories about the business potential of techno-innovation, especially around green energy development and the Supergrid. In other words, it is primarily discussed as part of the

| Distancing | Consensus |
|---|---|
| - **Dire Warnings**<br>*"Climate change will ravage our planet, our prosperity and security"*<br><br>- **Obligation**<br>*"Ireland is legally obliged to keep greenhouse gas emissions to just over 63 million tonnes per annum"*<br><br>- **The Appliance of Science**<br>*"Electric power will be measurable, traceable and auditable"*<br><br>- **Small Changes and Happy Talk**<br>*"Doing your bit for the planet"* | - **Opportunity**<br>*"Cutting emissions will make us better off as well as bringing huge business opportunities in developing new technology"*<br><br>- **Calls for Leadership**<br>*"It's up to the Government"*<br><br>- **Sending Signals**<br>*"Putting a clear price on carbon would cut emissions"* |
| - **Curbing Consumption**<br>*"Audit your lifestyle to determine ways of playing your part in reducing carbon emissions"*<br><br>- **Eco-Responsibility**<br>*"Climate Change is a shared responsibility"*<br><br>- **Post-Carbon Transformation**<br>*"Success depends on profound behavioural changes in consumption, travel and heating"*<br><br>- ***David & Goliath***<br>*n/a* | - **Failure**<br>*"An abysmal failure because the Government failed to take on vested interests"*<br>- **'It'll Be Difficult'**<br>*"Weaning our economy off fossil fuels is going to be a very difficult task"*<br>- **Protecting Competitiveness**<br>*"Climate change policies must not undermine Ireland's global competitiveness"*<br>- **Unfair Burden**<br>*"Homeowners and motorists to feel the pain of new green taxes"*<br>- **'It'll Cost Us'**<br>*"It is clearly a new cost for businesses and consumers"*<br>- **No Need For Action**<br>*"We're barely a blip internationally"*<br>- **Carbon Indulgences**<br>*"It's shuffling the deck chairs on the Titanic"*<br>- **'Church of Green'**<br>*"Counting our carbon offences"*<br>- ***Climate Denialism*** *n/a* |
| **Empowerment** | **Controversy & Contestation** |

**Figure 8**: **Overview of Carbon Repertoires deployed in Irish Print Media**

rhetoric of economic opportunity rather than as having wider socio-technical implications. Furthermore, despite the extensive technological aspect of regime change associated with LCT, this is only a marginal discourse in Irish press. Thus Irish press treatment differs from comparable international studies as it downplays discussion of the regime change associated with new technology infrastructure (discussed in Chapter 9).

*Contestation and Controversy* Theme

The highly differentiated repertoires in this theme also draw on emotive and compelling discourses and present a range of alternate perspectives on LCT, including elite technomanagerial visions as well as voicing social and community resistance to transition. However, the voice of environmental organisations are largely absent in this theme. While diverse, the majority of discourses are united in their focus on promoting rational self-interest and prioritising economic interests. As discussed, they do not explicitly challenge the rationale for reducing emissions advanced in the *Consensus* theme. In particular, the dominant discourse, Carbon Scepticism, challenges perceived environmental authoritarianism articulated in calls for top-down environmental regulations (i.e.) Green Governance. For example, the Irish farming lobby argues regulating carbon emissions targets is anti-competitive, '[it] would have had a severe impact on agriculture without really addressing the problem'[68]. Overall, the prevalent discourses in this theme are responses to developments in the social and political context. For example, Techno-Scepticism, challenges the simple solutions storyline (Techno-Optimism), while the communitarian variant of Climate Justice discourse highlights the unfairness of environmental regulations on local, vulnerable communities such as the elderly or the poor.

*Consensus* Theme

The discourses in this theme, uniquely, present storylines about processes for achieving LCT, however they are dominated by establishment voices, particularly political and business actors. Thus, these discourses construct a vision of the future dominated by elite expectations for, and ways of talking about, LCT. The story they tell is of future economic-oriented hope or rejuvenation (Carbon Utilitarianism) which is achieved either by strong leadership through policy-making (the leadership variant of Carbon Utilitarianism) and/or market measures (Carbon Fetishism). Most significantly, these discourses evaluate LCT in terms of compatibility with existing needs and social norms. In other words, they normalise accounts of transition as evolution rather than as revolution and prioritise continuity over change. Furthermore, as significant features of press discourse post-2009, these storylines normalise the 'commonsense' rationalist argument of economic benefits and are therefore, associated with fostering extrinsic motivations for engaging with LCT based on economic self-interest.

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[68] 'Forests, fields key to future' *The Irish Times*, 25.03.2011

*Empowerment* Theme

Discourses underwriting repertoires in the *Empowerment* theme construct the most socially-focussed visions of LCT and are predominantly related to environmental organisations' and journalists' expectations. These storylines feature discussion of individual, local and community agency as well as constructive ways of connecting with climate-friendly behaviour and, as such, exemplify the spirit of cultural scholarship on public engagement with climate change. In particular, both Carbon Enlightenment, which presents storylines of profound social and environmental change and Carbon Justice's (globally focussed) cosmopolitan discourse, offer an alternative to the 'Hope Gap' (Upton 2015, discussed in section 8.2) associated with Carbon Catastrophism and claims that news media sensationalise accounts of climate change (Cottle 2009; cited in Horsbol 2013) as well as prioritising reports of problems rather than solutions (O'Neill et al. 2015; Howard-Williams 2009; Ereaut and Segnit 2006). In doing so, discourses in this theme respond to Urry's (2011) call for 'positive alternatives to high carbon lives, alternatives that become a matter of fashion and desire' as well as Hall's (2014) call to 'make room for both sacrifice and reward in our visions of a low-carbon future'. This theme is dominated by the Green Consciousness discourse which features storylines promoting biospheric concern which it prioritises LCT within a green agenda. However, recent studies have found that environmental concern is not necessarily a primary motivation among those who choose to move to a low carbon lifestyle (Howell 2013). In other words, by prioritising environmental motives for engagement with LCT, critics argue this discourse may also disenfranchise public(s) who do not associate with green lifestyles (Corner, Marshall and Clarke 2016; Howell 2013).

Summary of Irish Print Media Themes about Motivating Citizen Engagement

The analysis indicates that despite the unbridaled optimism of 'Economic Benefits' storyline, Irish press is dominated by pessimistic stories about 'Bleak Future' and 'No Choice/Alternative'. Furthermore, by promoting LCT in terms of reductive binaries – either as Promises (of economic growth and jobs in the *Consensus* theme) or Threats (of economic penalties and environmental catastrophe in the *Distancing* theme) Irish press polarise motivations to engage with LCT (see Figure 9). Most significantly, there is little sense of regime change in Irish press storylines, thus it is argued that they tell a story of continuity rather than of change.

The analysis also sheds light on the silences in Irish press discourse. These offer some of the most significant insights on how press articulations about LCT 'bring climate change home' (or

not). For example, there was an absence of descriptive or urgent storylines about energy issues and associated policy. This is highly significant as Chapter 6 identified this as a major focus on press treatment. In other words, press treatment of most discussed aspect of LCT, does so in banal and mundane ways which (re)produce elite or bureaucratic discourses and interests. This suggests, Irish press fails to socially (re)contextualise discussion about LCT and does not present storylines about energy that connect to emotional or experiential concerns. In doing so, Irish press may disenfranchise wider public(s) from engaging with energy transition and governance. Additionally, socially-relevant silences include local resistance to technology and/or infrastructure change associated with LCT such as community concern about environmental impacts to place and landscape change[69].
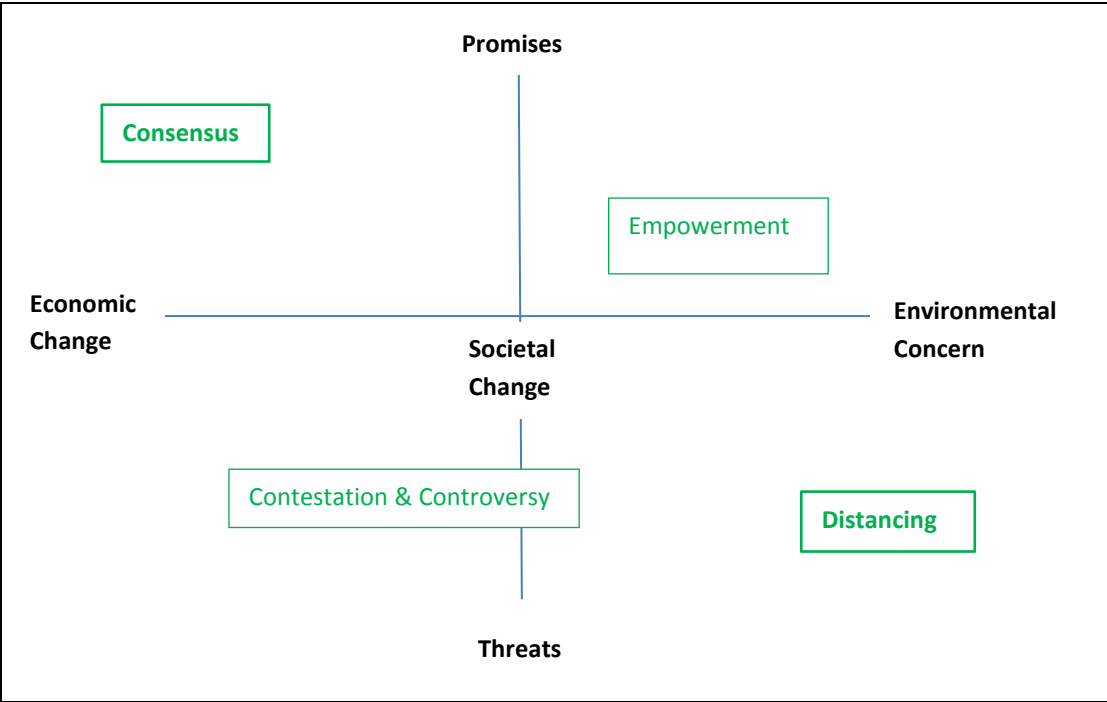


**Figure 9**: **Irish Print Media Themes About Motivating Citizen Engagement with LCT**

The following section identifies the deployment of carbon repertoires across the different themes and provides a detailed assessement of how the dominant carbon repertoires perform as affective inputs.

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[69] However, as discussed in Chapter 5, media reports of community resistance to energy infrastructure change are more pronounced post-2013 and dies down again post-2015.

## 8.2 Trends in Irish Print Media Articulations about LCT

As the coding process focussed on identifying up to three of the most expressive or colourful articulations about LCT per article, this produced a total of 551 different references to carbon repertoires across the data set (see Table 8.1 below). Each reference was assigned to one category only and the majority of articles contained at least one carbon repertoire[70]. A miscellaneous cateogory for additional codes or abscence of codes recorded four references, suggesting the inductive categories were sufficient. Overall, these findings indicate that Irish press treatment employs a variety of linguistic and interpretative repertoires and that Irish press present a rich variety of perspectives, voices and articulations about LCT (see Figure 8).

Prevalence of Irish Print Media Themes

Although the highest number of references were recorded in the *Contestation and Controversy* theme (35%), the analysis supports the view that the most prevalent repertoires are found in the *Distancing* theme (31%). This is because the *Controversy and Contestation*.

**Table 8.1: Prevalence of Carbon Repertoires  in Irish Print Media**

| Print Media Themes | Repertoires (Press Articulations) | Prevalence of References (%) Total references (551) |
|---|---|---|
| Distancing | | **172 *(31%)*** |
| | **Dire Warnings** | **72    (13%)** |
| | **Obligation** | **60    (11%)** |
| | The Appliance of Science | 22    ( 4%) |
| | Small Changes and Happy Talk | 18    ( 3%) |
| Consensus | | **116 *(21%)*** |
| | **Opportunity ('Green Benefits')** | **53    ( 10%)** |
| | Calls for Leadership | 34    ( 6%) |
| | Sending Signals | 29    ( 5%) |
| Contestation & Controversy | | **194 *(35%)*** |
| | **Failure** | **51    ( 9%)** |
| | 'It'll Be Difficult' | 41    ( 7%) |
| | Protecting Competitiveness | 30    ( 5%) |
| | Unfair Burden | 26    ( 4%) |
| | 'It'll Cost Us' | 13    ( 2%) |
| | No Need for Action | 12    ( 2%) |
| | 'Church of Green' | 10    ( 2%) |
| | Carbon Indulgences | 9    ( 2%) |
| | *Climate Denialism* | 2    - |
| Empowerment | | **65  *(12%)*** |
| | **Curbing Consumption** | **27  ( 5%)** |
| | Post-Carbon Transformation | 22    ( 4%) |
| | Eco-Responsibility | 16    ( 3%) |
| | *David & Goliath* | - |
| Other | Not Present/Found | **4  (-)** |

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[70] Only 'Climate Denialism' and 'David and Goliath' were either not present or very rarely featured.

theme is the most in flux (i.e.) susceptible to social and political change. Thus, while it is comprised of important resources for articulating reactions and resistance to changes in the social context, over half of these repertoires have not been part of press treatment for several years[71] whereas the repertoires in the *Distancing* theme (31%) are the most prevalent overall.  The analysis also highlights that the most socially (re)contextualised repertoires (i.e.) those in the *Empowerment* theme (12%), are the least prevalent overall. As a result, the trend analysis indicates that Irish press prioritises linguistic resources associated with distancing public(s) from engaging with LCT.

Key Trends in Deployment of Carbon Repertoires

Turning to focus on the deployment of carbon repertoires, the analysis shows that the most colourful, descriptive and poignant ways of talking about LCT are predominantly associated with repertoires in the *Distancing* and *Contestation and Controversy* Themes. For example, the most emotive, heightened language use is associated with 'Dire Warnings' and 'Unfair Burden'.  Furthermore the most bureaucratic and least descriptive repertoires (i.e.) those employing minimal use of metaphor, analogy or buzzwords are associated with the *Consensus* theme.

Irish press also deploy particularly emotive resources for discussing carbon emissions. This trend was most associated with articulations about carbon emissions' targets as well as implications of environmental measures on public(s). For example, rising carbon emissions are 'ballooning', 'accelerating', 'soaring', 'going through the roof'. While reducing emissions involves 'radical decreases' and 'slashing onerous/daunting or stringent targets'. Overall, press articulations about tackling CO2 generally highlight the epic nature of the challenge, in particular, they tend to invoke descriptions of an epic battle involving massive responses, heightening the scale of the challenge and thus, the impossibility of ever successfully tackling it. Furthermore, citizens are often represented as victims of targets who are 'hit' by measures, and at the mercy of external forces, such that our only salvation may lie in divine intervention 'the answer to our prayers'.

Analysis of Dominant Carbon Repertories Deployed in Irish Print Media
To capture and comment on the implications of the most up-to-date press treatment, this study assesses the carbon repertoires still currently deployed in Irish press. Thus the

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[71] However, all carbon repertoires are significant as resources made publically available for talking about LCT.

following section outlines the distinctive linguistic and rhetorical devices in 'Dire Warnings'; 'Obligation'; 'Opportunity'; 'Failure' and 'Curbing Consumption', focussing on identifying language use that makes LCT compelling or meaningful to lay public(s).

## Repertoires in the *Distancing* Theme

Dominant repertoires, 'Dire Warnings' and 'Obligation' are characterised by the language of fear. They are associated with scaremongering accounts of environmental or economic crisis and predictions of doom. Both feature metaphors of future hopelessness and disappointment, rather than optimistic future expectations. Thus whilst these repertoires raise awareness of climate change, their reliance on fear appeals may disenfranchise non-environmentalists.  Moreover, by presenting a pessimistic vision of the future, these repertoires foster an expectation of failure (due to political (in)action) and thus negative consequences (in the form of economic penalties and/or  environmental apocalypse).

## Dire Warning

This repertoire uses the language of catastrophe and hyperbole, in particular by drawing on highly emotive and colourful descriptions, analogies and metaphors to highlight future environmental threats. For example, 'Grim prospects for 2050', 'the situation in Ireland is even more worrying' or 'on par with the two World Wars and Great Depression'. Significantly, however, the focus is on heightening awareness of threats to future environments, rather than future or local ways of life. In other words, this repertoire offers linguistic resources that focus on the scale, intensity and radical aspects of environmental crises, rather than establishing a process to be solved and outlining pragmatic steps to resolve it, for example by articulating a new future beyond oil or advocating post-carbon resilience. As well as being the most prevalent repertoire deployed in Irish press articulations about LCT, it is also most often associated with print media headlines and introductions to reports. In other words, 'Dire Warning' has become a print media trope as *the* colourful angle with which to introduce stories about climate change.

## Obligation

This repertoire draws on the language of restriction and hardship to encourage action in relation to legal obligations. To do so, these articulations also employ fear appeals and the threat of economic penalties for failing to meet obligations. For example 'Ireland is legally obliged'; 'Government facing an army deafness bill a year' (due to costs of not meeting legal obligations); 'taxpayers would be footing a bill in the hundreds of millions'. The essence of

this repertoire is that of 'bringing us into line', and achieving legal obligations, compliance and accountability. In other words, the emphasis is on encouraging action through duty rather than desire. In addition, it advocates compliance with external legal and bureaucratic goals, specifically, EU and International policy commitments, rather than connecting the issue to more relatable local concerns and objectives.

**Table 8.2: Sample of Repertoires in Distancing Theme**

| Press Repertoire | Sample Text |
|---|---|
| Dire Warnings | Ironically, great progress has been made in the efficiency of low-carbon technologies such as wind, solar and wave energy in recent years. Whether realpolitik will allow governments to prioritise investment in the low-carbon industry in time to avoid the worst effects of irreversible climate change remains an open question.<br><br>*No relief as climate change accelerates, The Irish Times, 30.05.2013*<br><br> "It is still possible to change the grim prospects for 2050 if governments opt for a greener growth path," the outlook says, but it warns that "the window of opportunity is closing fast". One of the urgent actions it recommends is to start pricing carbon in 2013.<br><br>*OECD warns of catastrophic climate change, The Irish Times, 25.11.2011*<br><br>The scientific evidence is now overwhelming: climate change is a serious global threat and it demands an urgent global response…. The scale of disruption "would be similar to those associated with the great wars and the economic depression of the first half of the 20th century".<br><br>*Stern review: the main points, The Irish Times, 31.10.2006* |
| Obligation | The Bill will make the EU targets for 2020 the national targets, obliging the state to show it will comply.<br><br>*Political reality stymies action on Climate Change, Irish Times, 26.02.2013*<br><br>"The Governmental commitments under the Kyoto protocol are only a start. Every person has responsibility to reduce their carbon footprint, and this must be done quickly now that the very obvious effects of climate change are upon us.<br><br>*Wiping your carbon footprint clean, The Irish Times, 19.09.2008* |

Repertoires of *Contestation and Controversy*

Dominated by the language of scepticism, these repertoires employ colourful, descriptive evaluations of political mismanagement and/or failures to implement measures to reduce carbon emissions. Overall, their tone is cynical and negative about actions to achieve LCT. Typically, the most prevalent repertoires, (i.e.) 'Failure', 'It'll be difficult' and 'Protecting Competitiveness' highlight that 'all that's lacking is political will', or that measures will 'fail to trigger the shift to sustainable economy' because they are 'one small step towards sustainability, but not yet the giant leap we need'. However, some of the marginalised

repertoires, which are also not currently evident in Irish press treatment, (i.e.) 'Carbon Indulgences' and 'Unfair Burden' are recognised as important resources for motivating engagement because they highlight moral, ethical and social challenges to the *Consensus* theme[72].

Failure

This repertoire employs particularly scathing language to comment on the implementation and political management of low carbon measures, for example, drawing attention to 'atrocious performance', 'disappointing emissions figures' and 'political inertia'. Overall, therefore, this repertoire highlights government failure to implement top down climate policy and the failure to achieve EU emissions targets. In doing so, it raises issues of trust and confidence in political management of environmental regulations. However, while critical of policy measures, some of the most colourful examples in this repertoire focus on the inadequacy of politicians. In particular, it articulates negative and cynical evaluations of Green Party members, highlighting 'Green Hypocrisy' or the failure of Green Party politicians to meet their own standards in relation to personal carbon emissions reduction. For example, 'Mr Gormley now looks like the environmental emperor with no clothes'. While news media focus on politicians rather than policy is a recognised feature of Irish print journalism (discussed in Chapter 9), attention to hypocrisy is more generalised as Urry notes 'Hypocrisy is a major issue in questions of climate change mitigation leadership.' (2012 p156). In particular, it potentially contributes to public scepticism about tackling climate change. Significantly, Capstick and Pidgeon argue that public doubts about climate solutions constitute a new form of climate scepticism which they call response scepticism (2014; discussed in 8.3).

**Table 8.3: Sample of Repertoires in Contestation and Controversy Theme**

| Press Repertoire | Sample Text |
|---|---|
| Failure | The idea of creating a carbon credits market has been seriously undermined by the economic downturn... The carbon credits market is now an "omnishambles" as the model was based on economic growth.<br><br>*Market for carbon credits runs out of steam, The Irish Times, 21.12.2012*<br><br>On the substance, the Budget leaves much to be done. The concrete measures announced amount to one small step towards sustainability, but they are not yet the giant leap we need.<br><br>*Carbon budget is just a first small step, The Irish Times, 7.12.2007* |

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[72] Samples of all carbon repertoires available in Appendix 2.3

*Consensus* Repertoires

These repertoires draw on technomanagerial language and business buzzwords as part of their rhetoric of financial and employment gain. Overall, they articulate inflated promises that LCT will rejuvenate the national reputation, which are particularly seductive in the context of Irish economic and banking collapse. For example, they typically maintain that 'Low carbon industries will create thousands of jobs in Ireland', 'new energy is doing much better than any other sector'and 'It's the bright spot in the economic downturn' or that it offers 'more opportunity than sacrifice' and 'an opportunity to save money'. While the most prevalent repertoire ('Opportunity') presents the rationale for LCT, both 'Calls for Leadership' and 'Sending Signals' advocate top-down or establishment solutions. Significantly, however, these repertoires articulate a vision of transition in which there is no sense of the 'regime change' (either political, social or technological) associated with tackling climate change and the massive infrastructural and social transformations that will inevitably be required. Therefore these repertoires exemplify conceptualisations of public engagement as 'social acceptance' as they primarily promote public buy-in of LCT.

**Table 8.4: Sample of Repertoires in Consensus Theme**

| Press Repertoire | Sample Text |
|---|---|
| Opportunity | "Ireland has the potential to generate far more wind energy than we could consume domestically. The opportunity to export this green power presents an opportunity for employment growth and export earnings which we must seize if we can."<br><br>*Sales in our wind, The Irish Times, 6.04.2013*<br><br>The increase in my department's allocation will go directly into providing thousands of jobs for Irish people and it reflects the fact that the Government has decided that sustainable energy and building our broadband infrastructure represents the best kind of stimulus for the Irish economy.<br><br>*Massive boost for green jobs, says Ryan, Irish Examiner, 10.12.2009* |

Opportunity ('Green Benefits')

This highly persuasive repertoire employs the language of certainty and the seductive appeal of economic models and statistical evidence, (often drawn from stakeholder and business reports), to back-up claims of employment and business growth.  These claims predominantly concern the economic benefits of new renewable energy. This repertoire also promotes the concept of Ireland as a 'global leader in renewable energy' and promotes the idea of LCT and its economic benefits as being in the 'national interest'. However, these are aspirational claims and,  as Kurz et al. (2010) point out, by focussing on 'the nation', this repertoire addresses citizens 'as members of an unmanageably large group' and links the rewards of LCT

to faceless and unrecognisable people, which is harder to identify with compared to more specific groups (for example, families) or, as Ereaut and Segnit (2007) argue, by promoting specific regional locations. This repertoire exemplifies how language use promotes LCT within a narrative of smooth linear progress. It constructs a reductive notion of green benefits which is vague on details about the specific locations, communities and technologies that will enable the predicted economic growth, and it also avoids discussion of the disruptive social implications of infrastructural and regulatory changes.  As a result, it is also at odds with conceptualisation of low carbon futures as 'highly fractured and complex processes' (Urry 2011). Thus, this repertoire does not help break the climate 'silence' by providing linguistic resources for connecting public(s) with LCT as a social fact (Corner and Rowson 2015).

*Empowerment* Repertoires

Repertoires in this theme invoke the language of possibility and social action. However, they have a less inflated rhetoric than those in the *Distancing* theme. They are also in line with literature on motivating engagment with global environmental change as they provide clear content-based information to inspire citizen engagement and make local community responses imaginable. For example 'Climate justice is key to tackling global poverty', 'Climate change is a shared responsibility' and '… the coming carbon race must be driven by a collaborative effort to achieve collective salvation'. In particular, the least prevalent repertoire, 'Post Carbon Transformation', provides critical discussion of carbon reduction activity and makes it a tangible challenge by shedding light on the reality of regime change in local contexts. As a result, these repertoires help to reduce psychological distance which is often highlighted as a major challenge of climate change communication.

**Table 8.5: Sample of Repertoires in Empowerment Theme**

| Press Repertoire | Sample Text |
|---|---|
| Curbing Consumption | One way to assess the impact your lifestyle has on the planet is to work out your "ecological footprint". It's essentially an accounting process, but instead of punching in your income, mortgage repayments and health insurance contributions, you tot up what you eat, how far you travel, how much waste you create, and what energy you use to heat your home. |
| | *How green is my living, The Irish  Times, 16.07.2005* |

Curbing Consumption

The dominant repertoire, 'Curbing Consumption' promotes the language of righteous individualism and a restricted (top down) set of responses to LCT as *the* permissible actions.

The tone is often hectoring and it typically employs 'to do' lists of environmental-minded behaviours involving mundane activities such as recycling, energy saving or other small personal actions. For example, 'Work out your 'ecological footprint', 'monitor your eco-impact', 'change your ecoprofile'. Thus, it does not link LCT with ideas about regime change or radical actions to achieve social transformation. Furthermore, while the linguistic and rhetorical focus on biospheric concern appeals to those who identify with a green lifestyle, this may disenfranchise public(s) motivated by non-environmental agendas. Howell (2013) found that rather than concern for environment or nature, many people adopt low carbon lifestyle because of altruistic motivations and place greater concern on community and social justice. In addition, rather than employing imaginative and metaphorical language to frame carbon reduction activities as desirable, it tends to construct negative visions of public responses around resource use, for example, 'we are babies in need of weaning, because of our ignorance'. However, this could be viewed as pejorative, or amplify feelings of guilt and therefore disengage non-environmentalists or encourage further public apathy by feeding into assumptions that we are collectively, unable to address the challenge because of our helplessness.

Summary of Dominant Carbon Repertoires in Irish Print Media

This analysis of the deployment of carbon repertoires indicates that they are dominated by metaphors of hopelessness and disappointment and promote discussion of LCT in terms of bureaucratic and biospheric concerns. Thus, apart from the recent optimism of the *Consensus* theme, the most prevalent repertoires were found to promote emotive messages clustered around  Fear (of environmental catastrophe), (political and policy) Failure and Duty (to legal agreements). This indicates that the dominant repertoires contribute to public doubts about our collective ability to tackle climate change. In doing so, they also marginalise discussion of the potential for human ingenuity or the possibility of mankind to do the right thing in relation to global environmental change. Crucially, the analysis reveals the absence of repertoires that offer resources for articulating broader emotional and experiential concerns about LCT. In other words, Irish print media offers limited cultural articulation of citizen empowerment or repertoires of collective action. In particular, it does not include ways of talking about social gain, loss or action, and community resilience, vulnerability or responsibility which are all advocated in the literature. The next section investigates the implications of the dominant carbon repertoires on (potential) affective engagement with LCT. Significantly, the trend analysis highlights that these carbon repertoires are dominant

throughout the timeframe and across all publication types. This makes them a useful subset on which to focus as they offer pertinent insights on Irish press treatment overall.

## 8.3 Implications for Affective Engagement with LCT

This section critically evaluates the linguistic and rhetorical devices in the dominant carbon repertoires in the context of the literature about how verbal communication motivates public engagement with LCT. The discussion is based on key themes within this literature and thus focusses on how carbon repertoires convey i) emotive messages and ii) experiential concerns. A third section identifies and reflects on the implications of silences in Irish press articulations.

The discussion of emotive messages, follows the approach taken by Nerlich and Jaspal (2014 p255) and examines the 'emotional currency' of the dominant carbon repertoires. Thus, paraphrasing these researchers, it focusses on what emotions or concerns may be aroused by the language use, not what emotions are triggered in actual readers. As a result, the assessment of carbon repertoires does not automatically uncover how the public engages with LCT.  Instead, the aim is to shed light on how articulations about LCT act as a discursive space by privileging particular forms of emotional and experiential currency over others. In line with the literature on verbal communication, experiential concern draws attention to broader issues or evaluations of LCT that shape motivations to engage, such as psychological distance and duty. The discussion of silences highlights the absence of issues currently emphasised in the literature on building affective engagement, such as the significance of place, or landscape and the future.

Emotive Messages
The most notable impact of carbon repertoires on motivations is the deployment of messages that arouse fear. The two most prevalent repertoires, 'Dire Warnings' and 'Obligations', are characterised by metaphors of future hopelessness and disappointment and employ fear appeals, typically apocalyptic warnings about environmental collapse as well as economic penalties to promote biospheric concern.  As discussed, research is divided on the influence of fear appeals, on the one hand, studies show they help raise awareness of climate change by emphasizing the urgency of the challenge (Smith and Leiserowitz 2014; Hoijer 2010; Meijnders et al. 2001). Thus, fear appeals overcome the challenge of communicating

complex science and associated 'grim statistics' by triggering cognitive engagement with climate risks. Significantly, however, distinguishing between worry and fear, Smith and Leiserowitz (*ibid*.) point out that it is worry appeals (alongside interest and hope), rather than fear appeals, that are predictors of public support for climate change policy.

A sizeable body of research supports the view that focussing on fear and excessive sensationalism of catastrophe are likely to encourage a sense of helplessness and overwhelm citizens (Nerlich and Jaspal 2014; O'Neill and Nicholson-Cole 2009; Hulme 2008; Lorenzoni et al. 2007; Moser and Dilling 2007; Ereaut and Segnit 2006). These critics argue that apocalyptic scenarios present the future as something that happens to humanity, rather than something over which we have agency and that fear appeals therefore construct a fatalistic view of human ingenuity and resourcefulness. For example, Corner and Rowson (2015) question whether heightened claims of catastrophe appeal to people in everyday contexts. Foust and O'Shannon Murphy (2009) argue that apocalyptic framing is an ineffective rhetorical strategy because it posits climate change as 'Fated' or driven by cosmic forces and thus 'alleviates humans of responsibility for creating or at least contributing to, climate change' (*ibid.* p161). Ereaut and Segnit (2006) argue that 'this type of framing may be counterproductive by encouraging audiences to switch off or become habituated to messages that they receive'. Others argue that repeated framing of climate change in negative and catastrophic ways leads to 'The Hope Gap' (Upton 2015). According to Upton (*ibid*.), this type of reporting simply leads to increased anxiety about climate change because 'perceived threat without efficacy of response is usually a recipe for disengagement or fatalism'.

This view is supported by research in the psychology literature, which indicates that fear appeals are associated with increasing feelings of fatalism, apathy and denial. Citing Witte and Allen's (2000) research on fear framing in health protection, which indicates limited efficacy of fear appeals in the absence of agency, Spence and Pidgeon (2009) argue that communication praxis should therefore '… seek to frame emotive messages alongside positive credible steps which people themselves can take' (unpaginated). This is in line with emerging literature advocating for more constructive engagement initiatives that include citizen actions. Hall (2014) maintains that the focus on 'doom and gloom' fosters resistance, apathy or despair rather than hope and motivation to change. Significantly, critics of fear appeals point out that people respond to positive cues as well as realistic stories about possibility for a sustainable low carbon future and that such stories must acknowledge any

loss that people face in order to be persuasive (*ibid.*). In other words, they argue that fear appeals do not engage readers with choices about different courses of action or the steps individuals and communities can take. As a result, researchers recommend including discussion about opportunities for householder or local actions, health effects or ethical considerations associated with tackling climate change to increase public engagement (Corner et al. 2016; Crow and Boykoff 2014; Hall 2014; O'Neill 2013). While this appears to contradict earlier discussion of individual behaviour (see page 119) and the critique of Irish print media's focus on individual consumerism as the main role for citizens, the point being stressed here is that the use of fear appeals without options for citizen action are viewed as inhibiting affective engagement. Additionally, there is a need for both self-efficacy as well as a societal response (i.e.) individual consumerism is an important aspect of citizens mobilisation (see discussion of 'purposive agency of citizen-consumers' p125-6).

The major critique of 'Dire Warnings' and 'Obligation' with respect to mainstreaming (potential) affective engagement therefore, is that they circumscribe a sense of agency and thus may lead people to fret about climate change but feel powerless to do anything about it. That is, they do not contribute to construction of how society can (or should) act in local contexts and because they 'increase[s] salience but not self-efficacy' (O'Neill 2013), they do not sufficiently recognise the cultural barriers to engagement. As a result, they do not challenge apocalypse fatigue, stealth denial and public apathy.

The third most prevalent repertoire, 'Failure', shows that Irish press also prioritise ways of talking about LCT that foster doubts about the efficacy of climate action. This repertoire therefore contributes to the sense that there is little that communities, or individuals, can do to tackle climate change, as well as encouraging distrust in political management of climate change regulations. This is significant as it highlights that dominant carbon repertoires may contribute to response scepticism (Capstick and Pidgeon 2014).  Capstick and Pidgeon argue this new form of climate scepticism arises from 'public scepticism about the relevance and effectiveness of measures taken to address climate change' (*ibid.,* p393) rather than with a denial of climate science (which they distinguish as epistemic scepticism). In addition, they claim that overcoming public doubts about responses is a bigger communication challenge 'because doubts about solutions are much more disputable than challenging scientific arguments' (*ibid.*). Their research identified several different forms of response scepticism including doubts about personal efficacy (individual actions) and distrust of politicians and political responses as well as distrust of press exaggeration and sensationalism about climate

change - all of which are associated with or amplified by the dominant carbon repertoires discussed.

Experiential Concerns

Carbon repertoires also influence broader motivations to engage with LCT by triggering psychological distance (both tempo-spatial and geographical), promoting biospheric over altruistic concern and by associating action on LCT with duty. As well as fostering fear and powerlessness, 'Dire Warnings' also promotes LCT as a distant phenomenon rather than a challenge involving local contexts. However, as discussed earlier, researchers are divided as to whether this motivates public engagement or not. On the one hand, the risk literature on psychological distance argues that representations of climate change as a global phenomenon tend to encourage perceptions of the issue as outside of people's scope of concern or interest (Spence *et al.* 2012, Rowson and Corner 2015, van der Linden *et al.* 2015, Jones *et al.* 2016). As a result, these researchers maintain that psychological distance reduces the likelihood of coming to terms with the reality of climate change and therefore reduces support for climate mitigation (Lorenzoni and Pidgeon 2006). This line of research also supports the view that constructing climate change as psychologically close, for example, by representing its consequences in local settings (Smith and Joffe 2009) can help engage public action. Countering these studies, researchers argue that psychological proximity may also foster adverse effects on public engagement by increasing fear and thus encourage emotional avoidance (McDonald *et al.* 2015). In other words, that there are risks in over-localising climate change messages. These contrary perspectives underline the complexity of understanding human behaviour around global environmental change, as Spence *et al.* point out

> .... whilst personal, local, closer considerations of climate change are important in promoting concern about climate change, when it comes to promoting action, it may also be important to highlight the wider, global impacts of climate change. (2012, p969)

In addition, Devine Wright's (2013) critical review of these studies notes that there is a lack of precision in their investigation of 'the spatial frames of risk communication'. He argues 'the ways that distant and local are made explicit to participants was ambiguous' (*ibid*. p66). Additionally, these studies lack clarity as to what is meant by climate actions or climate-smart behaviour. Thus, there are unstated assumptions about these actions, which indicate the need for more nuanced risk communication analysis to more accurately inform communication and public engagement strategies with LCT. In particular, references to 'actions' need to be more specific, as there may be marked differences in

willingness to support or engage in different activities, for example recycling versus reducing meat consumption or flying[73]. As a result of these critiques and because LCT is inherently related to citizen actions in local contexts, this thesis adopts the view that psychological distance limits motivations to engage with LCT and therefore 'Dire Warnings' acts as a negative affective input for carbon reduction activity.

Critics also claim that 'Dire Warnings' may limit citizen engagement by disenfranchising non-environmentalists. For example, Corner (2016) points out 'haranguing people to turn down the thermostat to save the planet' may not resonate with broader values and worldviews.  In addition, researchers note that because this repertoire focusses on future catastrophe, it prioritises consequentialism over virtue ethics (Howell 2013 p286). In other words, it is questionable whether 'Dire Warnings' are associated with motivating more just, considerate or purposeful ways of responding to climate change. As a result, this repertoire does not encourage intrinsic motivations which are associated with long-term, positive engagement with climate change as advocated in the emerging literature on public engagement (Crompton 2010, Corner *et al.* 2014).

Likewise, 'Obligations' is also considered a negative affective input because it promotes societal involvement out of duty, rather than presenting low carbon actions as desirable by making it fashionable, as advocated by Urry (2012). Backing up this perspective, Ereaut and Segnit argue 'When people are drawn emotionally to an action they are far more likely to sustain it than if they act through simple civic duty or obedience' (2007 p8). This repertoire also limits affective engagement by prioritising bureaucratic goals and focusing attention on elite actors and international agreements, rather than associating carbon reduction activities with local, everyday actions. Thus, overall, it is argued that the dominant carbon repertoires act as negative affective inputs by motivating pessimistic responses to LCT, promoting psychological distance, fear and duty.

Silences
The silences in ways of talking about LCT also merit discussion as the absence of particular ways of talking about LCT also has important implications for mainstreaming (potential) affective engagement. This analysis showed that Irish press present few resources for

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[73] Exemplifying this point, Smith and Leiserowitz's (2014) study, which clearly identifies different policy actions, found that public support for renewable energy research is much greater than support for carbon tax. This finding suggests there is much less public support for policy that involves actual changes to everyday lives compared to possible future change.

highlighting the social consequences of LCT. Although place, loss of ways of living or landscapes are highlighted in the emerging literature ( van der Linden et al. 2015; Devine-Wright 2013; Adger et al. 2011) they are rarely presented as compelling or poignant topics of concern. Thus Irish press avoid talk about collective experiences of transition such as community collaboration, resilience or vulnerability. Likewise, there were few references articulating complex social experiences of environmental change such as accepting loss (Adams 2015; Hall 2014; Randall 2009) or overcoming the unpleasant realities of LCT relating to changes to landscape and places. Likewise, although transition is inherently about future societal visions and expectations, it is rarely discussed as involving social transformation or radical solutions. More specifically, Irish press are silent on the prospect of regime change and technological disruption as part of LCT.

The most significant silences in terms of articulating societal concerns are associated with the marginalisation of reperotires in the *Empowerment* theme. In particular, linguistic resources related to 'Eco-Responsibility' and 'Post-Carbon Transformation' exemplify many of the recommendations highlighted in the literature on motivating public engagement. For example, these marginalised repertoires link LCT to ideas about cosmpolitanism, moral values and discussion about 'the right thing to do'. Thus they give voice to altruistic concerns and motivations for engaging, as well as fostering ideas about making LCT desirable rather than prioritising ideas about duty and obligations to environmental commitments or economic self-interest. Furthermore, the absence of repertoires promoting personal and community motivations for engaging, may feed into the sense that 'this is not my problem', thereby encouraging the view that LCT action is 'someone else's problem' and potentially, facilitating non-engagement.

Lastly, Irish press treatment lacks poignant or compelling repertoires about energy transition. In particular, there was no discussion of regime change and related technological disruption, even though they are central to the social reality of decarbonisation. While 'Curbing Consumption' includes some references to energy, the focus is primarily on mundane to-do-lists, or simple solutions aimed at reducing carbon footprint to save the planet or the economic benefits of Green Power. In addition, articulations about energy transition and associated technologoical innovation are bureaucratic and techno-managerial (i.e.) rarely socially (re)contextualised. This underlines a wider problem with public discussion about energy transition in general. According to Tyszczuk and Udall (2015) there is a need to reinvigorate public and political conversation about energy in ways that are relevant to daily

life. Meanwhile, discussion of technological solutions is often quixotic, replete with unrealistic economic expectations which reinforce extrinsic motivations. As discussed, there is a marked absence of resources for talking about adverse social implications or the need for risky technologies, even though researchers maintain that meeting the ambitious Paris Agreement targets are not physcially possible without deploying geoengineering, or other deliberate large-scale, technologies (Kruguer *et al.* 2016). Thus Irish press treatment offers limited resources for 'connecting' or resonating with two central socio-technical concerns about LCT. Moreover, they marginalise the contentious or controversial aspects of this public discussion and thus limit potential for political engagement.

Insights on Dominant Carbon Repertoires in Irish Print Media

The affective dimension of engaging public(s) with climate change is a growing field within media and communication studies. However it is dominated by analysis of the role and implications of visual representations in print media (Nerlich and Jaspal 2014; O'Neill and Smith 2014; Rebich-Hespanha et al. 2015; Smith and Joffe 2009; O'Neill 2013) with few studies investigating the implications of written texts. Furthermore, given the limited range of visual resources associated with climate mitigation or LCT[74] there is a gap in our understanding of the implications of press treatment of the solutions debates. Thus, by focusing on press articulations about LCT, the findings in this section contribute more nuanced insights on the implications for (potential) affective engagement. It illuminates how carbon repertories act as negative affective inputs by failing to foster significant social and cultural motivations to connect with climate mitigation.

The overwhelming prevalence of 'Dire Warnings' and 'Obligations' reveals that dominant carbon repertoires motivate engagement with climate risks (or future impacts) and are thus primarily associated with building public support for climate governance rather than fostering awareness of LCT and concern about local solutions. In doing so, the findings highlight possible tensions between communication and engagement strategies for climate change as a broad (undifferentiated) challenge and LCT as a (multi-dimensional) process for reducing emissions (discussed in Chapter 9). Thus, this chapter presents empirical data supporting the need to distinguish between public engagement with climate science aimed at building support for policy prescriptions (i.e.) communication about what to think about climate risks, and public engagement with climate change mitigation and fostering societal concern about LCT choices (i.e.) communication about how to think about the processes for reducing carbon

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[74] According to O'Neill (2013), these are primarily images of technology and political figures.

emissions. More specifically, it emphasizes the distinction between communication about climate change aimed at addressing questions of whether (and why) to tackle climate change and questions about how (and how much) to reduce carbon emissions.

The findings also showed that while energy is a salient topic in the Irish press, it is limited to elite interests and information flows and is not a socially (re)contextualised topic. This indicates that the dominant ways of talking about LCT are not (yet) an imaginative idea or, paraphrasing Hulme (2008 p8), LCT is not an idea constructed and endowed with meaning and emotional values related to social or community and everyday concerns. The significance of silencing the cultural aspects of LCT is, drawing on Hulme (*ibid.*) that by 'de-culturating' LCT, it becomes 'distanced and un-situated relative to an individual's mental world' and that 'we make it easy for citizens to verbalise superficial concern with the problem, but a concern belied by little enthusiasm for behavioural change'.

In conclusion, this section has shed light on how the deployment of carbon repertoires contributes to the conditions that may maintain public apathy about climate change and/or that may encourage local or community resistance to further LCT measures. These findings are drawn on to develop recommendations, in Chapter 9, for 'bringing climate change home' by connecting public(s) with LCT**.**

## 8.4 How Irish Print Media Mainstream Affective Engagement

This chapter presented novel insights on press articulations about LCT and their implications for (potential) affective engagement. It examined how press treatment 'brings climate change home' by lending poignancy and immediacy to the challenge of reducing carbon emissions in everyday life. Thus, it extends knowledge about print media and public engagement with LCT by illuminating whether and how dominant carbon repertoires mainstream particular motivations for (dis)engaging with LCT. This places the findings in conversation with the Cultural Turn in climate change communications and increased scholarly awareness of the limitations of assessing rational arguments to understand public engagement with global environmental change. The main finding advanced in this chapter is that the dominant carbon repertoires perform a role as negative affective inputs and as a result, they circumscribe (potential) affective engagement.

The analysis also illuminated the discursive limits of press constructions of LCT. This showed that carbon repertoires deployed in Irish press do not include visions or expectations of LCT as involving regime change (political, social or technological). As a result, it was found that Irish press rarely present ways of talking about LCT outside of establishment concerns with maintaining the status quo, and that the prevalent carbon repertoires mainstream the goals (and thus motivations) for LCT in line with a business-as-usual agenda. Furthermore, it showed that carbon repertoires offering the most culturally relevant ways of talking about personal, local and community involvement with LCT were the least deployed. There was also an absence of compelling storylines and carbon repertoires for connecting the population at large with energy transition and techno-innovation.  Overall, this chapter argues that the dominant carbon repertoires in Irish press render social concerns and expectations about LCT invisible and act as socio-cultural barriers to engagement. This is an important finding in the context of reported increases in public apathy about climate change and concern about 'apocalypse fatigue' and 'stealth denial'. It also has important implications for communications praxis and underlines the value of critically evaluating press treatment of LCT in terms of public engagement as an inter-related process (see Chapter 9).

The chapter also illuminated some unanticipated findings. Firstly, it shed light on the possible influence of environmental and science organisations as voices of authority about LCT. While the study did not undertake a systematic analysis of claims-makers, it was observed during the coding that environmental NGOs, the EPA (and journalists promoting environmental awareness) are highly associated with repertoires in the *Distancing* theme. This suggests that these actors contribute to the deployment of carbon repertoires that undermine (potential) affective engagement. Thus further research is needed to identify and examine the discursive influence of claims-makers and voices of authority on affective engagement with LCT.

Secondly, it revealed that the prevalent carbon repertoires do not dispute the *Consensus* view of LCT as an economic opportunity. Instead, the predominant concern raised about LCT involves resistance to environmental authoritarianism.  Thus, the study shows that the *Contestation and Controversy* theme does not primarily present ways of talking about LCT that resist the status quo. This suggests that Irish print media performs poorly as a discursive space for discussion of LCT as social transformation because it does not offer linguistic resources for contesting the *Consensus* view of LCT. Likewise, it does not include voices of resistance that challenge establishment perspectives of LCT as business-as-usual.

Together, these findings suggest some clear themes for communications praxis aimed at building transition pathways and for press coverage of LCT. In particular, they highlight the value of including a wider range of voices on LCT, especially actors articulating the social implications of this challenge, as they represent ways of talking about LCT that may break the 'climate silence'. The analysis also indicates tensions between communication aimed at making the case for climate change (i.e.) climate science and risks, and raising public awareness of the challenge and communication to build public engagement with LCT (i.e.) carbon reduction activity or the solutions for reducing emissions (discussed in Chapter 9).

While these are informative and novel findings, this critical evaluation of the patterns of talk in press treatment of LCT suggests that much more could (and should) be said about the deployment of carbon repertoires in print media. As a result, it is argued that analysis of press articulations of LCT constitutes a fruitful area for future research, both in terms of further insights about linguistic repertoires in press constructions of LCT, as well as broadening analysis of how print media texts act as cultural barriers to public engagement[75]. In particular, the role of affect in (mediated) public engagement with climate change represents an important area[76] (discussed in Chapter 10). Furthermore, given the influence of the social context on press articulations and that carbon repertoires are influx, it would be useful to update the current study to identify any transformations post-2013. Finally, while systematic, this examination is also partial: it does not provide a comprehensive analysis of all the carbon repertoires found during coding, but focused on the most prevalent carbon repertoires still deployed in Irish print media.

The next chapter synthesizes the preceding findings on how press treatment routinizes the fora, formats and motivations for public engagement with LCT. It then employs these insights to develop recommendations for media and communication praxis aimed at building broader public engagement to with LCT. Thus, it goes beyond the dominant economic and psychology paradigms, to present a more nuanced view of public engagement with transition pathways.

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[75] This research design examined affective inputs by assessing emotive messages and experiential concerns, but did not touch on other cultural dimensions such as citizenship, identity and gender.
[76] While the role of affect on risk perception and decision-making or behaviour change is established, there is less knowledge of how affective inputs act as cultural or political barriers to public engagement

# 9

## Broadening the Conversation and Connecting Publics with LCT?

The preceding chapters mapped the Public Life of LCT as presented in Irish press treatment and highlighted the implications for specific modes of public engagement. They showed that Irish press discussion of LCT is clearly underway and shed light on what that means in terms of engaging public(s) with one of the most momentous debates that societies will make. In other words, they assessed the deployment of ideas about where transition will lead us, what form it will take and why we are going there. The analysis across these chapters revealed that the different public meanings, ways of talking and ideas about low carbon practices are underpinned by different rationales and goals for LCT and they have very different impacts for the trajectory of future environmental sustainability and implications for how public(s) play a role and who is viewed as responsible for achieving transition. These findings are now synthesized to understand and explain how Irish press treatment routinises broader public engagement with LCT. Therefore, the discussion addresses the central research question by asking:

- How does Irish print media treatment of LCT broaden the conversation and connect with public(s)?

Thus, this chapter assesses media(ted) public engagement with LCT by focusing on whether Irish print media treatment deploys ideas and discussion about LCT as local, socially relevant issues. Assessing media(ted) public engagement with LCT adds to knowledge of public engagement based on the dominant theories of individual public engagement which draw on economic and psychological paradigms and this is crucial, because '… we cannot invent our way towards a low carbon future without also engaging society' (Bulkeley *et al.* 2011). In doing so, the findings show how press analysis of LCT can contribute to more nuanced insights for building citizen engagement with transition pathways. These insights are then employed to make recommendations for novel approaches to communications and journalism praxis around LCT (see section 9.3).

The analysis found that Irish press deploy a narrow range of public meanings, ways of talking and ideas about citizen actions for moving to a low carbon future and that press constructions marginalised social critique and (re)contextualisation of LCT. Furthermore, the dominant conceptualisations and articulations about LCT privileged elite information flows

and thus press treatment routinised carbon literacy, repertoires and ideas about low carbon practices are consistent with elite interests in maintaining the status quo. The analysis also revealed that the dominant themes about public engagement with LCT routinised top down formats for engagement; private sphere actions and negative affective inputs. In other words, it promoted formats, fora and motivations for public engagement in line with instrumental stakeholder models. Thus, the dominant press themes of engagement promoted passive forms of individual citizen involvement and press treatment prioritised elite interests and visions of LCT. This is significant because the analysis of carbon repertoires revealed that Irish press treatment failed to challenge response scepticism (Capstick and Pidgeon 2014). Together, these findings indicate that press representations of LCT act as socio-cultural and political barriers to public engagement. As a result, the thesis argues Irish print media treatment circumscribed (potential) cognitive, affective and behavioural engagement with LCT and therefore, circumscribed (potential) broader public engagement with LCT. These findings are summarised in Table 9.1.

The analysis shed light on the complexity of assessing public engagement with the multifaceted processes of LCT. In particular, this raised questions about what counts as public engagement and what is (or should be) the goal of engaging publics with LCT? This also highlighted tensions between traditional (dominant) approaches to public engagement with climate change and the requirements of public engagement with LCT (discussed in 9.2). A useful way of understanding the different goals associated with public engagement initiatives is to ask, 'what are the public being asked to engage with' and 'why are the public being asked to engage'? Overall, the research showed that media(ted) public engagement with LCT does not engage publics with meanings, talk or actions that suggest social change or transformation. One of the most unexpected findings was the extent to which the social dimensions of LCT were written out of Irish press representations of LCT. Addressing the second question, the research revealed that media(ted) public engagement with LCT does not deploy ideas about regime change (either social, political or technological) and therefore that press treatment of LCT promotes the rationale for transition in terms of continuity rather than change.

Dominant Irish Print Media Representations of LCT

Cutting across the multi-modal framework, the analysis showed that the prevalent representations of LCT clustered around 'Promises' and 'Threats' (see Figure 10). Moreover, the analysis of each dimension of the multi-modal framework highlighted that the 'logic of

efficiency' and decontextualisation of LCT to 'carbon calculation' was influential in shaping carbon literacy, mainstreaming carbon repertoires and normalising low carbon practices. In other words, the analysis indicated that wider social concerns and alternative perspectives on reducing carbon emissions were consistently crowded out by the prevailing hegemonic ideology of economic growth and efficiency.

Significantly, the deployment of representations in terms of 'Promises' and 'Threats' is in line with research arguing that international policy perspectives on climate change mitigation rely on reductive accounts of impacts that represent climate governance as a dichotomous issue (Shaw and Nerlich 2015). This analysis of a range of high-level policy documents between 1992 - 2012 indicates that the dominant themes and metaphors frame mitigation actions in line with economic principles of cost-benefit analysis. Overall, Shaw and Nerlich (*ibid.*) argue

**Table 9.1: Research Questions and Overall Findings**

| Central Research Question: How does Irish print media treatment of LCT shape potential broader public engagement? | | |
|---|---|---|
| **Chapter 4:** What are the different themes about public engagement in Irish print media? | | |
| **Chapter 6:** How does Irish print media treatment of LCT shape carbon literacy and (potential) cognitive engagement | **Chapter 7:** How does Irish print media treatment normalise ideas about Low Carbon Practices and (potential) behavioural engagement with LCT? | **Chapter 8:** How do carbon repertoires deployed in Irish print media mainstream (potential) affective engagement with LCT? |
| **Chapter 9:** How Irish Print Media treatment broadens the conversation and connects public(s) with LCT | | |

**Findings:**
- Irish print media treatment privileges public meanings, ways of talking and ideas about low carbon practices consistent with elite interests in LCT. Overall analysis revealed that media treatment lacked critical analysis and/or social (re)contextualisation.
- Dominant print media themes promote formats, fora and motivations for engaging with LCT that are in line with a social acceptance model of public engagement. That is, they prioritise instrumental top-down view of public engagement with LCT. In doing so, print media representations simply reproduce stakeholder strategies for engaging publics with LCT.
- The study also shed light on the extent to which print media treatment marginalised the societal dimensions of LCT. The multi-modal analysis revealed the different ways that the power of the social and sense of community involvement were rendered invisible by media representations of LCT and in particular, highlighted how this obscured the potential for political engagement.
- Thus, dominant Irish print media themes of LCT circumscribe potential broader public engagement. Furthermore, prevalent representations deployed in Irish print media treatment act as socio-cultural and political barriers to citizen engagement with transition.
- An unexpected insight of this thesis arises from the finding that news media treatment may amplify response scepticism (Capstick and Pidegon 2014). That is, a new form of climate scepticism related to public apathy and disengagement with debate, action and decision making about societal actions to reduce carbon emissions. This gives rise to important implications for communication and journalism practice around public discussion of LCT.

this contributes to narratives promoting an unrealistic imaginary about solutions. In particular, their assessment of references to low carbon solutions finds that 'the dominant imaginary is one where nothing in the world has changed except the amount of carbon emitted by the activities which define late neo-liberal patterns of economic activity' (p38). They also point out, that in following policy perspectives on LCT press treatment may reproduce unrealistic and limiting ideas about processes for decarbonisation. The findings in this thesis support that position. For example, the finding that press treatment privileges the social acceptance of passive, consumer engagement with LCT also indicates that press treatment obscures the possibility that citizen engagement includes more creative, socially transformative and, perhaps, more realistic approaches for moving towards a low carbon future.
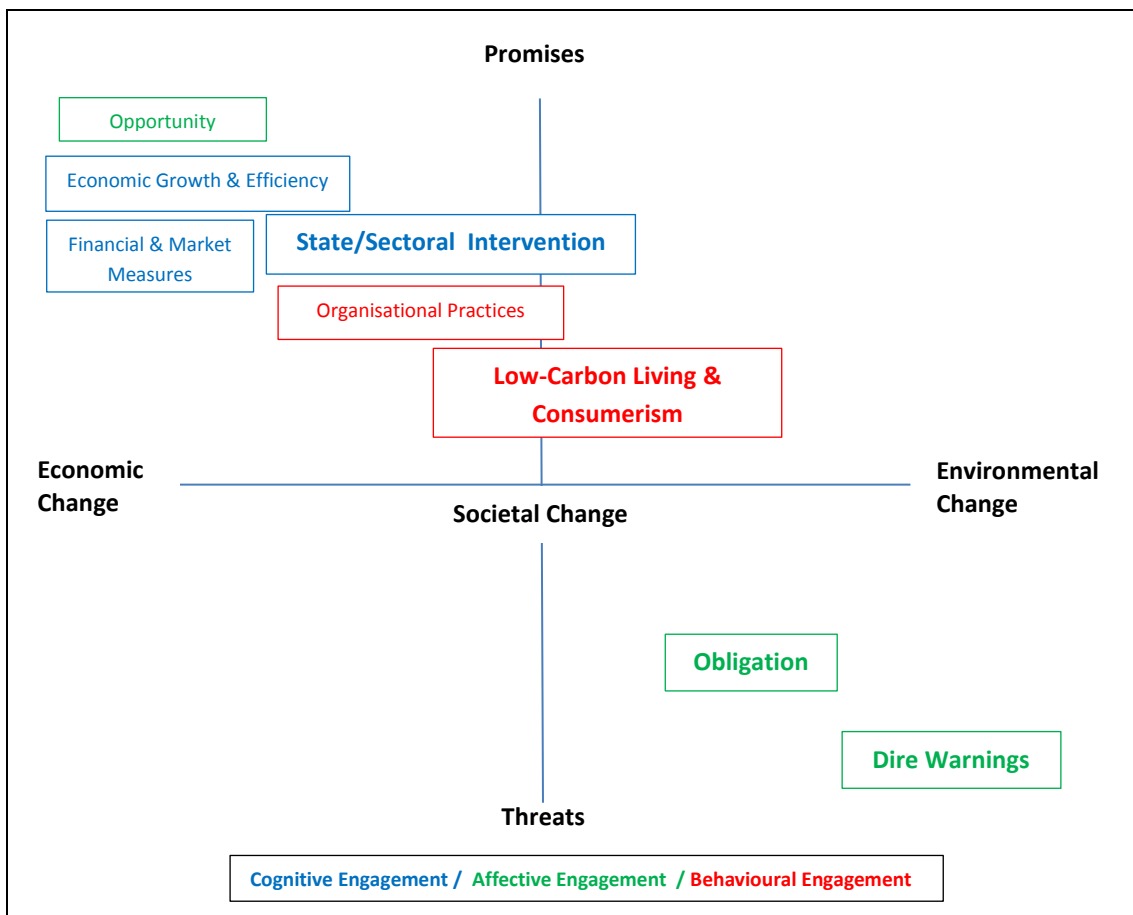


**Figure 10: Dominant Irish Print Media Conceptualisations and Articulations about LCT**

Additionally, the finding that media prioritise representations in which citizens' role is primarily configured as 'consumers' is consistent with critiques of transition management (Scrase and Smith 2009, Stirling 2014b, Barry *et al.* 2015) and those who point out the (post)-political focus of transitions management (Kenis *et al.* 2016). That is, this analysis draws attention to how Irish press treatment promotes a post-political discussion of transition by

silencing representation of LCT as a power struggle between alternate visions for a future low carbon society and by prioritising elite and establishment interests in LCT as maintaining the status quo. However, scholars argue that by their nature, transitions are, in the broadest sense, political (Avelino *et al.* 2016) as well as messy processes involving disruptive intermediaries (Stirling 2014; Miller et al. 2013; Meadowcroft 2009). As a result, by silencing discussion of LCT as involving democratic struggle or contestation about alternate pathways or visions about moving to a low carbon future, Irish press treatment marginalises potential for political engagement. However, as Carvalho and Peterson (2012) point out, the far reaching transformations that are needed to respond to climate change and move to a different model of energy production and use, require the involvement of citizens at the political level, as decisions have to be made in a democratic way. It is therefore important that all news media representations of LCT also reflect the political and social nature of transitions.

As a result, the analysis also indicates why it is not sufficient for press treatment to reproduce elite visions or interests in LCT and the findings draw attention to the need for democratically responsible journalism. Central to this approach is a democratic concern for presenting information about *how to think about LCT* (i.e.) framing and articulating the choices about LCT as socially relevant issues of public interest, rather than *what to think about LCT* (i.e.) top down or authoritarian views on whether to and why to tackle emissions. In particular, the absence of social critique and (re)contextualization in press treatment highlights the need for a greater range of perspectives and voices on LCT as part of democratic public debate about a multi-faceted issue at the interface of technoscience, market and society. Thus, this thesis provides in-depth empirical evidence of the value of rethinking news media reporting for the complex, controversial and contested societal debates involving post normal science (PNS) such as news media coverage of LCT (discussed in Chapter 10). Nisbet and Fahy's (2015) insights on 'knowledge-based journalism' offer particularly useful approaches for journalism practice and education. They propose that journalists need a new set of skills in order to facilitate more constructive debates around politicised science issues, such as climate change, arguing that these debates require journalism that can

> contextualise and critically evaluate expert knowledge, facilitate discussion that bridges entrenched ideological divisions and promote consideration of a broader menu of policy options and technology. (p224).

Thus, it assesses scientific endeavour instead of simply acting as a conduit for 'spectacle' reporting. In other words, it is in line with the ethos and goals of democratically responsible

journalism, outlined above, its focus on 'contextualisation and critique'. As a result, this approach offers an alternative to the most problematic features of science and technology journalism, such as a tendency towards sensationalism and over-simplification[77].

It is also important to note that press representation of LCT is evolving and there have been some transformations in trends post-2014. Thus, the findings identified in this thesis are exploratory in that they represent a first step in mapping press treatment of LCT[78]. However, the research approach, which employed a hybrid method to identify categories in a systematic way over a large data set provides a solid basis for identifying major themes and nuances in Irish press treatment. Thus, the main divergences from those discussed primarily relate to the prevalence of themes.

The following sections discuss the wider significance of examining media(ted) public engagement with LCT, comparing trends in Irish press treatment of LCT with comparable analyses of media and climate change or LCT[79] as well as assessing the value of the Irish case study.

## 9.1 Significance of Analysing Broader Public Engagement with LCT

While climate change is a complex phenomenon that cuts to the heart of humans' relationship with the environment, this thesis posits that targeting press debate about how we respond to climate change offers important new insights about public engagement with climate change in the post-COP21 context. In particular, placing analytical interest on how we tackle climate change (and thus debate about LCT) raises questions about social progress and the direction of social transformation that cannot be addressed by scientific knowledge alone (Hulme 2007). In other words, shifting analysis from press representation of 'whether to', and 'why to', tackle climate change and focusing on constructions of 'how to' tackle climate change and to what extent, requires a more nuanced understanding of public engagement which includes consideration of engagement with social and political transformation.

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[77] They propose that journalists can achieve these goals by adopting three core roles of knowledge broker, dialogue broker and policy broker. They also point out that this form of journalism also serves as an alternative to the increasingly, PR-driven style of reporting around science and technology stories.

[78] For example, the study period did not include the rise of community resistance to smart grid/pylons or windfarms late 2013/2014, (see Chapter 5).

[79] In other words, studies discussing press representations of climate change solutions and/or specific dimensions of LCT (e.g.) energy, renewable energy etc.

Thus, the approach to investigating press treatment in this thesis offers important insights on how the social context influences potential broader public engagement with LCT. That is, it extends knowledge of traditional approaches to assessing print media and public engagement with science and environmental issues by contributing to understanding about how press representations shape (potential) collective action and societal responses. In doing so, it presents an holistic account of media(ted) public engagement as an inter-related process. That is, it provides a three-dimensional analysis of the (potential) implications of press treatment and therefore insights on how press constructions shape cognitive, affective and behavioural engagement with LCT.

Furthermore, given the social shaping influence of press representations, the significance of this multi-modal analysis is that the dominant themes define the kinds of engagement that have been publically legitimised over the long-term. In other words, it reveals the ideas about public involvement that are considered possible and sheds light on the habitual ideas about LCT in society. This is significant because, as Nisbet (citing Etzioni 2006) notes,

> once assumptions and legitimate authorities are established on a problem like climate change, it becomes "costly in terms of human mental labor to re-examine what has finally come to be taken for granted". (2013 p.x.)

Thus, press representations and themes about public engagement influence how LCT is 'built into society' and therefore have a potential influence on building successful transition pathways (Mullally and Byrne 2016). As a result, this thesis investigates an under-explored aspect of public engagement that is particularly relevant in the post-COP21 context. It highlights how press representations may act as barriers to (potential) societal involvement by fostering public doubts about our collective ability to tackle climate change or promoting disengagement or nonengagement (i.e.) by boosting response scepticism (Capstick and Pidgeon 2014).

Conceptual Insights

While public engagement is a major concern in climate change communications, to date, analyses of print media texts have approached this topic in limited ways (as discussed in Chapters 2 and 4). To summarise the majority of studies focus on cognitive engagement and assess representations of climate science or climate denial/scepticism. More recently, a focus on visual analyses has broadened insights on the implications of press treatment by shedding light on affective engagement. Therefore, media (and communications) studies have yet to take advantage of the emerging literature on public engagement and

systematically examine press treatment in terms of its three dimensions. Studies on media(ted) public engagement with climate change are also dominated by either media-centric analyses (primarily offering insights about trends in news media organisations and production processes) or instrumental analyses (aimed at producing insights for 'effective' or pre-determined behaviour change). Therefore, the research design devised for this thesis attempted to investigate press representations that offer a citizen-centric perspective.

To do so, it analysed public engagement as a state involving inter-related dimensions of cognitive, affective and behavioural engagement and advanced the view that this offers a fruitful model for understanding and explaining news media text's social shaping influence. This is because it enables insights on how press treatment shapes ideas about fora, forums and motivations for engagement, and thus how it influences (potential) broader public engagement with LCT. As a result, the findings offer a range of alternate insights on the implications of press treatment for citizen engagement, such as whether it reproduces instrumental goals for citizen involvement and whether press treatment contributes to response scepticism. As a result, the MMTA offers an alternative to press analyses which, (for example, drawing on theories of the public sphere) prioritise ideas of public engagement as deliberation and thus assess press content in terms of balance, bias and salience. Significantly, these studies focus on evaluation of rational arguments (and thus cognitive engagement).  In doing so, this study also provides an alternate approach to print media text analysis especially for emerging issues involving PNS, where visual resources may not yet be available.

The multi-modal approach, also provides empirical evidence of the limitations of print media content and framing analysis of climate change communication. Specifically, it shows that how print media discuss environmental challenges and processes for tackling environmental change are significant sites of analytical interest, particulary for research on engaging public(s). For example, this analysis indicated that environmental and science organisations claims are associated with the high prevalance of distancing repertoires in Irish press representations of LCT. As distancing repertories act as negative affective inputs, this suggests a specific need for Irish science organisations and environmental organisations to refine their communications strategies (see section 9.3).

Most significantly, this research design facilitates insights on how 'the social' is marginalised in press treatment of LCT (discussed below). This is important for two reasons. Firstly,

considerable (and much needed) research focusses on the balance between economic and environmental interests in press treatment of climate change and LCT, and thus insights on the marginalisation of environmental concerns in news media. However, this study has revealed that examining the social dimensions of LCT is also necessary because this is the most marginalized aspect of press treatment. In other words, it draws attention to the extent to which press treatment obscures social dimensions of LCT as a significant area of concern for public engagement with global environmental change, particularly in the post-COP21 context. Secondly, it highlights the implications of obscuring the social dimensions of LCT for broader public engagement. In particular, by revealing that Irish press treatment promotes social acceptance of a top down policy agenda, it highlights that press representations offer limited resources for engaging public(s) with LCT and most significantly fails to challenge public apathy or public doubts about humanity's ability to tackle climate change. Thus, overall, the value of the public engagement lens adopted in this thesis is that it makes visible important social aspects of LCT that often go unrecognized or unacknowledged in dominant approaches to news media analysis and public engagement initiatives.

Caveats

In advocating the value of the research design, this thesis does not argue the need to forego analysis of climate science and/or climate risks in future news media research. Instead, it advances the view that there is an opportunity to develop news media research in line with the changing social context and that offers insights on the social reality of LCT. That is, taking the post-COP21 context and prevailing need for greater public engagement with transition into account, news media constructions of LCT and their implications for broader public engagement are important new directions for news media analysis.

It is also worth noting that print media representation of LCT iare evolving and that there have been transformations in trends since 2014. Most notably, the timeframe did not include the rise of community resistance to electric (super) pylons or renewable energy windfarms in late 2013 and throughout 2014 (Mullally and Byrne 2016, discussed in Chapter 5)[80]. Nonetheless, this research design and analysis facilitated identification of dominant themes in press treatment of LCT over a long timeframe. In addition, the empirical chapters focused on discussing the dominant themes and thus trends in press treatment that are observable

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[80] Significantly, Irish public resistance to environmental management raises questions about the efficacy of social acceptance models of public engagement as it indicates that fairness, trust and the perceived validity of environmental decision-making are paramount issues for public(s).

over the long term. Thus, although there are new media representations of LCT these are limited to a recent spike in public resistance to environmental management. Therefore, the most significant divergences from current findings are likely to relate to changes in the prevalence of themes and representations.

Empirical Insights

Overall, the empirical data show there is considerable Irish press interest in LCT and that coverage of this topic appears to be increasing[81]. This is significant in the context of research highlighting a decrease in news media coverage of climate change globally (Boykoff et al. 2015). This highlights that public debate about LCT is an important site of interest for news media and climate change research and the value of employing alternate keyword searches such as the approach devised for this study (discussed in Chapter 4).

Themes About Public Engagement

The research design illuminated that the closing down of potential public engagement was consistent across the multi-modal framework and thus provided empirical evidence of a connection between the different dimensions of engagement in press treatment. In other words, it indicates that press privileging of elite perspectives on LCT also had implications on potential behavioural engagement as well as motivations for engaging. In particular, it showed that the dominance of economic interests in press treatment also influenced representations of low carbon practices by normalising limited and banal ideas about possible citizen actions to reduce carbon emissions. Secondly, it shows how 'the logic of efficiency' and over-simplification of LCT in terms of 'carbon calculation' also influenced ways of talking and thus motivations for public engagement with LCT. This is an important point for key social actors to consider in their press relations around LCT (discussed in section 9.3).

Representations of LCT

The analysis showed that press treatment deployed decontextualized and depoliticized public meanings, ways of talking and ideas about low carbon practices and illuminated the absence of discussion about regime change and/or social transformation associated with LCT. In brief, the empirical analysis highlighted:

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[81] It was observed that press coverage has continued post-2014 and across news media (including broadcast).

**Table 9.2: Key Findings of Irish Print Media Representations of LCT**

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|---|
| **Chapter 6**<br>Press conceptualisations of LCT (i.e.) shaping carbon literacy focused on the rationale for action (over discussion of solutions) and this discussion privileged elite interests in reducing carbon emission. Thus, press reports highlighted the need for economic growth and government regulations and promoted elite actors as the responsible agents of change. This analysis also revealed that press treatment lacked any critique of consumption or discussion of LCT as a systemic challenge. |
| **Chapter 7**<br>Press treatment of citizen actions to reduce carbon emissions (i.e.) normalizing ideas about low carbon practices or behaviours was the least discussed aspect of LCT and significantly, this discussion focused on changing work practices and deploying ideas consistent with business interests in LCT. In other words, the analysis revealed the limited discussion of community and/or social involvement in carbon reduction activity or barriers associated with high carbon lock-in. Instead, press treatment promoted private sphere actions and thus the maintenance of current lifestyles, specifically by advocating through individual consumerism and changing to 'green' brands as the dominant form of citizen engagement with LCT. |
| **Chapter 8**<br>Press articulations of LCT (i.e.) mainstreaming carbon repertoires, highlighted that the Irish press predominantly deployed pessimistic ways of talking about LCT and that as a result acted as negative affective inputs. In particular, the focus on Fear Appeals, Failure and Duty is associated with distancing repertoires and therefore showed how press treatment may contribute to public apathy and disengagement with LCT. |

This indicates that, consistent with international studies examining representations of climate change actions, Irish print media offer reductive accounts of the multi-faceted processes and choices for reducing carbon emissions. Prior research has shown that the press deploy limited and banal ideas about climate change and thus fail to capture the complexity of this multi-dimensional challenge. In particular, studies have shown that press representations, framings and discourses concentrate on the importance of economic logics, predictions and goals associated with LCT (Djerf-Pierre et al. 2015; McNally 2015; Kouri and Clarke 2014; Nerlich 2012; Koteyko 2012; Uusi-Rauva and Tienari 2010; Howard-Williams 2009). This has given rise to concerns about the emergence of market environmentalism in press treatment of LCT and climate change solutions (Djerf-Pierre et al. 2015; Shaw and Nerlich 2015; Koteyko et al. 2010; Uusi-Rauva and Tienari 2010). Likewise, in line with analyses and discussion of climate policy and governance, this study also illuminated a focus on instrumental and authoritarian approaches to public engagement (Höppner 2009, Aitken 2012, Webb 2012, Stirling 2014b). In other words, it confirms that Irish print media (re)produce the instrumental understanding of public engagement as mobilising support for (top down) policy in public discourse. Additionally, several studies have highlighted the tendency for press treatment of climate change to focus on defining the problem rather than discussion of solutions (Cross et al. 2015; O' Neill et al. 2015; Ereaut and Segnit 2006), to prioritise elite interests (Howard-

Williams 2009, Shaw 2016) and to marginalise discussion of the social dimensions (Howard-Williams 2009, Cherry *et al.* 2013).

On the other hand, to date, few published studies have attempted to examine the range of decarbonisation processes covered in news media. Instead, analytical attention has focussed on specific aspects of transition such as 'Green Jobs' (Kouri and Clarke 2014), techno-innovation (Mullally and Byrne 2015; Pietzner et al. 2014; Asayama and Ishii 2013; Cherry et al. 2013;  Porter and Hulme 2013) or energy issues (Uusi-Rauva and Tienari 2010, Djerf-Pierre *et al.* 2015, Maeseele *et al.* 2015). Nonetheless, it is possible to distinguish some key differences in the overall findings.  For example, while previous research notes the limited attention to social concerns and values, few studies have explicitly drawn attention to the extent to which press treatment fails to deploy social (re)contextualization or critique and assessed the implications for broader public engagement with LCT.  Thus, the findings in this thesis comprehensively elucidate the degree to which Irish print media treatment crowds out the social reality of LCT and limits public meanings, ways of talking and ideas about low carbon practices. In other words, while the hegemony of economic framings and elite interests in media discussions of LCT as well as instrumental assumptions of public engagement is documented in press and policy studies of climate change and, to a lesser extent LCT, the corresponding implications for broader public engagement are under-researched.

Thus, this study has highlighted a systematic silencing and marginalising of wider social concerns across the framework for assessing broader public engagement and that dominant press representations did not present LCT as a 'social fact' (Rowson and Corner 2014). For example, while representations highlighted economic rationales and benefits of LCT, it overlooked the socio-economic contingencies such as costs to well-being, health or landscape. There was a marked absence of stories about the local, lived experience of LCT as well as community interests in LCT, such as stories of community energy schemes, or stories questioning the economic and environmental claims and assumptions about low carbon future. However, all these issues were available as potential topics for press discussion during the timeframe. In fact, Ireland is one of the original locations of the Transition Town movement, but this study failed to find any references to this community initiative. This suggests that there was a choice to silence these socio-technical dimensions of LCT or a failure to recognize these dimensions as newsworthy and of public interest. It is also an important finding given print media's social shaping influence and recent studies which

indicate that press representations have significant influence over citizen involvement with climate change (Olausson 2011, Cross *et al.* 2015). Furthermore, there were notably very few instances of citizen's voices in press coverage and crucially, citizens were primarily deployed as 'victims' rather than agents of change. This indicates that press treatment did not raise awareness of collective action or promote ideas of LCT as involving citizen agency or decision-making about a collective problem. It is also highly significant as recent research highlights that press representations of climate change action, particularly representations that offer positive reinforcement of citizen or collective agency have great potential to build engagement (Cross et al. 2015). Thus, Irish print media representations marginalise the possibility that citizen engagement can also include creative, socially transformative and, perhaps, long-term realistic approaches to moving towards a low carbon future.

Implications for News Media and Communications Practice

One of the main challenges for climate change communications and in particular for engaging publics with climate change according to practitioners is its perceived lack of immediacy and the tempo-spatial distance between cause and effect. Researchers and communications professionals maintain that climate change is seen as someone else's problem and as happening somewhere else. Public discussion and communication about carbon reduction activity (LCT) on the other hand is inherently about 'Bringing Climate Change Home' as it involves social and personal challenges in local contexts. Thus, while these debates are related, LCT represents a different proposition for communications and public engagement. In particular, it requires public discussion and decision-making about the processes for reducing carbon emissions (i.e.) insights from the socio-technical transitions literature and questions about how much to reduce carbon emissions (i.e.) political and ethical considerations (and conflicts) as well as discussion of governance and regulations to reduce emissions (i.e.) a transition management approach. Therefore, this public challenge also involves more contentious debates about solutions as well as doubts and power relations associated with moving to alternate low carbon processes. Significantly, as Capstick and Pidgeon (2014) point out, these debates are also more disputable than those involving climate science.[82] Therefore, zoning in on LCT shifts public debate from questions about 'good science' and into messy and complex editorial terrain involving ethical-political considerations. According to Smith (2005, p1479) '[I]n this terrain 'facts', claims, public

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[82] This is because LCT involves discussion about how we act on scientific knowledge rather than whether we accept scientific claims as valid and therefore raises questions about whose interests determine what is at stake for LCT and what assumptions underpin decisions about LCT.

interests and values merge into one another'. Therefore, public debate about LCT requires communications and press coverage that does more than present facts and tell public(s) what to think about, it also requires discussion about how to think about LCT and of the broader societal implications of transition which includes discussion of potential regime change and social transformation.

As a result, this analysis found that rather than inviting widespread debate (including contestation) about the range of decarbonisation processes and citizen actions, Irish press conceptualisations and articulations narrowly configured around a discursive struggle over economic interests while the social dimensions of LCT, such as the adaptive challenge or critiques of consumption-based growth imperatives – were absent or minimized by the dominant framing and repertoires. Thus, whereas news media studies of climate change draw attention to the problematic reporting of climate science and raise concerns about the representation of climate science, climate risks as well as climate denialism/scepticism in news media coverage, this analysis identifies issues with the reporting of LCT. In particular, it highlights that LCT is promoted as an unproblematic process involving linear economic growth and raised concerns about the representation of economic benefits associated with techno-innovation, environmental responsiveness and the social reality of transition. The extent to which the public meanings of LCT deployed in media treatment were at odds with history of transitions as unpredictable, messy and driven by disruptive intermediaries highlights this point. It shows that Irish press promoted LCT as a process involving (or driven) by continuity over change and crucially, that this has implications across (potential) cognitive, behavioural and affective engagement.

Finally, these findings raise questions as to whether Irish press treatment facilitates public discussion of carbon reduction activity on the scale needed to tackle climate change (for example, by meeting internationally agreed emissions targets). It also highlights a problem of not engaging public(s) with the political dimensions of LCT and the depoliticisation of citizen action. Focussing on 'business-as-usual' obscures discussion of possible conflict and inequality entailed in radically changing our energy systems and the associated social transformation or upheaval. As a result, the politics of transition, such as contestation over the direction of changing energy systems is obscured and the goals of predetermined behaviour changes are not subjected to critical scrutiny. That is, it silences democratic discussion of who benefits or who are put at risk because of top down decisions about LCT (Webb 2012). This begs the question (paraphrasing Miller *et al*. 'Should societies be captive to the ambitions of *any* one

group of actors without extensive public debate?' (2013, p144). Furthermore, the focus on changing consumer trends and prioritizing of citizen actions as individual consumer engagement is consistent with policy approaches supporting ecological modernisation as that it is the form that engagement takes within a growth oriented economy (Webb 2012). Lastly, the prevalence of distancing repertoires, which act as negative affective inputs, suggests media treatment may also boost a new form of climate scepticism, namely Response Scepticism (Capstick and Pidgeon 2014).

The objective of the preceding discussion is not to suggest that the press (or news media generally) should advance a particular view of LCT or that they should be advocates of particular actions. Rather, the intention is to show that news media treatment *could* present a wider range of views and perspectives on LCT as well as examples of citizen actions and ways of talking about LCT. However, the findings show that instead, Irish press treatment deployed decontextualized and depoliticized public meanings (carbon literacy), ways of talking (carbon repertoires) and ideas about low carbon practices and that these are consistent with elite interests and visions. However, these limitations also represent opportunities for news media and communications praxis around LCT. As well as illuminating the value of democratically responsible journalism, they also have implications for key social actors' communications strategies, for example, in relation to their potential influence on public engagement via media(ted) claims-making about LCT. This highlights the need for voices of authority on LCT to consider communicating more about solutions (rather than defining the problem) especially citizens' role in decarbonising processes and the societal implications of those processes for citizens' well-being (as well as economic impacts), ideas about the good life and future expectations. Further discussion of strategies for improving journalism and communications practice around LCT are presented in section 9.3.

## 9.2 Insights on Irish Print Media and LCT

While Irish press representations of LCT, in common with international studies, emphasized energy transition and national policy to achieve EU regulations, the over-riding focus of Irish press attention was on the Carbon Tax and other financial approaches to carbon reduction manangement (McNally 2015). This suggests that print media present a unique Irish perspective on climate change and LCT and, consistent with other researchers, that print media 'domestication' of this issue follows the national policy context (Djerf-Pierre et al.

2015; Asayama and Ishii 2013; Uusi-Tienari 2010). However, it is important to point out that post-2014, there has been a change in emphasis in Irish press, with increasing interest in renewable energy and public resistance to windfarms (Mullally and Byrne 2016) as well as observed increases in articles about Ireland's low carbon farming model. In other words, in light of EU policy goals to move towards a low carbon society and climate change leadership, there is now noticeable press interest in positive stories and opinion pieces proclaiming the national (economic) benefits of Ireland's climate smart farming as well as low carbon development more generally.

The study highlighted three unique features of Irish press treatment. Firstly, LCT was not primarily discussed as a technological issue or as a problem requiring a technical solution. Instead, discussion of this aspect focussed on the national and economic benefits of technoscientific innovation. In other words, Irish press discussion of LCT constructed technology and the environment as economic matters and government responsibility. For example, headlines typically extolled elite visions of the economic benefits 'We have potential to be world leaders in the Green Economy' (*Irish Independent*, 1.12.2011)[83]. Thus, Irish press treatment of the technological dimensions of LCT stands out because it is primarily discussed in terms of national policy and economic benefits. Irish press focus on techno-innovation, what it can deliever the economy (by ensuring energy security as well as meeting EU targets) and how this can be achieved through government policy and top down regulations. Significant attention was paid to international energy infrastructure management required to ensure energy security and maintain energy costs. That is, it constructed LCT as involving transition management and governance of technological change associated with building transition pathways rather than as a socio-technical issue or adaptive challenge.

Secondly, while the study did not set out to examine claims makers and/or voices of authority, the presence of an active science voice was noted throughout the timeframe. The views and opinions of individual scientists, especially the EPA and environmental organisations were regularly quoted in articles as well as headlines. This is interesting as it contrasts with an analysis of representations of EU climate policy in Irish press that found an absence of scientific voices (Uusi Rauva and Tiernari 2010).

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[83] This trend persisted post-2014, for example: Government 'could create 90,000 jobs' in green economy (Irish Independent 18.09.2014).

Thirdly, in line with previous studies of climate change (*ibid.),* Irish press coverage deployed the notion of Ireland as an 'Exception' and thus a 'Special Case' in relation to emissions targets because of the unique contribution that farming plays in Irish competitiveness. Thus, in addition to supporting the notion of Irish leadership on LCT by promoting political and elite rhetoric about Climate Smart farming and Ireland's low carbon model of agriculture, Irish news media also (curiously) link national expectations of leadership around carbon emissions reductions with the expectation of 'Special Treatment'[84].

Thus, while there is little political conflict about climate change or the need to reduce emissions and LCT in Irish press representations, there are disagreements over how to achieve reductions. This centers on conflict over financial measures (namely carbon tax and credits) versus regulatory or political legislation (especially a climate change bill and EU emissions targets).  The most significant disagreements, however, are around how much to reduce emissions. Thus, the Irish case highlights that a far more nuanced discursive struggle, in which actors present competing views about the limits of carbon reduction activity in the context of the greater need (and logic) to maintain growth and especially, farming and business competitiveness. In particular, it illuminates the unintended consequences of prioritising economic benefits as the over-riding mantra of LCT  in press treatment and thus presents important insights on the tension between climate change and LCT communications praxis. In other words, the Irish case, which is dominated by economic rationales and limited references to environmental concerns, shows the value of plurality, alternate voices and necessity of including societal dimensions of LCT as part of print media's role in fostering democratic transition pathways to a low carbon future.

## 9.3 Recommendations for Journalism and Communication Praxis

Illuminating the silences in press treatment also offers a roadmap of how to reinvigorate storylines and thus contribute to broadening the conversation and connecting public(s) with LCT. The analysis identified the marginalisation of socially meaningful public discussion of LCT

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[84] There was also a distinct silence on the impacts of LCT on place, or tourism, and the cultural or symbolic aspects of transition. Nor was there a radical discourse of green activism or discussion of social movement initiatives. All of which draws attention to the very conservative (and parochial) nature of Irish print media discussion of LCT and in particular of coverage by the *Irish Times*, as this publication produced the most articles on LCT.

and highlighted the implications in terms of boosting response scepticism and circumscribing (potential) broader public engagement with LCT. This draws attention to the need to fundamentally rethink news media and communications strategies around LCT. In particular, the findings indicate that overall, more constructive, local and actionable discussions about building transition pathways are required. Therefore, in line with the normative goal that media(ted) public engagement with LCT should 'broaden the conversation and connect with publics', this thesis advances suggestions for democratically responsible journalism as an appropriate approach for press coverage of LCT. Furthermore, to connect LCT with wider public(s) and overcome the post-COP21 challenges of public apathy and response scepticism, this thesis advocates that key social actors communications strategies need to address the social dimensions and concerns about LCT *in addition to* promoting environmental responsiveness.

As in the empirical chapters, the following recommendations employ the latest thinking about engaging publics with tackling climate change. To recap, this literature argues that new conversations about climate change are needed and increasingly, this school of thought views climate change action as an adaptive challenge.  In other words, that it '…is fundamentally linked to beliefs, values and worldviews, as well as to power, politics, identities and interests' (O'Brien and Selboe 2015) rather than as a purely technical challenge which can be measured in terms of the logic of efficiency. Capturing the implications of this change in emphasis for communications strategies, Rowson and Corner (2014) argue

> We need a new way of thinking and speaking that captures the fact that climate change is not merely one of many environmental problems, but a completely unique collective action problem, and one that is implicated in every aspect of our lives.

The emerging literature on public engagement with climate change also has much to offer in terms of identifying unsuccessful strategies and offers a range of alternate approaches for fostering wider public involvement. For example, it highlights that public engagement needs to go beyond instrumental social acceptance models and to address the socio-cultural and political dimensions of LCT.  Therefore, these perspectives underpin the following recommendations because they are highly pertinent in the context of increasing public resistance to authoritarian (top down) approaches to environmental management in Ireland, as exemplified by ongoing public protests against water metering and increased concern about large-scale wind farms. Significantly, these protests indicate the need to counter (potential) public scepticism about LCT with greater transparency around building transition pathways.

Recommendations for Print Media Practice

The findings indicate that Irish journalism marginalised the social dimensions of LCT and obscured discussion of LCT as involving regime change. Thus there is an opportunity to make LCT a 'social fact' (Corner and Rowson 2014) and therefore the thesis advocates democratically responsible journalism which aims to 'broaden the conversation and connect LCT with public(s)'. This approach is particularly relevant for energy transition and 'climate smart' or low carbon farming, as these issues currently dominate Irish press reports on LCT.

The analysis found that press treatment of energy issues prioritised energy policy and costs as well as international infrastructure agreements, which is consistent with elite interests in governance issues. However, given that energy underpins everything we do and that the energy story is something we all take part in (Tyszczuk and Udall 2015), this is also an opportunity to reinvigorate energy discussion as a societal issue by employing Nisbet and Fahy's (2015) approaches for knowledge-based journalism. In particular, given key social actor's publications or reports about LCT drive press coverage, these stories should include more critical analysis of the findings as well as alternate perspectives on their projections and policy recommendations. That is, press treatment could also critique assumptions about energy reduction demand as well as questioning technology choices and highlighting their societal impacts. In line with other researchers who argue that energy policy could, and needs to, be interesting, creative and inspiring (Tyszczuk and Udall 2015), the analysis also indicated the need to socially (re)contextualise energy policy discussion in terms of both language use and content. Press coverage also tended to act as cheerleaders for economic growth and jobs, thereby obscuring important societal and political dimensions of transition. This suggests the need for more critical analysis of societal impacts of regime change including discussion of impacts on place, future well-being and expectations as well as investigations of changes in energy use, land use, methods of transportation, residential patterns, agricultural systems, production processes and levels of consumption.

The absence of references to social resilience or social learning associated with LCT regime change is also highly significant. As Carvalho et al. (2011) point out, building a low carbon society involves preparing for society's uncertain future and therefore requires a 'compelling social vision' as well as an economic one. They argue this also involves preparing future generations to live and work in a post-carbon world and that '[K]nowledge will be key in fostering a Post carbon society and ensuring a smooth transition' (*ibid.* p1845). In other words, LCT involves a massive project of retraining a low carbon workforce and education

about future low carbon jobs. The analysis also indicates there is opportunity for press treatment to personalise or humanise stories about LCT. For example, there is considerable scope to increase discussion and analysis of community energy schemes, highlighting why people get involved, what they get out of this involvement as well as the community and family benefits. These discussions also offer the possibility to articulate alternate perspectives about citizen agency and introduce new ways of talking about change that promote individual and collective agency. This could also stimulate new conversations around renewable energy, sustainable technology and potentially articulate more culturally dynamic discussions about regime change. Most significantly, these stories represent opportunities to hear more active community voices than the current situation which focusses on deploying the voices of victims. Additional suggestions for socially (re)contextualising stories include framing stories for different demographics,s as well as developing stories about personal and community dimensions of LCT as part of features in Culture or Lifestyle sections rather than the current focus on LCT in business and or news sections.

Overall, press treatment would benefit from including a wider range of voices and intermediaries offering alternate perspectives to the 'simple solutions' and 'business as usual' approach to LCT. For example, Cross et al. (2016) highlight the value of stories of 'local heros', that is those who take initiative or leadership roles to advance political action in local communities as well as stories of citizen action in general, arguing that these are more engaging than focussing on political failure. Based on their reception study of Canadian press, they argue that stories that build local knowledge, information and interest in low carbon actions and emphasize positive achievements are more likely to encourage people to become active participants in climate change action than stories of political failure. Furthermore, given print media's social shaping influence, they maintain that press treatment needs to promote

> stories of political initiative, creativity and courage that illuminate the countless examples of activism and engagement through which people in our communities and neighbourhoods are coming together in new forms of solidarity, community and action' (*ibid.* p35).

Likewise, scientists and science organisations play an important role in helping to socially (re)contextualise LCT as claims makers and voices of authority in press representations. Smith (2005) argues that the science and policy community are potentially highly influential in telling the climate change story and crucially, in shifting the narrative. Smith points out that they can play important roles as '...a persistent source of ideas, advice, and critical feedback relating to climate change storytelling' (*ibid.* p1481). This is also applicable to press treatment

of LCT, as many articles were event driven and key social actors (especially the EPA, business lobby groups and environmental organisations) held considerable sway in originating stories about Irish carbon emissions and influencing their tone.

Suggestions for Communications Practitioners

The findings highlight the need for policy-makers and science organisations to recognize response scepticism and public apathy as significant communications challenges for broader public engagement with LCT. The prevalence of one-sided perspectives promoting elite interests in LCT, which emphasized particular decarbonisation processes and goals but said little about social consequences or transformation, underlines the need to prioritise the social relevance of LCT. Thus, to help 'Bring Climate Change Home' the following suggestions aimed at building broader public engagement with transition pathways focus on fostering collective collaborations, building social resilience and acknowledging the cultural dimensions of transition. They draw on scholarship that advocates the need to change the conversation on climate change and for more 'compelling narratives' to engage wider publics (Bushell et al. 2016; Corner and Clarke 2016; Tyszczuk and Udall 2015; Hall 2014). These scholars argue that people need to hear, and to feel part of, reasonably optimistic stories about a low carbon future or society. However, it is important to note that given the heterogeneous nature of public(s) and that people are likely to perceive communications in quite different ways, there is unlikely to be 'one' single message or narrative to 'trigger' broader public engagement or behaviour change.

One of the most notable silences in press treatment which could be addressed by social actors concerned the limited deployment of carbon repertoires in the Empowerment Theme. In particular, this analysis identified the need for more compelling Post Carbon Transformation repertoires as well as the absence of an engaging Energy repertoire. Given the current focus on energy costs and efficiency in Irish press and policy discussion about LCT, more socially meaningful and engaging narratives around energy transition need to move beyond the narrow focus on economic incentives which reinforce materialism and self-interest. Energy transition also involves changes in the home, to family life, communities and thus involves questions of human agency, values and habits as well as ideas about 'the good life'. Therefore, it is important to reframe energy transition as part of an optimistic social vision and to recognise that citizens are more than consumers - they are also motivated by deeper values and desires (Moser and Dilling 2007b). Consequently, communications

strategies need to acknowledge that broader public engagement incorporates changing social norms which also means accepting and talking about loss of ways of living as well as moving through difficult emotional states such as mourning and nostalgia (Strengers 2014; Hargreaves 2011; Randall 2009). In other words, energy transition is not a simple equation involving rational consumers reducing energy demand and benefitting from economic gains, but a far more complex social interaction (Henwood *et al.* 2015). Energy repertoires and discussions therefore need to move beyond reductive narratives of (economic) convenience.

The analysis also highlights the need to avoid disenfranchising constituencies and to consider a wider range of motives for engagement in LCT. For example, communications strategies should also consider altruistic motives and discussion of Climate Justice, social solidarity as well as future community well-being in addition to economic and biospheric rationales for engaging in LCT (Corner et al. 2016; Rowson and Corner 2015; Howell 2013).  Thus, as discussed, social learning, resilience and collaborative processes to achieve LCT in local communities are also important considerations.

The analysis of how stories are told and the significance for affective engagement with LCT raised two important insights for communications strategies. Firstly, one of the most consistent findings across the study was the tendency to deploy techno-managerial and bureacratic discussions and language. This trend was noted across the timeframe and across claims makers. It is also a notable finding because the search terms were chosen to capture lay conceptualisations and articulations about LCT. In other words, it indicates that Irish press treatment (and claims-makers) reproduce lay terms as expert discourses. Secondly, it highlighted the absence of carbon repertoires that help public(s) imagine and articulate optimistic possibilities for a low carbon future. This underlines the need for communications strategies that focus on developing an attractive low carbon imaginary – one that takes quality of life, relationships, community building and health/well-being into account – without dismissing the value of what must be given up. Significantly, this approach has the advantage of promoting an appealing corrective rather than prioritising fear appeals. Promoting popular goals and aspirations also presents an alternative to the traditional 'green living' approach articulated in Curbing Consumption, which focusses on notions of austere frugality and/or sacrificing modern lifestyles.

Examples of how to reframe low carbon lifestyles within the Empowerment theme include

promoting the idea of 'Pleinitude' and challenging traditional ideas about consumption. Schlor advocates

> promoting the idea of working and spending less, creating and connecting more. Thus, rather than a paradigm of sacrifice, this idea involves a way of life that will yield more well-being than sticking to business as usual. (2010 p2)

Meanwhile, Vanderheiden (2010) argues communication needs to challenge norms that presume welfare depends on consumption and that making lifestyle sacrifices is necessarily a gloomy proposition. For example, reframing the notion that living green doesn't mean living well can be achieved by 'emphasizing that reducing competitive consumption and eating sustainable food can increase leisure time, the quality of personal relationships and pleasure people find in food' (p14-17). In addition to developing more constructive framings by linking LCT to community goals and the challenge of overcoming the odds or ideas of change for a greater good, the literature on celebrities and climate change communications highlights the value of identifying and collaborating with Low Carbon Ambassadors, such as sports icons (as was seen at the 2016 Rio Olympics).


## 9.4 Summary: Irish Print Media Representations of LCT

This chapter discussed the value of analysing media(ted) public engagement with LCT and assessed the implications of the study's key findings for reinvigorating journalism and communications practice. It argued that MMTA offers novel insights on how press treatment influences the social context and that it facilitates useful insights for building (potential) broader public engagement with LCT. In particular, the analysis revealed that over the long-term, Irish press privilege conceptualisations and articulations that prioritise top down formats, private sphere fora and negative affective inputs. As a result, it argued that Irish press representations circumscribe (potential) broader public engagement with LCT. Most significantly, the research design revealed the extent to which press treatment marginalised the social dimensions of transition and presented LCT in terms of maintaining the status quo. Thus, it highlighted the absence of discussion of LCT as involving regime change (either social, political or technological) and social transformation. This gives rise to two related insights. Firstly it indicates that Irish press treatment of LCT may boost response scepticism (Capstick and Pidgeon 2014) and secondly, this suggests a need to rethink journalism practice and communications strategies for LCT.

The analysis also revealed that Irish press promoted the rationale for tackling climate change and moving to a low carbon economy, rather than deploying ideas about the processes for moving to a low carbon future and fostering public debate about how to tackle climate change. Thus during the timeframe under investigation, the public engagement lens adopted in this thesis highlighted that rather than traditional critiques of print media silencing environmental interests in favour of economic concerns or technological innovation, the significant feature of Irish press treatment of LCT was the erosion of the social implications of transition. In other words, the most prevalent vision of a low carbon future deployed in Irish print media was of a low carbon economy, populated by low carbon investors and consumers, benefiting from low carbon jobs and growth to tackle economic crises while maintaining lifestlyes and business–as-usual. Crucially, while press representations of LCT drew attention to environmental responsiveness, this was subordinate to economic utility. Furthermore, this prioritisation was achieved by focussing discussion on carbon emissions' targets and policy obligations and therefore constraining discussion of LCT in terms of 'carbon calculation'. For example, Irish press reports typically argued 'Ireland needs to act on greenhouse gases to avoid damaging the economy'[85]. In other words, privileging elite interests and information flows, Irish press treatment sets the terms of public debate about LCT within 'the logic of efficiency' and this reproduces existing social orders and arrangements. Blue eloquently describes the implications for the social context

> While proposed solutions demand that people undergo changes in lifestyle, behaviour and expectations, this is only to be achieved within the existing system of economic and political relations in which technological and market-based solutions reign large. (2015 p10)

This is far from the potential for radical social transformation associated with tackling climate change and the post carbon future imagined by Beck (2010) and Giddens (2009) among others. It also suggests that public understanding of a low carbon future in Ireland may be one which primarily involves changes in (business and consumer) style over (environmental and social) substance. Thus, overall, this analysis of LCT representations draws attention to important questions about what sort of future is being brought about in the name of climate action. In line with Shaw (2016), the findings in this thesis show that this may not involve much change at all apart from the amount of CO2 in the atmosphere.

The concluding chapter reflects on the overall contribution this thesis makes to the field of media and communication studies of climate change and offers avenues for future research.

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[85] 'Business Leaders Urge Taoiseach to support Low Carbon Economy', Irish Times, 23.09.2009

# 10

## Bringing Climate Change Home

This thesis set out to provide a novel account of print media and climate change by mapping how the press are telling the story about reducing carbon emissions. To do so, it investigated how print media broaden the conversation and connect publics with LCT. This is an important question because how the press cover this issue sheds light on the 'story' we are telling ourselves about tackling climate change and moving to a low carbon future. It is also a highly relevant one in light of the Paris Agreement as, post-COP21, attention turns to building public support and engagement with carbon reduction activity. Furthermore, it highlights the multi-faceted nature of climate change and the complexity of climate change communication. As Hulme (2009) points out, discussion about climate change comes with certain assumptions about what 'climate change' means and thus how we go about 'fixing it'. In other words, Hulme argues that because climate change can be framed in different ways, for example, as a security issue, a threat to economic well-being or a question of social justice, as well as its original framing as an environmental problem, this gives rise to disagreements about how we tackle it. This multi-dimensionality also characterises debate about reducing carbon emissions and has implications for analysing press representations of LCT and for understanding the societal barriers to broader public engagement.

Therefore, the post-COP21 context also heralds a new era for public engagement with climate change. In theory, as the political focus moves from building acceptance of anthropogenic global warming and consensus about the need to tackle climate change, to policies for achieving carbon emissions reductions, public discussion and decision-making should focus on the processes of decarbonisation and choices about social and personal carbon reduction activities. Thus, the current moment also marks a departure point for media and communications scholarship of climate change. In particular, it draws attention to the need for more nuanced news media analyses of climate change, to reflect this new policy context and the need to engage citizens with discussion and decision-making about carbon reduction activity. Significantly, Klein (2014) alludes to this distinction when she argues that research priorities should also focus on the politics of the fossil fuel energy, particularly if studies are interested in research questions about public involvement with climate change

and print media as 'spaces of engagement'. In other words, Klein highlights that the specific dimensions of tackling climate change now deserve equal researcher interest.

As a result, focussed analysis of LCT as a multi-dimensional issue is an important avenue for press treatment of climate change post-COP21. Shedding light on what ideas about LCT are being routinised through press representations of LCT offers novel insights on how the social context shapes potential public engagement. In other words, print media analysis extends understanding of public engagement with LCT by illuminating the factors shaping collective actions and thus, the potential socio-cultural and political barriers to public engagement. That is, the findings offer an alternate to instrumental stakeholder perspectives on engaging publics with LCT, which prioritise individual actions such as behaviour change. Significantly, critics of instrumental approaches argue that communication about LCT also needs to engage publics with choices about the different processes as well as actions and decision-making to build successful transition pathways (Stirling 2014; Webb 2012).

Evaluating the diversity of processes for moving to a low carbon future also represents an important departure for news media analyses given the widely reported decline in coverage of climate change. This global downturn in coverage was recorded across all forms of news media. For example, analysis of *New York Times* found a 40% drop in articles during 2013 despite significant climate news including IPCC reports and rises in extreme weather (Romm 2014) while Brulle's analysis of TV coverage during the same period also showed a plateauing of newstories (Hope 2014). Likewise, ongoing analyses of US print media (Luedecke et al. 2016) indicates an overall decline in coverage, apart from spikes in interest around major international meetings and extreme weather events. Meanwhile, analysis by independent media aggregators *Daily Climate*, showed an increase in stories about climate and energy issues during 2013 (Hope 2014). In other words, while stories referencing 'climate change' and 'global warming' appear to be declining, press reports of related issues and especially about energy decarbonisation are on the rise. While these findings have also led to debates about what constitutes 'climate change' for news media researchers and highlighted some of the pitfalls of contemporary attempts to analyse climate change coverage (*ibid.*), one fact remains undeniable. News media coverage of issues associated with how to tackle climate change, such as decarbonisation processes and questions about energy transition, are a growing topic of interest. Therefore, it is vitally important to establish methods for examining news media representations of LCT as a multi-dimensional issue (involving choices between social, technical and financial carbon reduction activities). As discussed (Chapter 2), while

researchers have investigated discrete aspects of LCT, these studies examine just one or two controversial aspects of the multi-faceted challenge of LCT. For example, studies focus on how print media represent either climate change and/or questions about energy policy (Uusi-Rauva and Tienari 2010); renewable energy (Djerf-Pierre *et al.* 2015); energy options (Maeseele *et al.* 2015) or 'green jobs' (Kouri and Clarke 2014).  As a result, they generate fragmented analyses of specific processes for decarbonising and cannot provide comparative insights on the alternate routes to decarbonisation. The approach to analysing LCT in this thesis however, does offer insights into which aspects of LCT are privileged or silenced.

The thesis also examined press treatment in light of increasing scholarly awareness that public engagement with LCT needs to address public apathy, response scepticism (Capstick and Pidgeon 2014) or the social organisation of denial around climate change (Norgaard 2011). This emerging literature on public engagement maintains that generating socially relevant, meaningful stories about climate change are needed to break the climate silence (Rowson and Corner 2015, Corner *et al.* 2016).  In other words, that the communications challenge goes beyond improving cognitive engagement or public understanding of LCT by developing more 'effective' or efficient' communications and that public engagement also includes behavioural and affective dimensions. This perspective is also in line with climate change scholarship from the Cultural Turn (Hulme 2013) and the increasing focus on the societal dimensions of engagement with climate change (Corner et al. 2014; Carvalho and Peterson 2012; Phillips, Carvalho and Doyle 2012). According to this view, the communications challenge is one of connecting this issue to people's everyday lives, interests and expectations rather than persuading public(s) to accept the latest scientific evidence of climate change and/or policy prescriptions for behaviour change. The significance of this school of thought, according to Adams (2015) is that

> A suitable collective response to our ongoing ecological crisis is unlikely unless, … 'we can touch people's hidden revolts, unless we can see and mark out the lines of continuity between the ubiquitous revolts of everyday life and the great uprisings'

However, while highlighting the value of research that engages with how people think, feel and talk about ecological crisis, Adams also points out, that such research may not

> … provide a ready solution either in trying to make sense of human inaction in the face of ecological crisis, or in the push to construct interventions that will generate more sustainable behaviour. [But] they remind us of how essential it is that people's struggles with the collective problems they face are the basis for genuinely progressive social change.

Likewise, this study didn't seek out simple solutions. Instead, it attempted to employ some of the more innovative thinking about tackling climate change that has begun to populate other disciplines to a print media analysis of LCT. For example, this study goes beyond dominant theories of print media's social shaping influence, which focus on assessing press coverage in terms of balance, bias and salience. Instead, this thesis posited that a public engagement lens offers a more appropriate model for understanding and explaining print media's social shaping influence as these theories offer insights on how printed text shape fora, forums and motivations for engagement and thus how press treatment influences broader public engagement with LCT. To do so, it employed a nuanced definition of public engagement (Lorenzoni et al. 2007) as well as ideas about carbon capability (Whitmarsh, Seyfang, *et al.* 2011) to facilitate a textual analysis of how the press, as a mediating channel, shapes (potential) broader public engagement. In other words, the study investigated media(ted) public engagement as a state rather than an event or process for generating public support and as an inter-related concept involving cognitive, behavioural and affective dimensions (Lorenzoni et al. 2007; Moser 2009). Thus, the analytical framework moved beyond the deficit model focus on rational arguments and, in line with calls for more citizen-centred analyses of climate change (Olausson and Berglez 2014; Hansen 2011), it mapped out how press treatment shapes carbon literacy, carbon repertoires and ideas about low carbon practices (or public roles and actions to achieve LCT). That is, it specifically examined the deployment of public meanings, ways of talking and ideas about practices in order to understand and explain how Irish press treatment routinises (potential) cognitive, affective and behavioural engagement with LCT. Furthermore, assessing broader public engagement with LCT as a three-dimensional concept is consistent with the view that tackling climate change involves the challenge of social adaptation (see Chapter 1) and therefore is centrally concerned with social change and transformation.

Given that more people engage with press representations of transition than they do with the planning or policy process (Roberts et al. 2013), press stories about transition are an important discursive space for engaging public(s) with LCT. Therefore, the analytical framework also drew on ideas about print media's role as an arena for the production, reproduction and transformation of meanings about complex social issues involving science and environmental risks. According to this view, the press have an influential role in shaping how citizens and policy-makers encounter and make sense of controversial and contested issues such as climate change and LCT (Carvalho 2007, Doyle 2011a, Boykoff and Crow 2014) and thus far-reaching consequences for society. Recent studies on press coverage and

audience reception have established this connection empirically (Olausson 2011, Cross *et al.* 2015) albeit with certain caveats[86], while Whitmarsh's (2009) analysis showed UK mass media are most common source of information on climate change. Thus, it may be argued that what we, as citizens, know and how we talk about carbon reduction activity, is powerfully shaped by social forces, including press treatment. Consequently, press representations of LCT have an influence on (potential) broader public engagement and it is important to begin mapping this terrain to shed light on how the social context influences (potential) public engagement with LCT.

Furthermore, zoning in on LCT, which places analytical attention on the processes for decarbonising society rather than on 'climate change' as discussion of climate risks, science or governance, had several implications for how the study was carried out as well as what it contributes to knowledge. Most significantly, zoning in on press discussion about the choices and processes for reducing carbon emissions involves complex social debates at the interface of technoscience, market and society. Thus they involve public discussion about post normal science (PNS) and are therefore, typically controversial, contested, high stakes debates related to scientific and technological progress (Lorenzoni et al. 2007; Gibbons 1999; Ravetz 1999). However, as Hulme (2007) argues, such debates can not be decided by scientific knowledge as they also involve a range of ethical and political dimensions. As a result, they require more critical and socially (re)contextualised news media treatment. Hulme points out that while science can tell us what is happening (i.e.) that climate change is real; it cannot tell us what to do about it. Therefore, it is of limited value for determining climate change policy goals and for motivating associated changes in attitude and behaviour. (*ibid.* p243). Instead, Hulme claims that care and motivation must come from something beyond science, such as ethics, a sense of justice, a moral framework.

> Science and especially Earth system science, cannot simply speak truth to power and all will be well. It is wrong to suppose that predictive science can provide the basis for individual or collective action. It is not enough for people to know about climate change; they need to care about it, and be motivated and able to change behaviour (Lorenzoni et al. 2007). (*ibid*. p244)

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[86] These studies note that media treatment primarily provides an overall interpretative framework and that citizens still negotiate their own meaning-making. Nonetheless, the normalisation of particular ideas, assumptions or interpretative frameworks is highly significant. This is because, as Nisbet (citing Etzioni, 2006) notes, 'once assumptions and legitimate authorities are established on a problem like climate change, it becomes "costly in terms of human mental labor to re-examine what has finally come to be taken for granted"' (2013, p.x).

In other words, moving from public engagement with climate change to LCT shifts public discussion to questions about *how to* move to a low carbon future and *how much to* decarbonise social systems. This means that public engagement is not just about building acceptance and consensus about 'whether to' or 'why to' act on climate change and 'why' we need climate governance, but also about 'how to' reduce emissions and 'how much' to reduce emissions. Therefore public discussion about LCT involves a wider range of 'experts' and vested interests and power relations associated with technoscientific innovations and this includes the need for discussion about the social implications as well as environmental and economic implications. Consequently, press coverage of LCT is not a simple issue of reporting on the facts and drawing attention to what to think about, but rather, how to think about the issues (Smith 2005). As a result, it also requires an alternate approach to journalism, one that goes beyond questions of 'good science' and accurate, unbiased reporting of facts and into the entirely messy territory of ethics and politics and visions of the good life. Crucially, as Capstick and Pidgeon (2014) point out, arguments about decarbonisation processes are far more disputable than arguments about climate change as they are not won by climate science alone. In this terrain, journalism and communications practitioners must engage with a different set of arguments, issues and agendas than those associated with generalised discussion of climate change impacts and/or climate governance.

Specifically, this terrain also involves navigating the social dimensions of technoscientific change and environmental risks and requires engaging with issues around technological innovation from Science and Technology Studies (STS), such as the socio-cultural and political dimensions of expert-led discussions. Scholars in this field of research highlight the need for more critical analysis of public engagement with LCT and a stronger focus on the politics of transitions, both of which could be useful in developing approaches for building social critique within journalism studies of this terrain. Significantly, scholarship within socio-technical transitions literature and STS more generally, offers a range of resources and analytical frameworks for expanding media and communication studies of climate change which is in line with calls for more inter-disciplinary research (Olausson and Berglez 2014, Smith and Lindenfeld 2014). Therefore, given the power relations and vested interests associated with public and news media discussion of LCT, it is crucial that news media treatment of this challenge consider adopting democratically responsible journalism. In other words, an approach to journalism that recognises that the focus on the pursuit of facts alone is not sufficient for public debates involving post-normal science and global environmental risks, such as LCT (or climate change more broadly). This approach recognises that adequately

representing the complexity of LCT requires journalism to broaden the issue and to connect with public(s), by including the voices of competing interests and views on the goals of LCT, as well as presenting the issues in socially relevant ways.

The study demonstrated that Irish press representations about LCT are dominated by top down ideas about formats, private sphere fora and negative affective inputs and that overall, press treatment privileges elite interests, visions and actions for achieving LCT and this promotes LCT as 'continuity over change'. As a result, the thesis argues that Irish press treatment circumscribes potential broader public engagement with LCT. Furthermore, as a channel for media(ted) public engagement with LCT, Irish print media do not offer an alternative to establishment approaches for building transition pathways.  A major insight arising from the empirical analysis of how print media bring 'climate change home' is the extent to which Irish press treatment marginalises discussion of LCT as an issue involving regime change at the social, political and technological levels. Thus Irish press representations of LCT silenced discussion of the wider social dimensions of carbon reduction activity such as implications for 'international affairs, food,  mainstream politics, farming, transport, health, energy, taxation issues and more' (Smith 2005 p.1476). In other words, Irish print media treatment characteristically omitted social critique and social (re)contextualisation of LCT. It also prioritises discussion of LCT in terms of economic benefits and business-as-usual or in terms of climate catastrophe or doom and gloom, which are associated with new forms of climate scepticism. Based on this, the thesis further argues that the dominant Irish press themes amplify Response Scepticism (Capstick and Pidgeon 2014) and contribute to potential non-engagement or disengagement with LCT.

While this undeniably represents a challenge for potential broader public engagement with LCT and indicates a failure of Irish print journalism as a discursive space, it also pinpoints an important avenue for future journalism praxis and for communications professionals.  It highlights the need for communications about LCT to engage with the social dimensions of technoscientific advances and scholarship within the field of socio-technical transition. As discussed, this expands the field of interest in climate change communication studies beyond important issues associated with whether and how news media balance economic and environmental interests to include important social questions about what types of processes are favoured or privileged in news media reports and, by extension, which are marginalised. In particular, the findings highlight that while pursuit of truth, accuracy and fairness are fundamental to journalism, they are not sufficient for guiding practice around LCT or public

debates at the interface of technoscience, market and society more generally. Thus, it provides empirical evidence of the need to rethink journalism practice, particularly where issues of power relations, both in terms of expertise and resources, are significant factors influencing news media content and treatment. The analysis in this thesis has also highlighted the need for journalism to adapt to changing news content. As well as adapting to changing technological platforms and tools, this thesis has shown that given news media's social shaping influence, Irish print journalism needs to give greater consideration to the societal aspects of issues at the interface of technoscience, market and society (i.e.) stories involving PNS and environmental risks. Thus, the empirical findings have also highlighted the inadequacies (and shed light on potential unintended consequences) of traditional press focus on 'education and information' or stories that focus on 'what (issues) to think about' and shown why LCT requires stories and story-telling that offers insights on 'how to think about issues'. In other words, that offer social critique and social (re)contextualise of LCT. This is in line with the approaches to knowledge-based journalism outlined by Nisbet and Fahy (2015) as sharing expertise, critique, analysis and contextualisation rather than traditional approaches to science journalism, which critics point out are often simply promotional (Nelkin 1995) and closely associated with science cheerleading.

The following sections consider specific implications of the thesis. In particular, they focus on how the methodological, theoretical and empirical insights contribute to knowledge in the field of media and communication studies of climate change as well as public engagement with low carbon transitions. The chapter concludes with suggestions for future research and reflects on the limitations of this thesis and its findings.

## 10.1 Reflections on the Contribution

This thesis contributes to social science debates about climate change by investigating the diversity of press representations of LCT and shedding light on the range of options presented for societal discussion about climate change mitigation. However, the research design goes further than developing a typology of  press themes and simply categorising debates. It also assesses the implications of press treatment in terms of emerging insights on broader public engagement with global environmental change. Thus, the study provides a comprehensive overview of Irish press treatment of LCT and advances insights on whether and how press representations broaden the conversation about LCT and 'connect' the issue with public(s). In doing so, the thesis maps an under-researched aspect of increasing significance to public

discussion about climate change. While the findings reveal overlaps between press treatment of climate change and LCT (for example, that it focusses on defining the problem rather than elaborating on solutions, thereby promoting continuity over change), this study revealed important differences in terms of the social implications of press representations (discussed in Chapter 9).

Overall, the study found that Irish press treatment privileges elite interests, values and visions of a low carbon future and illuminated how it silences discussion about social actions, concerns and critique.  In particular, the MMTA showed that the dominant themes promote instrumental and normative approaches for public engagement and therefore, routinise social acceptance of LCT. However, critics argue these approaches to citizen engagement encourage passive rather than active citizen involvement and are associated with limited agency and short-term engagement. Moreover, in presenting empirical evidence of how Irish press circumscribes broader public engagement with LCT, the thesis contributes a novel set of research questions for future scholarship about print media's role in building democratic transition pathways (discussed below). It also contributes to public engagement studies of global environmental change by offering empirical insights on how the social context may act as a countervailing influence to the dominant theoretical approaches to public engagement with LCT. In other words, it provides an alternate lens to psychological and economic paradigms for understanding and formulating public engagement initiatiatives which prioritise the normative goal of individual behaviour change as the outcome.  As a result, the thesis also contributes the following methodological, conceptual and empirical insights to the field of media and communication studies of climate change as well as to the growing literature on public engagement with LCT.

Methodological Insights

The study's main contribution is the development of an original multi-modal framework for analysing print media texts about LCT as this presents qualitatively different insights about press treatment of climate change. Specifically, the research design draws on a more complex understanding of citizen engagement as an inter-related concept comprising of cognitive, affective and behavioural engagement. As a result, the analysis of public engagement incorporates the 'messy realities' of the social context and thus facilitate greater insight into the interactions between the press, politics and society that produces knowledge, debate and decision-making around technoscientific innovation and environmental risks. The multi-modal framework also reinvigorates analyses of print media as it offers an approach for

examining how ways of talking and ideas about low carbon practices/roles influences affective and behavioural dimensions of engagement. This is highly significant in relation to press analyses of LCT as the range of visual representations of the solutions debate (unlike climate impacts such as extreme weather) is currently limited.

The thesis extends traditional approaches to press analysis, which focusses on news media's agenda-setting role as the primary intermediary between science, politics and citizens (Olausson 2011). Thus instead of analysing cognitive engagement and salience, balance and bias, it examined how press treatment shapes public meanings, ways of talking and ideas about citizen roles associated with LCT. Furthermore, illuminating how press treatment makes LCT socially relevant is consistent with calls for a national conversation about moving to a low carbon future and policy goals for LCT, as it sheds light on the challenges and opportunities for involving public(s) in discussion, decision-making and actions to build transition pathways. As a result, the findings of this thesis will be of interest to journalists, climate change communications professionals, and those interested in providing leadership on LCT by developing broader public engagement with transition pathways. However, further research is needed to draw conclusions on whether or how Irish press representations influence audience understandings, expectations or actions in everyday life (see 10.2).

Given the multi-dimensional nature of LCT, as well as the diverse goals for public engagement and thus assumptions about the formats, fora and motivations for engaging publics, the research posed a number of methodological challenges. Therefore, the research design included a number of strategies to support the validity of the findings. Firstly, the adoption of an inductive (data-driven) approach to generation of categories was supported by the use of nVivo software. This software assisted the development and validity of the coding frame by enabling a systematic approach to coding across the framework, consistent revision of codes and thus category labelling as well as the production of an audit trail to provide transparency (see Appendix 1.6). Secondly, the approach for distinguishing between LCT and climate change is important, as these two multi-dimensional issues are identified in press texts via different keyword searches. This study drew on an extended set of keyword search terms developed by Nerlich and Koteyko (2010) to capture press treatment of both expert and lay discussions of LCT and carbon management (see Chapter 4).

Finally, while it may be argued that this thesis doesn't reflect ongoing developments in news media consumption related to the growth of social and digital media as news platforms and

the decline in press circulation, the research design can also be applied to textual analysis of the implications of digital/online news on potential broader public engagement. In other words, the multi-modal framework offers an alternative to deliberative approaches for analysing citizen participation in online fora as 'events'. Thus, the multi-modal framework and codebook can also be employed for online/digital news media analysis. In addition, the multi-modal approach to media(ted) public engagement can also be adopted for analysing other so-called 'wicked' problems, especially those related to PNS and technoscientific innovations which are a characteristic feature of modern societies.

Conceptual and Theoretical Insights

The study also extends conceptual insights about media(ted) public engagement with global environmental change. In particular, it posits that public engagement theories offer a more appropriate model for analysing news media's social shaping influence and thus for understanding and explaining how press treatment influences broader public engagement with LCT (Chapter 3). In addition, synthesising the wide range of debates, tensions and methods for understanding public engagement with global environmental change provides an emerging literature of theoretical and analytical insights for assessing news media texts in terms of cognitive, affective and behavioural engagement (see Chapters 6, 7 & 8). It also contributes to the literature on media and communication studies of climate change by illuminating the value of focussed analysis on press representations of LCT as a multi-dimensional phenomenon (see Chapter 9). This is a crucial consideration for news media research because tackling climate change and moving to a low carbon future involves navigating competing interests at the interface of technoscience, market and society as well as global environmental risks. However, this is also difficult terrain to negotiate as powerful actors and technoscientific innovation play significant roles in the move to low carbon future. As researchers on LCT point out, 'what is at stake is not a simple choice between different paths to the future, but rather a complex and negotiated process' (Bulkeley *et al.* 2011). Thus, the emerging literature established two distinguishing features of LCT for news media analysis. Firstly, the value of nuanced analysis of media(ted) public engagement and moving beyond traditional focus on assessing cognitive engagement. The literature highlights that LCT requires more than simply persuading people to act (in accordance with pre-determined policy or business goals); it also requires public discussion about *how to think about LCT*. This requires information and public discussion about the choices, values and practices for moving to LCT. Thus, the literature establishes the limitations of behaviour change as the goal of public engagement with LCT, which is an important insight for both news media analysis as

well as communications research. Secondly, it highlights that power relations are an important dynamic in LCT. Therefore, given its role as a discursive space, focussed news media analyses of LCT and specifically the processes of decarbonisation, are highly significant sites of interest in terms of shaping potential broader public engagement with transition pathways.

Empirical Insights

As one of the first, comprehensive assessments of press discussion about LCT as a multi-dimensional challenge, the thesis contributes original data on the different themes about public engagement with LCT in the Irish press and their implications for potential cognitive, affective and behavioural engagement. It also provides qualitative and quantitative assessment of how Irish press treatment shapes carbon literacy, carbon repertoires and ideas about low carbon practices.

The Irish case study also offers useful empirical insights in terms of providing data on an under-researched case study in terms of climate change research (see Chapter 5). Significantly, the Irish case study exemplifies the unintended consequences of prioritising economic benefits of LCT and marginalising the social dimensions for (potential) broader public engagement. In particular, the finding that Irish press treatment primarily popularises the business potential of technological innovation to reduce carbon emissions and thus acts more as 'fan club' uncritically reproducing established actor positions on LCT than 'fourth estate' provides empirical evidence of how Irish press fail in their duty to adequately inform readers about LCT. As a result, the study provides empirical evidence to substantiate the relevance of knowledge-based journalism, in particular highlighting how this approach can also help to foster broader public engagement with issues at the interface of technoscience, market and society. In doing so, the findings also provide empirical evidence highlighting the need for more knowledge-based approaches to journalism about LCT and environmental risks (discussed in 10.3).

Limitations of the research design and thesis

Researchers in the field of media and communication studies of climate change have signalled the significance of interdisciplinary approaches (Olausson and Berglez 2014b, Smith and Lindenfeld 2014) and others have noted the challenges this poses (O'Neill 2008). Therefore, this study of media(ted) public engagement with LCT attempted to bridge disciplinary boundaries in order to capture the centrality of PNS to its subject matter, LCT, as

well as the increasingly nuanced conceptualisation of public engagement associated with PNS. In other words, the research has traversed disciplinary perspectives across geography, psychology, sociology, transition management, socio-technical transitions, marketing and communications in order to identify press themes about public engagement with LCT and explain their implications. Thus, the exploratory ethos of this study represented the greatest learning curve, in terms of necessitating the development of a multi-modal framework for analysing press treatment and the adoption of more nuanced methods and theories to analyse and interpret print media texts. However, while the research findings constitute a useful overview of this complex, multifaceted terrain and offer novel insights on the representations and articulations about LCT that are privileged by the practices of Irish print journalism they are also limited by the exploratory focus. That is, given the scope of this study, both in terms of examining a large dataset and multi-dimensional topic the analysis was necessarily partial. The following four aspects of this partiality merit specific elaboration.

Firstly, the timeframe analysed in this thesis represents the emergence phase of public and media discussion about LCT. Thus while the long timeframe provides some important overall indicators of the implications of media(ted) public engagement, it does not include significant transformations in Irish public debate since 2014. Specifically, the findings do not reference the increasing public backlash against environmental regulations. The period 2014 – 2015 saw an unprecedented rise in public resistance towards top down forms of environmental governance around water metering and the development of windfarms in Ireland. Local and community protests against windfarms was particularly evident during this period and received significant press attention (Mullally and Byrne 2016) although this interest appears to have waned again post-2015. As a result, future studies may illuminate additional themes and categories. However, as discussed in the empirical chapters, any transformations in press treatment are more likely to be changes in emphasis rather than in substance. In other words, the value of examining a long timeframe is that it offers a broad view of press treatment. Thus, the overall findings are still representative of the dynamics and dominant trends in media treatment of LCT. Thus, the dominant media themes and their implications are still pertinent. This is especially true of the findings related to cognitive engagement where observations suggest that there is still very little discussion of regime change or the social dimensions of LCT and press treatment still lacks social critique and (re)contextualisation. However, there may be significant differences to the deployment of carbon repertoires (and thus affective engagement) as well as ideas about low carbon practices (and potential behavioural engagement).

Secondly, discussion of the implications of dominant press themes focussed on the most pertinent data-driven categories and analytical issues currently raised in the literature. However, as pointed out in each of the empirical chapters, alternate dimensions of public engagement with LCT could have been chosen. Thus, there is scope for more in-depth analysis of press treatment on potential public engagement with LCT (discussed in 10.2). It is also worth noting that identifying the dominant themes about LCT in this one discrete context does not make these findings generalisable. Likewise, TA alone cannot provide complete insight into how press treatment is perceived, interpreted, remembered or used by readers (Olausson 2011). Thus, at the scale of the individual, further research is necessary to gain insights on the effects of press constructions. However, the study findings provide a useful resource in terms of establishing more nuanced starting points and/or hypothesis for audience reception studies. In addition, the map of dominant press themes shaping potential broader public engagement and the coding frame for identifying carbon literacy, carbon repertoires and low carbon practices, may be used as a resource in guiding future studies and research questions on print media and LCT (discussed in 10.2 below).

Thirdly, the thesis has exposed several areas in need of more detailed theoretical and empirical investigation. For example, the thesis did not specifically consider issues of power or power relations which are important conceptual concerns in media and communications studies and highly relevant to analysis of LCT. Likewise, questions about who produces press content (i.e.) claims makers and voices of authority and why particular themes are privileged, were not addressed. Media-centric research questions concerning ideology and press production and organisations are all highly significant and could inform research addressing external sources of press content, such as the influence of lobby groups or sectoral interests (Anderson 2009). However, these gaps constitute important areas for future research (discussed at 10.2).

Finally, while the study identified that press treatment prioritises or privileges elite interests and perspectives on LCT, the reasons for this were not the subject of this analysis. It is therefore unclear whether this is because print media follow policy positions on this issue (Bennett 1990, Laksa 2014), or whether press treatment is autonomous. In addressing this question however, it is also important to consider other news media norms or contingencies around press treatment. For example, Djerf-Pierre (2012), has argued that focussing on economic interests is understandable and relevant in times of economic crisis. In addition, several researchers have identified a tendency to focus on problems and negative stories in

print media (Ereaut and Segnit 2006; O'Neill et al. 2015) as well as dramatization, sensationalisation and personalisation. However, this study raises questions about the extent to which these tropes are deployed and the consequent silencing, or marginalisation of press treatment that provides social (re)contextualisation and critique. Overall, this indicates a need for more democratically responsible journalism (discussed below).

## 10.2 Future Directions

The thesis lays the groundwork for more in-depth research on press coverage of LCT. As previously noted, the study requires updating to examine whether the findings generated in this thesis are consistent with current press treatment or have significantly transformed post-2014. The findings also give rise to two significant avenues for further research. Firstly, the overall finding that Irish print media treatment circumscribes potential broader public engagement with LCT and fails to present socially relevant stories about LCT raises an obvious question as to why this is the case. In other words, press treatment of this focussed study of LCT, which is an inherently local, social and political challenge shows that while LCT is increasingly newsworthy issue, journalism praxis has yet to identify or deploy the social 'story' or discussion of LCT beyond elite interests with business and policy dimensions. This is significant, as it indicates Irish press treatment of LCT forgoes a traditional journalism norm of personalisation and telling stories that interest people. Thus, fruitful questions for examining issues of ideology and power in relation to print media and LCT include:

Why does print media treatment of LCT promote social acceptance (or public buy-in)? Additionally, this study observed that print media focus on LCT as a business and policy story focussing on elite interests and information flows. It would interesting to confirm this and examine why this societal challenge primarily represented in this way? In particular, why does Irish print media treatment lack critical analysis or the societal issues around global environmental change? What are the main factors driving Irish print media representations and articulations of LCT. Research indicates that climate change poses challenges for journalists, for example avoiding charges of advocacy (McIlwaine 2013), reporting on expert science (Smith 2005) as well as tempo-spatial distance. However, there is scope for more qualitative research on news media organisational practices associated with reporting on LCT, including the factors shaping news production and editorial treatment of LCT and the challenges journalists experience reporting on this topic.

Secondly, given print media's social shaping influence, the analysis in this thesis also highlighted the need for Irish print journalism to rethink news content about LCT. Specifically, this thesis has shown that journalism needs to consider the additional demands of reporting on issues at the interface of technoscience, market and society, which involves PNS and environmental risks and therefore negotiating vested interests and assumptions about particular processes for decarbonisation. The findings raise broader questions about news media's role in reporting issues at the interface of technoscience, market and society and how journalists and news media organisations (including social, digital and broadcast media) see that role and the factors influencing news judgement in relation to LCT. Furthermore, given the implications on broader public engagement identified in this thesis, should journalism associated with building transition pathways, which involves issues at the interface of technoscience, market and society, go beyond science popularism or cheerleading for particular worldviews, to provide more critical stories about the causes, impacts and solutions for moving to a low carbon future?

Given the influence of print media (and mass media generally) as mediated spaces shaping broader public engagement with LCT, three additional avenues for future research are detailed below as they have significance in terms of developing research about the press's role in building democratic transition processes.

Media centric-research questions

This study analysed print media, thus it would be useful to investigate whether these findings are replicated in digital and social media and/or broadcast media. Furthermore, the analysis highlighted some interesting trends in how different media organisations represented LCT. For example, it was observed that broadsheet media were compliant with policy and establishment perspectives and simply reproduced elite visions and interests, whereas tabloid papers tended to be more critical. This trend was most noticeable in relation to carbon repertoires and suggests that tabloid articulations may have significant influence on (potential) affective engagement with LCT. Thus, it would be useful to examine different new media organisations and types of media to establish whether there are any trends in the deployment of carbon repertoires and their implications for affective engagement.

Likewise, comparative studies of press representations of LCT are particularly relevant in the context of EU policy and goals for moving to a low carbon Europe and tackling climate

change. Thus it would be useful to examine whether these findings an isolated case or if there are there resonances across global news media organisations.

Given the prevalence of visually oriented personal devices and the migration to social and digital news media sources, visual representations of LCT are an important research domain for future research. Although visual resources about LCT are currently limited, this is likely to change as new technologies and low carbon infrastructure projects become the mainstream. In addition, the production of visual material requires considerable time and financial resources to generate and disseminate, thereby potentially privileging organisations with greater access to facilities and funds. Thus, analyses of the visual resources across different news media formats and implications for broader public engagement with LCT would be useful. Additionally, studies targeting how news media and key social actors' online initiatives shape mediated visions, expectations and motivations to engage with LCT (i.e.) identifying how visual resources influence potential affective and behavioural engagement with transition are particularly relevant given the commercial focus of transition pathways. For example, alongside renewable energy, electric cars dominate public discussion of LCT, but how does the branding and commodification of electric cars in advertising, film and news media influence broader public engagement with LCT? Do visual images promoting the commercialisation of LCT simply facilitate passive consumer engagement or do they also mobilise public engagement with the more difficult, but necessary, structural changes required to move to low carbon systems?

Furthermore, given the increased focus on design-led visual communications within news media production, it would also be valuable to investigate issues of power and power relations in relation to the deployment of visual resources associated with LCT. In particular, infographics, cartoons and animated visual resources are increasingly associated with representations of LCT. However, apart from a recent study by Einsiedel et al. (2015) few studies have examined the political dimensions of visual material about decarbonisation processes. Research questions here might usefully focus on assessing plurality of thematic content and how they shape cognitive engagement and carbon literacy as well as whether these resources amplify social acceptance of elite interests in LCT or encourage political engagement.

As Anderson (2009) has argued, analyses of who influences the news about climate change is highly significant. In line with a study of news sources in UK press (Lewis *et al.* 2008), which

assessed the extent to which PR material is directly used in news reporting, a trend for news media stories based on science organisations and business reports about decarbonisation was observed during the analysis. For example, print media reports about energy transition were often event-driven and thus based on the publication of new energy policy or key social actor reports about Irish carbon emissions or the implications of carbon emissions. This suggests that vested interests and those organisations with the resources to produce data hold privileged positions as voices of authority in Irish press reports. Thus external Influences on press (and broadcast media) representations, such as industry lobbyists and special interest group claims and the use of press releases as well as expert, science and business reports on carbon emissions are important sites for further analysis. Given the implications for potential broader public engagement highlighted in this thesis, studies identifying the dominant claims-makers and their influence on news coverage, as well as carbon literacy, carbon repertoires and ideas about low carbon practices would be particularly relevant at this formative stage of the public and news media debate about LCT.

Research on Audience Reception

Several scholars have highlighted the need for greater attention to the circulation of media influence, by focussing on studies of news media content, production and reception of LCT. The findings generated in the empirical chapters of this thesis can be used to develop more nuanced hypotheses for testing press and broadcast media effects. In particular, the findings suggest that audience reception studies of carbon repertoires and carbon literacy are particularly useful sites of analytical interest, especially in terms of developing insights for communications praxis.

Research Arising from the Empirical Findings

As one of the first studies to systematically map press representations of the pursuit and enactment of carbon reduction activity, the analysis covered a wide terrain in terms of encompassing the multi-faceted processes for decarbonisation as well as attempting to analyse public engagement as an inter-related process. However, as discussed, alternate analytical concepts could have been explored. The following section draws attention to issues that were observed during analysis that this research design was unable to capture and that stand out as significant areas for in-depth press and broadcast media analyses of LCT.

Energy, News Organisations and Cognitive Engagement

How different news organisations report on energy issues including policy, security, technology and its social implications is especially important, as questions about energy decarbonisation are a major topic of national, international and local news. As mentioned, several differences between tabloid or popular press and broadsheets were observed during the analysis, for example, the Irish tabloid press appears to focus on societal effects and were more critical in their stance towards LCT compared to broadsheets. This is in line studies showing significant differences in news organisations preferences on energy solutions (Maeseele *et al.* 2015). Future studies should examine this in-depth, highlighting the different types of argument, claims-makers as well as preferred energy solutions. Furthermore, energy stories were primarily the domain of news and business sections where the focus was on renewable energy policy commitments or technological innovation but were silent on the wider range of energy solutions or societal implications. This suggests that Irish print media present narrow and reductive discussions of energy issues. It would be useful to examine whether this trend persists and carries across other news organisations (i.e.) broadcast, online as well as social media. These questions have obvious implications for cognitive and behavioural engagement as well as generating insights on how particular news organisations therefore contribute to potential public engagement with energy transition, both of which are highly significant in the context of increasing public backlash against environmental-related infrastructural regulations in Ireland (discussed in Chapter 5).

Consumer-Citizens and Behavioural Engagement

The study revealed a significant absence of stories featuring citizen actions and roles to reduce carbon emissions. While this absence may simply reflect the emergence phase of the Irish press debate, it draws attention to the implications of print media treatment on behavioural engagement with LCT and thus merits further analysis. For example, studies examining the influence of print media on the normalisation of ideas about high carbon lock-in are needed. Related to this, the study shows the value of analysing press treatment in terms of social practice theories. These are also vital research agendas for future studies of broadcast and online media as well as film and advertising.

Given the centrality of consumption in relation to both the causes of climate change and for decarbonisation, the marginalisation of references to consumption in Irish press is noteworthy. For example, while press representations promoted new forms of low carbon consumption, they were silent on those who opt out of consumer society. Irish print media

treatment also lacked stories about transition towns, community energy schemes and associated personal, political or ethical stories about citizens. Thus, there is a need to examine news media organisations and journalism praxis in terms of deployment of ideas about reflexive forms of consumerism, and related to this, focussed analysis of news media representations of consumer activism (including global citizen activism); consumer nationalism and consumer citizenship.

Carbon Repertoires and Affective Engagement

The literature highlights that the role of affect and verbal communication influencing affective engagement around LCT are fruitful areas for future research. However, there is a need for more empirical studies to inform analyses of the implications of news media representations and thus broaden understanding of the social dimensions of technological change. While a sizeable literature within social psychology is devoted to understanding factors influencing affective engagement with climate risks and governance, particularly studies shedding light on the implications of verbal communications on public engagement with climate change. Similar studies on the role of affect in socio-technical transitions, transition management and LCT is under-researched. Specifically, studies on how emotive messages and experiential concerns in verbal communications about socio-technical transition, transition management and energy influence affective engagement with LCT and motivations to support transition pathways. There is also a gap in the literature on psychological drivers and barriers to broader public engagement with LCT (i.e.) beyond normative, instrumental goals and magic trigger approaches for achieving pre-determined behaviour change. Thus, knowledge of the cultural barriers to public engagement with climate mitigation and LCT (i.e.) specific climate change actions is also under-researched. Extending knowledge of carbon repertoires among various public(s) for example, policy makers, community energy groups, farmers and across news media would be valuable as part of developing understanding of low carbon narratives and building transition pathways.

## 10.3 Concluding Remarks

Since the Paris Agreement, rising numbers of communications researchers and practitioners argue the need for a new narrative on climate change (Bushell et al. 2016; Corner 2016; Cross et al. 2015; Rowson and Corner 2014; Smith, Tyszczuk and Butler 2014) and, increasingly, research interest has zoned in on 'low carbon conversations'. Central to this collective change in emphasis is a subtle (but significant) shift from focussing on public communication about

why mankind must act on climate change to public engagement with *how* we must act to tackle climate change and thus with societal choices about reducing carbon emissions and regime change. In other words, scholars point out, that moving from climate change to LCT involves engaging publics with the social reality and complexity of tackling climate change rather than the abstract debates about climate science and predictions of climate risks. Enacting that goal, however, requires new approaches. As a result, this thesis attempted to shed light on this new communications landscape based on a critical analysis of Irish print media representations of LCT and assessing their implications for broader public engagement. In doing so, it is hoped that the thesis has illuminated the complexity of researching this terrain and has drawn attention to why researchers need to be explicit about what is meant by 'climate change' and their assumptions about 'public engagement'. In particular, that it has shown that choices about these analytical concepts have consequences for understanding and explaining the potential social implications.

The thesis extends media and communications studies of climate change along three lines. Firstly, it zoned in on press discussion of carbon emissions reduction thus adding knowledge of press construction of LCT as a multi-faceted issue. Secondly, it examined public engagement as a 'state' shaping meaning-making rather than as a deliberative process involving participation at an event, thereby contributing to nuanced insights about the implications of press representations of climate change on the social context (consequently contributing insights about collective responses and barriers to LCT). Thirdly, it assessed public engagement as an inter-related concept comprising of cognitive, behavioural and affective dimensions and moved beyond traditional print media analysis, which narrowly focus on public understanding and cognitive engagement. Thus overall, the thesis contributes to qualitatively different insights about media(ted) public engagement with LCT compared to traditional news media analyses of climate change. In other words, the analysis presents a more 'citizen-centric' approach to evaluating news media treatment.

Significantly, this approach offers novel insights on the unintended consequences for broader public engagement with LCT. For example, the study revealed the stark absence of discussion about the social dimensions of LCT or of transition as involving regime change. It also showed that the most prevalent Irish press representations act as socio-cultural and political barriers to engagement. Thus, a major finding of the thesis is that Irish print media treatment of LCT may boost the possibility of Response Scepticism (Capstick and Pidgeon 2014) and thus contribute to public apathy to, or disengagement from, building transition pathways.

Therefore, the findings highlight the value of investigating media(ted) public engagement with LCT in order to shed light on the social implications of press treatment. However, doing so is challenging as it involves spanning literature and theory across disciplinary perspectives.

In conclusion, the findings presented in this thesis, and their implications for broader public engagement with LCT, indicate that public debate about so-called 'wicked problems' require more democratically responsible journalism. That is, journalism which 'speaks truth *about* power' in the increasingly complex and contested debates involving PNS and global environmental change.  In other words, the thesis highlights the need for journalism practice to question, critique and socially (re)contextualise issues of power and assumptions about choices in the value-laden, expert-driven, techno-managerial debates such as those about tackling carbon emissions. Thus, a secondary insight of this thesis is that future journalism praxis requires more than embracing technological developments in the newsroom and adopting new digital tools and platforms to update news production and processes. It is also essential that journalism pay equal attention to the societal implications of technological innovation and update treatment of news content involving post-normal science and environmental risks in line with knowledge-based approaches (Nisbet and Fahy 2015). This requires acknowledging the challenges of reporting on societal debates at the interface of technoscience, market, society and global environmental risks and a commitment to assist journalists to negotiate this new terrain in order to produce democratically responsible journalism.

# Section 4:
# Bibliography and Appendices

# A

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# B

## Appendices

**Appendix 1:**     **Data Collection, Codebook and Case Study Tables**

**Appendix 2:**    **Empirical Data Samples**

## Appendix 1 – Data Collection, Codebook and Case Study Tables

**Appendix 1.1: Irish Newspaper Corpus**

**Appendix 1.2: Creative Carbon Compounds used as Search Terms**

**Appendix 1.3: Lexis Nexis Searches and Screening Process**

**Appendix 1.4: Data Sampling Frame**

**Appendix 1.5: Protocol for Category Labelling**

**Appendix 1.6: Category Development Audit trail (NVivo screenshots)**

**Appendix 1.7: Coding Instruction for 'References to LCT'**

**Appendix 1.8: Final Categories for Multi-Modal Codebook**

**Appendix 1.9: Development of Categories for Coding Affective Engagement**

**Appendix 1.1: Irish Newspaper Corpus**

| | Total No of Articles | Type of Publication | Content |
|---|---|---|---|
| The Irish Times | 212 | National Broadsheet | Known as Ireland's leading newspaper of opinion/ information |
| Irish Examiner | 58 | National Broadsheet | Though a national paper, primary circulation in Cork/Munster region. Aims to challenge conventional choices. Focus on national and international news & current affairs |
| Irish Independent | 28 | National Broadsheet (also compact version) | Ireland's largest selling daily newspaper and flagship publication of Independent News & Media |
| Sunday Business Post | 21 | National Sunday Paper | Ireland's only financial, political and economic newspaper |
| The Mirror & Sunday Mirror** | 11 | Irish Edition of largest UK Tabloid | Traditional left of centre paper covering news, features, sport |
| The Sunday Tribune* | 10 | National Sunday Paper | National and international news coverage and lifestyle |
| The Sunday Independent | 5 | National Sunday Paper | Sister publication to Irish Independent. Covers news, politics and lifestyle over five sections |
| Irish Daily Mail** | 2 | Irish Tabloid covering UK politics, economics | 'Hard news', 'social affairs' and 'human interest stories' as well as 'Femail' and 'Money Mail' sections |
| **Total** | **347** | | |

* The Sunday Tribune closed in February 2011.
** Tabloid coverage was markedly low due to large number of stories <150 words and thus not included.

**Appendix 1.2 Creative Carbon Compounds used as Search Terms**

| List of Creative Carbon Compounds (based on Koteyko,Thelwall & Nerlich, 2010) | | |
|---|---|---|
| 1. Carbon accounting | 13. Carbon deal | 24. Carbon indulgence |
| 2. Carbon addiction | 14. Carbon debit | 25. Carbon lifestyle |
| 3. Carbon allowance | 15. Carbon delusion | 26. Carbon living |
| 4. Carbon bigfoot | 16. Carbon detox | 27. Carbon management |
| 5. Carbon budget | 17. Carbon dictatorship | 28. Carbon market |
| 6. Carbon burden | 18. Carbon diet | 29. Carbon morality |
| 7. Carbon challenge | 19. Carbon footprint | 30. Carbon payment |
| 8. Carbon conscious | 20. Carbon future | 31. Carbon saving |
| 9. Carbon crazy | 21. Carbon friendly | 32. Carbon sinner |
| 10. Carbon credit | 22. Carbon guilt | 33. Carbon spewing |
| 11. Carbon critics | 23. Carbon hero | 34. Carbon tax |
| 12. Carbon crusade | | |

**Appendix 1.3: Lexis Nexis Searches and Screening Process**

| Search Terms: | Total Articles | Screened Corpus* | Final Corpus** |
|---|---|---|---|
| **Low Carbon &/or Decarbon+** | 729 | 266 | 79 |
| **Creative Carbon Compounds++** | 4,134 | 766 | 268 |
| **Total** | - | - | 347 |

+ Searches retrieved all variations of the root term (eg decarbonised, decarbonisation etc)
++ Based on set compiled by Koteyko et al., (2010)

\* Lexis Nexis screening function (i.e.) In Headline, Major Mention, Three or More Mentions.
\*\* Relevant articles minus duplicates (eg Carbon Tax, Credit or Footprint often duplicated).
  All relevant articles were included in the final dataset.

**Articles Excluded**
Letters to editor, stories with passing mention/reference to search terms or which were product-/event- driven information only.

Stories with <150 words were also excluded as these were not suitable for TA. As a result, many of the Tabloid articles discussing this issue were not included.

**Appendix 1.4: Data Sampling Frame (based on Press Themes about LCT from Pilot Study)**

| *Broad Press Themes about LCT* | *Total No. Articles* | *Total in Trial Sample* | *Total in Main Sample (includes Trial Sample)* |
|---|---|---|---|
| *Targets & Regulations* | 120 (35%) | 18  (25%) | 68  (35%) |
| *Environmental Concern & Climate Change* | 70 (20%) | 12  (16%) | 40  (20%) |
| *Protecting Economy & Costs* | 63 (18%) | 14  (20%) | 36  (18%) |
| *Sustainability & Technological Innovation* | 51 (15%) | 12  (16%) | 29  (15%) |
| *Negative  &/or Critical* | 38 (11%) | 10  (14%) | 22  (11%) |
| *Radical Change(not incld in %)* | 5 (-) | 5   (-) | 5   (-) |
| ***Total*** | **347** | **71 (20%)** | **200  (58%)** |

**Appendix 1.5**: **Protocol for Category Labelling (based on Boyatzis 1998)**

| | Elements of a good code | Description |
|---|---|---|
| 1 | Theme Label | Clear and concise, communicating the essence of the theme in one or two sentences. Finalised at the end of code development. |
| 2 | Theme Definition | Identify what the theme concerns (ie, the characteristic or issue constituting the theme). The process of defining themes is data-driven and inductive drawing on .. constant comparison |
| 3 | Rules for Inclusion | Describe when the theme occurs (ie, how to 'flag' the theme) |
| 4 | Rules for Exclusion | Describe any qualifications or exclusions to the identification of the theme |
| 5 | Theme examples | Examples, both positive and negative, to eliminate possible confusion when looking for the theme |

**Appendix 1.6 Category Development Audit trail (NVivo screenshots)**

NVivo software screenshot — PhDAnalysis.nvp

**Title bar:** PhDAnalysis.nvp - NVivo

**Menu tabs:** File | Home | Create | External Data | Analyze | Query | Explore | Layout | View

**Ribbon groups:** Workspace | Item | Clipboard | Format | Paragraph | Styles | Editing | Proofing

**Look for:** | Search In | PhD Analysis | Find Now | Clear | Advanced Find

### PhD Analysis

| Name | Description | Sources | Reference |
|------|-------------|---------|-----------|
| Representation(s) of LCT and DC | The media conceptualisation(s) or articulation(s) of LCT/DC. Focus on rep of Problem, Solns and Responsibility. Addresses question what does Trans/De | 0 | 0 |
| Social Practices and Roles for LCT (advan | What must/should public(s) do in order to move to LC future, what roles are advanced for pubs/what soc prac discussed (DEFn). Illumins NEED/Sign of ch | 0 | 0 |
| ZZ - REFERENCES TO LCT & DC (Make | Must contain ref/word indicating LCT/DC in sentence. Examines how media articulation shapes conceptualisation, reasoning about societal action on LCT/ | 0 | 0 |
| ZZZ- Discursive Themes | Interpretative Analysis of dominant discursive themes from data-driven and theoretical studies of LCT/DC - see Framing Studies Dec 2014 for interpretatio | 27 | 550 |
| Consensus | Taken for granted/self-evident perspectives on LCT/DC. These repertoires offer black and white understandings of LCT/DC that promote/advocate simple | 22 | 116 |
| Leadership | Part of Carbon Utilitarian discursive theme promoting top down action to achieve 'green benefits' of transition. A needs must view of change - focuses on m | 14 | 35 |
| Opportunity (Green Benefits) | Variant of Carbon Utilitarianism which mobilises the idea of 'green benefits' as the main argument for action on Carbon Management. The rep focuses in pr | 19 | 52 |
| Sending Signal | Part of Carbon Fetishism discourse; rep promotes idea of market env & underpins the Magic of Markets. Economic interests seen as self-evident priority fo | 13 | 29 |
| Contestation & Controversy | Challenges consensus positions, especially optimism and simple solutions discourses, highlights negative possibilities - Focus on views about solutions | 25 | 192 |
| Carbon Indulgences | Part of Carbon Fetish - this rep is critical of the commodification of atmosphere, it argues fin/mk measures simply enable guilty to pay for absolution rather | 5 | 10 |
| Church of Green (Tax on Fun) | Part of Carbon Scepticism discursive theme which argues that decarbonisation is a unnecessary. This rep mocks Green Agenda as unreasonable choices | 4 | 10 |
| Climate Denialism | Carbon Scepticism discourse - this variant of the Folly of Decarbonisation questions the basic climate science and thus the need for change. It is a very ma | 1 | 2 |
| Failure | Part of Carbon Scepticism discourse which questions decarbonisation - this rep calls attention to the political mismng of intn'l agreements on targets. It pre | 17 | 50 |
| It'll be Difficult | Initially refences to Techno-scepticism, this rep questions the validity of the consensus around simple-solutions as the focus of transition (ie) Techno-scepti | 17 | 41 |
| It'll Cost Us | Within the Carbon Fetish discourse, this rep argues we can't afford to meet targets (ie) there are neg effects to taking action/meeting targets. Challenges th | 9 | 13 |
| No Need For Action | Part of Carbon Scepticism, initially this rep constructs austerity as the commonsense issue we have to tackle and thus targets are futile. But focus is on rec | 8 | 12 |
| Protecting Competitiveness | Part of CarbUtilitarian, promotes 'Green Benefits' which highlights economic opps of trans. This rep is connected to Opps but specifically refs farming/sust | 12 | 30 |
| Unfair Burden | Part of Carbon Justice dis, focusses on local injustices and responsibility. It is scathing of what it sees as injustices of Carbon Tax & fin measures on vulner | 10 | 24 |
| Distancing | | 25 | 182 |
| Dire Warnings | Refs to - Heightened predictions or Urgency invoked to motivate action on CO2 emission. Part of Discursive theme of Carbon Catastrophism, an alarmist | 21 | 73 |
| Hard Truths | Part of the Carbon Pragmatism Discursive Theme which accepts there is a price to pay for change. Focus on reality of changes required and extent of tran | 2 | 5 |
| Obligation | Part of the Green Governmentality (Backstrand and Lovbrand) discursive theme where the focus is on administrative rationalism (Dryzek) or env managem | 17 | 63 |
| Small Changes & 'Happy Talk' | Part of the carbon enlightenment discursive theme in that this rep advocates CC action that is closer to people's lives. however these actions are overly si | 6 | 19 |
| The Appliance of Science | Part of the Techno-optimism/utopia discursive theme, this rep promotes the notion that 'technology will save us' - from what (env crisis, economic also?). P | 12 | 22 |
| Empowerment | | 22 | 60 |
| Curbing Consumption, | Part of Green Consciousness discursive theme (Dryzek). Focus on/aim to save planet, eco awareness. Also draws on Civic Environmentalism (Backstrand | 11 | 27 |
| David and Goliath | An adversarial rep drawing on Green Radicalism (Dryzek). It is the voice of racial green orthodoxy and 'ideological fury'. Inflated, rhetorical and highly adve | 0 | 0 |
| Eco-Responsibility | Cosmopolitan variation of the Carbon Justice discursive theme (Burden). this repertoire constructs LCT/DC as a moral/global issue and promotes global va | 11 | 15 |
| Post Carbon transformation | Refs to (profound societal changes). Part of Carbon Enlightenment disc theme highlights/discussion of need to change society for a carbon challenged wor | 12 | 18 |
| Other codes | Miscellaneous reps | 0 | 0 |

**Status bar:** BMCN | 52 Items

260

Screenshot of NVivo software (PhDAnalysis.nvp - NVivo) showing the "Pilot Study Only" node list.

| Name | Description | Sources | Referen |
|---|---|---|---|
| Pilot Study Data Set | Sample of articles across stances and over time, used to test reliability and robustness of coding frame and develop category definitions/lables | 0 | 0 |
| Subsample Articles | Articles Selected for subsample - attempts to capture the range of coverage across years/publication | 20 | 75 |
| Topics | Provide a broad understanding of the range of subject discussed in media coverage of LCT/DC. IE an outline of the main issues promoted in media deployment | 19 | 614 |
| Carbon Emissions & Ability to Achieve Tar | Merged all codes related to Carbon and GHG emissions (ie) Irish Emissions Status and gen refs to carbon/ghg emissions (these are more vague/unfocussed ref | 18 | 62 |
| Climate Change Action (Mitigation and Ad | Refs to mitigation actions & meeting 'targets', mentions of approaches to action on climate change. This Category specifically refs to climate change, (ie) more n | 17 | 96 |
| Energy Transition | Decarb as CMit: Refs to future energy needs, securing energy sources, cost of energy,(esp implcs CCA), need to reduce energy consumption/fuel emissions. Re | 16 | 98 |
| Environmental Protection & Climate Chang | Refs to env protection and climate science aspects of tackling climate change | 18 | 80 |
| Government Action & Climate Change Poli | Refs to setting/agreeing targets at international and national level as well as discussion of 'climate policy', what policy should do, what it can achieve, rationale a | 14 | 61 |
| Other | Misc cats that appear during coding, filed here and upgraded to a cat if signficant. Cleave out 'throat-clearing' refs eg Boyle, Chernobyl? While the coding frame | 8 | 10 |
| Social Sustainability, Low Carbon Living & | Refs discussion of social dimensions LCT/DC & social impacts of future env sus, LCT/DC, discussion of low-carbon carbon society, low carbon living/lifestyle. F | 14 | 47 |
| Sustainable Development and Technology | Refs to 'Sustainability or SD' and opps/benefits of Green Tech/Enterprise for environment (ie) promotes idea of balancing environmental and economic interests. | 17 | 73 |
| The Economy | Refs to economy and discussion of implications of climate change/LCT/DC on economy - Also includes refs to decarbonising the economy and economic/financ | 17 | 87 |
| ZZ - REFERENCES TO LCT & DC | Must contain ref/word indicating LCT/DC in sentence. Examines how media articulation shapes conceptualisation and reasoning about societal action on LCT/D | 0 | 0 |
| Representation(s) of LCT and DC | The media conceptualisation(s) or articulation(s) of LCT/DC. Focus on rep of Problem, Solns and Responsibility. Addresses question what does Trans/Decarb i | 0 | 0 |
| Economic Growth & Efficiency | LCT/ DC understood primarily in terms of economy - maintaining economic conditions prioritised. Impact of recession on emissions. Highlights need to rejuvenat | 17 | 70 |
| Energy Transition | Choices about energy sources, maintaining/ensuring energy supply through 'self-sufficiency' and alternative, 'clean' energy. Refs to alt tech to reduce costs. Als | 16 | 63 |
| Environmental Responsiveness (Conc | LCT/DC are means of/strategy for tackling environmental problems, especially CC, reducing GHGs while remaining cost-effective (ie) maintaining economic com | 17 | 74 |
| Financial & Market Measures | The conceptualisation (understanding) or articulation (process iinvolved/entailed) of LCT/DC. Advocating/promoting market logic/flexibility and financial measure | 14 | 71 |
| Future Scenarios | Presented as a future event, something that may/may not be necessary, is likely or not likely, to require action. Default Visions of LCT/DC. Expressions of the pla | 11 | 19 |
| Not Present | Either not present or not found | 1 | 1 |
| Other | Miscellaneous, hypocrisy? Scepticism - Questions existance of Global Warming & need for decarbonisation. | 2 | 2 |
| Societal Change, Citizen Responsibilit | Changing lifestyles, low-carbon living, values/expectations. LCT/DC a social issue involves choices about ways of living/expectations of good life, framed as soc | 15 | 54 |
| State Intervention, Policies, Targets & | LCT/DC presented as challenge for gov or policy makers requiring pol regs or agreements at local &/or internal levels; inclds bureaucratic dealings/ manoeuvres | 17 | 132 |
| Techno-Innovation & Solutions | Promotion of technological solutions as means of solving economic/ environmental crisis. Includes discussion of choices about techno-scientific innovation, risky | 14 | 31 |
| Social Practices and Roles for LCT (advan | What must/should public(s) do in order to move to LC future, what roles are advanced for the public/what social practices are discussed (DEFINITIONS). Explicit | 0 | 0 |
| Consumer Engagement (incentivising | Private sphere engagement, passive consumption of new consumer choices (ie) new technologies that maintain existing patterns/lifestyle choices, support BAU | 2 | 2 |
| Not Present | Either not found or not specified | 15 | 40 |
| Other | Changing Work Practices (add this code? Is it public/private sphere - not indiv thus incl in Public Sphere) Refs to changing business or farming / sectoral practice | 7 | 11 |
| Personal and Household Behaviour C | Advocating individual and community actions/practices to reduce emissions, (ie)eco or environmentally-friendly/lifestyle changes/solutions based around the ho | 4 | 5 |
| Post-Carbon Living, Consumption & Tr | Choices, decision-making about new low/post-carbon consumption, transport that support/encourage alternative lifestyles? Refs to info about low/ post-carbon c | 11 | 29 |
| Public Sphere Engagement | Ref to public decision-making, mobilisation esp in form of political engagement, calling on govs to legislate, bring in regulations to support transition,Public as vot | 4 | 6 |
| Sources & Events | Identifies who/what are key refs or data used in disc of LCT/DC . Incld public events , Citations from docs, reports, policy texts, surveys, websites etc assoc with | 0 | 0 |
| Voices of Authority on LCT | Claims makers or who calls for action, recommends/suggests action, makes assertions about LCT/DC, either direct quotes or indirect quotes. Focus is on claims | 0 | 0 |
| ZZZ- Discursive Themes | Interpretative Analysis of dominant discursive themes from data-driven and theoretical studies of LCT/DC - see Framing Studies Dec 2014 for interpretation, and | 0 | 0 |
| Consensus | | 0 | 0 |
| Contestation & Controversy | | 0 | 0 |
| Distancing | | 0 | 0 |
| Empowerment | | 0 | 0 |
| Other codes | Miscellaneous reps | 0 | 0 |

BMCN    129 Items

File  Home  Create  External Data  Analyze  Query  Explore  Layout  View

Look for:  Search In  Pilot Study Only  Find Now  Clear  Advanced Find

**Pilot Study Only**

| Name | Description | Sources | Referen |
|---|---|---|---|
| Pilot Study Data Set | Sample of articles across stances and over time, used to test reliability and robustness of coding frame and develop category definitions/lables | 0 | 0 |
| Subsample Articles | Articles Selected for subsample - attempts to capture the range of coverage across years/publication | 20 | 75 |
| Topics | Provide a broad understanding of the range of subject discussed in media coverage of LCT/DC. IE an outline of the main issues promoted in media deployment of i | 19 | 614 |
| ZZ - REFERENCES TO LCT & DC | Must contain ref/word indicating LCT/DC in sentence. Examines how media articulation shapes conceptualisation and reasoning about societal action on LCT/DC - | 0 | 0 |
| ZZZ- Discursive Themes | Interpretative Analysis of dominant discursive themes from data-driven and theoretical studies of LCT/DC - see Framing Studies Dec 2014 for interpretation, and stu | 0 | 0 |
| Consensus | | 0 | 0 |
| Irish Leadership (green cred) | Part of Carbon Utilitarian discursive theme promoting the 'green benefits' of transition. A needs must view of change - this discursive theme focuses on maximising | 8 | 15 |
| Opportunity in Green Power (playing th | Variant of Carbon Utilitarianism which mobilises the idea of 'green benefits' as the main argument for action on Carbon Management. The rep focuses in promoting t | 12 | 23 |
| Putting a Price on Carbon (sending sig | Part of the Carbon Fetishism discourse this rep promotes the idea of market env and the Magic of Markets. Economic interests seen as self-evidenty the priority for | 7 | 11 |
| Small Changes (Doing my bit for the pl | Part of the Carbon Pragmatism discursive theme which promotes the idea of transition as 'necessary sacrifice'. Small changes, unlike Loss & Noss doesn't construc | 2 | 5 |
| Contestation & Controversy | | 0 | 0 |
| Carbon Indulgences (rearranging the d | Part of Carbon Fetish - this rep is critical of the commodification of atmosphere, it argues fin/mk measures simply enable guilty to pay for absolution rather than cha | 0 | 0 |
| Church of Green (Tax on Fun) | Part of Carbon Scepticism discursive theme which argues that decarbonisation is a unnecessary. This rep mocks Green Agenda as unreasonable choices about life | 2 | 4 |
| Climate Denialism | Carbon Scepticism discourse - this variant of the Folly of Decarbonisation questions the basic climate science and thus the need for change. It is a very marginal re | 1 | 1 |
| Inevitable Failure (Political Mismanage | Part of Carbon Scepticism discourse which questions decarbonisation - this rep calls attention to the political mismng of intn'l agreements on targets. It presuppose | 10 | 16 |
| It'll Cost Us | Within the Carbon Fetish discourse, this rep argues we can't afford to meet targets (ie there are neg effects to taking action/meeting targets. Challenges the Magic | 2 | 6 |
| No Point Taking Action (austerity is the | Part of Carbon Scepticism, this rep constructs austerity as the commonsense issue we have to tackle and thus targets are futile. In doing so, it promotes the logic th | 0 | 0 |
| Protecting Competitiveness (Irish exce | Part of the Carbon Utilitarian discourse which promotes a 'Green Benefits' agenda which highlights the economic opportunities of transition. This rep is connected to | 8 | 11 |
| Question Simple Solutions (Techno-sc | Part of Techno-scepticism discourse this rep questions the validity of the consensus around techno-solutions as the focus of transition. Researvations and cautious | 7 | 12 |
| Unfair Burden (punishing the vulnerabl | Part of Carbon Justice discourse, this rep focusses on local injustices and responsibility. It contests the consensus position on T&Rs and is scathing of what it sees | 5 | 10 |
| Distancing | | 0 | 0 |
| Brightsiding & 'Happy Talk' | Part of the carbon enlightenment discursive theme in that this rep advocates CC action that is closer to people's lives. however these actions are overly simplistic an | 1 | 1 |
| Counsel of Despair (Scare Stories to m | Part of Discursive theme of Carbon Catastrophism, an alarmist discourse of apocalypse and impending doom - used as a 'change may be forced on us' approach to | 12 | 33 |
| Loss and Nostalgia | Part of the Carbon Pragmatism Discursive Theme which accepts there is a price to pay for change. Here the Necessary Sacrifice is seen negatively (ie) high carbon | 1 | 4 |
| Obligation to Meet Targets | Part of the Green Governmentality (Backstrand and Lovbrand) discursive theme where the focus is on administrative rationalism (Dryzek) or env management. | 9 | 20 |
| The Appliance of Science (techno-fix) | Part of the Techno-optimism/utopia discursive theme, this rep promotes the notion that 'technology will save us' | 6 | 6 |
| Empowerment | | 0 | 0 |
| Curbing Consumption, Production (Gre | Part of the Green Consciousness discursive theme (See Dryzek for defn/outline). This rep draws on Civic Environmentalism (see Backstrand and Lovbrand).Why E | 6 | 9 |
| David and Goliath | An adversarial rep drawing on Green Radicalism (Dryzek). It is the voice of racial green orthodoxy and 'ideological fury'. Inflated, rhetorical and highly adversarial (FI | 0 | 0 |
| Eco-Redemption & Responsibility (Glo | The cosmopolitan variation of the Carbon Justice discursive theme. Constructs LCT/DC as a global issue focussing on global values, human solidarity and highlight | 5 | 7 |
| Post Carbon transformation (profound | Part of the Carbon Enlightenment discursive theme highlighting new thinking and social change. Change here is radical - it meets the optimistic hopes for change hi | 6 | 11 |
| Other codes | Miscellaneous reps | 0 | 0 |
| Not Present | | 1 | 1 |

BMCN  129 Items

EN  21:03  05/05/2015

262

File | Home | Create | External Data | Analyze | Query | Explore | Layout | View

**N Pilot Study**

| Name | Description | Sources | References |
|---|---|---|---|
| Pilot Study Data Set | Sample of articles across stances and over time, used to test reliability and robustness of coding frame and develop category definitions/lables | 0 | 0 |
| Topics | Provide a broad understanding of the range of subjects discussed in media coverage of LCT/DC. IE provides an outline of the main issues promoted in media | 27 | 732 |
| ZZ - REFERENCES TO LCT & DC | Must contain ref/word indicating LCT/DC in sentence. Examines how media articulation shapes conceptualisation and reasoning about societal action on LCT/ | 0 | 0 |
| Representation(s) of LCT and DC | The media conceptualisation(s) or articulation(s) of LCT/DC. Focus on rep of Problem, Solns and Responisibility. Addresses question what does Trans/Decarb | 0 | 0 |
| Economic Growth & Efficiency | LCT/ DC understood primarily in terms of moving to a low carb economy - ensuring the right economic conditions is prioritised. Category highlightsneed to reju | 21 | 66 |
| Energy Transition | Choices about energy sources, maintaining/ensuring energy supply through 'self-sufficiency' and alternative, 'clean' energy. Refs to alt tech to reduce costs. A | 18 | 55 |
| Environmental Sustainability | Presented as a means of/strategy for tackling environmental problems, especially climate change and reducing GHG emissions while remaining cost-effective | 16 | 44 |
| Financial & Market Measures | The conceptualisation (understanding) or articulation (process iinvolved/entailed) of LCT/DC. Advocating/promoting market logic/flexibility and financial measur | 12 | 46 |
| Future Scenarios | Presented as a future event, something that may/may not be necessary, is likely or not like, to require action | 7 | 11 |
| Not Present | Either not present or not found | 0 | 0 |
| Other | Miscellaneous, hypocrisy? Scepticism - Questions existance of Global Warming & need for decarbonisation. | 2 | 2 |
| Societal Change, Citizen Responsibility & Com | Refs to changing lifestyles, low-carbon living, a very different world with different culture, values and expectations. LCT/DC presented as a social issue requirin | 13 | 19 |
| State Intervention, Policies, Targets & Leaders | LCT/DC presented as challenge for gov or policy makers requiring pol regs or agreements at local &/or internal levels; inclds bureaucratic dealings/ manoeuvre | 21 | 71 |
| Techno-Innovation & Solutions | Promotion of technological solutions as means of solving economic/ environmental crisis. Includes discussion of choices about techno-scientific innovation, risk | 14 | 24 |
| Social Practices and Roles for LCT | What must/should public(s) do in order to move to LC future, what roles are advanced for the public/what social practices are discussed (DEFINITIONS). Aims | 0 | 0 |
| Consumer Engagement | Private sphere engagement, passive consumption of new consumer choices (ie) new technologies that maintain existing patterns/lifestyle choices, support BA | 4 | 4 |
| Not Present | Either not found or not specified | 21 | 55 |
| Other | Refs to changing business or farming / sectoral practices (ie not specifically social/community/individual actions/roles) and other 'practices/roles' eg mostly relat | 9 | 23 |
| Personal and Household Behaviour Change | Individual and community actions/practices aimed at reducing emissions, (ie)eco or environmentally-friendly/lifestyle changes/solutions based around the hom | 7 | 9 |
| Post-Carbon Living & Consumerism | Choices and decision-making about new low carbon/post-carbon consumption, that support or encourage alternative lifestyles ?? Refs to low/ post-carbon con | 11 | 18 |
| Public Sphere Engagement | Ref to public decision-making, mobilisation esp in form of political engagement, calling on govs to legislate, bring in regulations to support transition, Public as v | 4 | 5 |
| Sources & Events | Identifies who/what are key references, supports for discussion of LCT/DC . Also includes public events related to LCT/DC that are covered by media, Citation | 0 | 0 |
| International Sources & Meetings, Events | References, documents, reports, websites used to support, persuade, explain an understanding of LCT/DC or used in discussion about LCT/DC | 1 | 1 |
| Irish Sources & Meetings, Events | Reports, documents, books, websites, references used to persuade, explain or associated with understanding LCT/DC | 0 | 0 |
| Not Present | Either not found or not specified | 10 | 19 |
| Other | | 0 | 0 |
| Voices of Authority on LCT | Who are the claims makers or who calls for action, recommends/suggests on action, makes assertions about LCT/DC, either direct quotes or indirect quotes. F | 0 | 0 |
| Civil Society | Community groups, non Env NGO related orgs, Public orgs (Trade Unions), Religious groups, the Church, Individuals | 4 | 4 |
| Environmental Organisations | Intn'l and national Env NGOs, think tanks, eg Greenpeace, Friends of the Earth, WWF | 6 | 13 |
| Journalist, author | Opinion-maker, columnist, editor | 14 | 23 |
| Not Present | No claims makers found or specified (define claims-maker?) - person/organisation making assertions, public statements about LCT/DC | 2 | 3 |
| Political Elites & Government, policy makers | National and international policy-makers, government spokespersons, inclds UN orgs. ,Exclds gov related orgs (eg) ESRI, Comhar, Teagasc, Think Tanks, NG | 21 | 55 |
| Scientific and Academic | Science-related organisations, insitutions, groups, individuals. Other University, college experts eg economics, geog, given title academic | 10 | 19 |
| Sectoral Interests & Business, Local Authorities | Business, Farming, Industry, Transport sectors, Organisations, Industry, Corporations, Public Service Bodies, Civicl Services | 10 | 43 |
| Think Tanks & Government Related Organisati | ESRI, EPA, IIEA, SEI/SEAI, Comhar (SD authority) | 9 | 11 |
| ZZZ- Discursive Themes | Interpretative Analysis of dominant discursive themes from data-driven and theoretical studies of LCT/DC | 0 | 0 |
| Consensus | | 0 | 0 |
| Contestation & Controversy | | 0 | 0 |
| Distancing | | 0 | 0 |
| Empowerment | | 0 | 0 |

BMCN | 107 Items

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**Pilot Study**

| Name | Description | Sources | Referen |
|---|---|---|---|
| ZZ - REFERENCES TO LCT & DC | Must contain ref/word indicating LCT/DC in sentence. Examines how media articulation shapes conceptualisation and reasoning about | 0 | 0 |
| Voices of Authority on LCT | Who are the claims makers or who calls for action, recommends/suggests on action, makes assertions about LCT/DC, either direct quo | 0 | 0 |
| Scientific and Academic | Science-related organisations, insitutions, groups, individuals. Other University, college experts eg economics, geog, given title acade | 10 | 19 |
| Journalist, author | Opinion-maker, columnist, editor | 14 | 23 |
| Not Present | No claims makers found or specified (define claims-maker?) - person/organisation making assertions, public statements about LCT/DC | 2 | 3 |
| Political Elites & Government, policy makers | National and international policy-makers, government spokespersons, inclds UN orgs. ,Exclds gov related orgs (eg) ESRI, Comhar, Te | 21 | 55 |
| Environmental Organisations | Intn'l and national Env NGOs, think tanks, eg Greenpeace, Friends of the Earth, WWF | 6 | 13 |
| Think Tanks & Government Related Organisations | ESRI, EPA, IIEA, SEI/SEAI, Comhar (SD authority) | 9 | 11 |
| Civil Society | Community groups, non Env NGO related orgs, Public orgs (Trade Unions), Religious groups, the Church, Individuals | 4 | 4 |
| Sectoral Interests & Business, Local Authorities | Business, Farming, Industry, Transport sectors, Organisations, Industry, Corporations, Public Service Bodies, Civic Services | 10 | 43 |
| Social Practices and Roles for LCT | What must/should public(s) do in order to move to LC future, what roles are advanced for the public/what social practices are discussed | 0 | 0 |
| Other | Refs to changing business or farming / sectoral practices (ie not specifically social/community/individual actions/roles) and other 'practi | 9 | 23 |
| Public Sphere Engagement | Ref to public decision-making, mobilisation esp in form of political engagement, calling on govs to legislate, bring in regulations to supp | 4 | 5 |
| Consumer Engagement | Private sphere engagement, passive consumption of new consumer choices (ie) new technologies that maintain existing patterns/lifes | 4 | 4 |
| Personal and Household Behaviour Change | Individual and community actions/practices aimed at reducing emissions, (ie)eco or environmentally-friendly/lifestyle changes/solutions | 7 | 9 |
| Not Present | Either not found or not specified | 21 | 55 |
| Post-Carbon Living & Consumerism | Choices and decision-making about new low carbon/post-carbon consumption, that support or encourage alternative lifestyles ?? Refs | 11 | 18 |
| Representation(s) of LCT and DC | The media conceptualisation(s) or articulation(s) of LCT/DC. Focus on rep of Problem, Solns and Responibility. Addresses question | 0 | 0 |
| Financial & Market Measures | The conceptualisation (understanding) or articulation (process iinvolved/entailed) of LCT/DC. Advocating/promoting market logic/flexibil | 12 | 46 |
| Societal Change, Citizen Responsibility & Community A | Refs to changing lifestyles, low-carbon living, a very different world with different culture, values and expectations. LCT/DC presented a | 13 | 19 |
| Techno-Innovation & Solutions | Promotion of technological solutions as means of solving economic/ environmental crisis. Includes discussion of choices about techno- | 14 | 24 |
| Environmental Sustainability | Presented as a means of/strategy for tackling environmental problems, especially climate change and reducing GHG emissions while r | 16 | 44 |
| Future Scenarios | Presented as a future event, something that may/may not be necessary, is likely or not like, to require action | 7 | 11 |
| Other | Miscellaneous, hypocrisy? Scepticism - Questions existance of Global Warming & need for decarbonisation. | 2 | 2 |
| State Intervention, Policies, Targets & Leadership | LCT/DC presented as challenge for gov or policy makers requiring pol regs or agreements at local &/or internal levels; inclds bureaucra | 21 | 71 |
| Economic Growth & Efficiency | LCT/ DC understood primarily in terms of moving to a low carb economy - ensuring the right economic conditions is prioritised. Categor | 21 | 66 |
| Not Present | Either not present or not found | 0 | 0 |
| Energy Transition | Choices about energy sources, maintaining/ensuring energy supply through 'self-sufficiency' and alternative, 'clean' energy. Refs to alt | 18 | 55 |
| Sources & Events | Identifies who/what are key references, supports for discussion of LCT/DC . Also includes public events related to LCT/DC that are cov | 0 | 0 |
| Irish Sources & Meetings, Events | Reports, documents, books, websites, references used to persuade, explain or associated with understanding LCT/DC | 0 | 0 |
| International Sources & Meetings, Events | References, documents, reports, websites used to support, persuade, explain an understanding of LCT/DC or used in discusion about | 1 | 1 |
| Not Present | Either not found or not specified | 10 | 19 |
| Other | | 0 | 0 |
| ZZZ- Discursive Themes | Interpretative Analysis of dominant discursive themes from data-driven and theoretical studies of LCT/DC | 0 | 0 |
| Distancing | | 0 | 0 |
| Empowerment | | 0 | 0 |
| Consensus | | 0 | 0 |
| Contestation & Controversy | | 0 | 0 |

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BMCN | 108 Items

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264

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Nodes

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**Nodes**
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  - 🗀 Cases
  - 🗀 Claims Mak
  - 🗀 Pilot Study
  - 🗀 Stances
  - 🗀 Thematic An
  - Relationships
  - Node Matrices

## Thematic Analysis of Irish Media Content LCT　DC

| Name | Description | Sources | Referenc |
|---|---|---|---|
| Topics | | 24 | 568 |
| ZZ - REFERENCES TO LCT & DC | Must contain ref/word indicating LCT/DC in sentence. Examines how media articulation shapes conceptualisation and reasoning ab | 0 | 0 |
| Representation(s) of LCT and DC | The media conceptualisation(s) or articulation(s) of LCT/DC. Addresses the question what does Transition/Decarbonisation involve/ | 0 | 0 |
| Economic Growth & Efficiency | LCT and DC understood primarily in terms of moving to a low carbon economy - ensuring economic conditions are right is the first st | 17 | 60 |
| Energy Transition | Choices about energy sources, maintaining/ensuring energy supply through 'self-sufficiency' and alternative, 'clean' energy. Refs to | 16 | 46 |
| Environmental Sustainability | Presented as a means of/strategy for tackling environmental problems, especially climate change and reducing GHG emissions whi | 13 | 33 |
| Financial & Market Measures | The conceptualisation (understanding) or articulation (process iinvolved/entailed) of LCT/DC. Advocating/promoting market logic/fle | 11 | 43 |
| Future Scenarios | Presented as a future event, something that may/may not be necessary, is likely or not like, to require action | 6 | 10 |
| Societal Change, Citizen Responsibility & Com | Refs to changing lifestyles, low-carbon living, a very different world with different culture, values and expectations. LCT/DC presente | 8 | 14 |
| State Intervention, Policies & Leadership | LCT/DC presented as a challenge for government or policy makers requiring political regulations or agreements at local and or inter | 15 | 56 |
| Techno-Innovation & Solutions | Promotion of technological solutions as means of solving economic/ environmental crisis. Includes discussion of choices about tech | 12 | 17 |
| Social Practices and Roles for LCT | What must/should public(s) do in order to move to LC future, what roles are advanced for the public/what social practices are discus | 0 | 0 |
| Consumer Engagement | Private sphere engagement, passive consumption of new consumer choices (ie) new technologies that maintain existing patterns/li | 4 | 4 |
| Not Present | Either not found or not specified | 17 | 42 |
| Other | Refs to changing business or farming / sectoral practices (ie not specifically social/community/individual actions/roles) and other 'pra | 7 | 17 |
| Personal and Household Behaviour Change | Individual and community actions/practices aimed at reducing emissions, (ie) low carbon living/lifestyle changes/solutions based aro | 7 | 9 |
| Post-Carbon Living & Consumerism | Choices and decision-making about new low carbon/post-carbon consumption, that support or encourage alternative lifestyles ?? R | 9 | 12 |
| Public Sphere Engagement | Ref to public decision-making, mobilisation esp in form of political engagement, calling on govs to legislate, bring in regulations to su | 4 | 5 |
| Sources & Events | Citations from documents, reports, policy texts, surveys, websites etc associated with discussion of LCT, identifies who/what are ke | 0 | 0 |
| International Sources | References, documents, reports, websites used to support, persuade, explain an understanding of LCT/DC or used in discussion abo | 1 | 1 |
| Irish Sources | Reports, documents, books, websites, references used to persuade, explain or associated with understanding LCT/DC | 0 | 0 |
| Not Present | Either not found or not specified | 9 | 14 |
| Other | | 0 | 0 |
| Voices of Authority on LCT | Who are the claims makers or who calls for action, recommends/suggests on action, makes assertions about LCT/DC, either direct | 0 | 0 |
| Civil Society | Community groups, non Env NGO related orgs, Public orgs (Trade Unions), Religious groups, the Church, Individuals | 4 | 4 |
| Environmental Organisations | Intn'l and national Env NGOs, think tanks, eg Greenpeace, Friends of the Earth, WWF | 4 | 10 |
| Journalist, author | Opinion-maker, columnist, editor | 11 | 18 |
| Not Present | No claims makers found or specified (define claims-maker?) - person/organisation making assertions, public statements about LCT/ | 1 | 2 |
| Political Elites & Government, policy makers | National and international policy-makers, government spokespersons,(excludes gov related organisations (eg) ESRI, Comhar, Teag | 18 | 48 |
| Scientific and Academic | Science-related organisations, insitutions, groups, individuals. Other University, college experts eg economics, geog, given title aca | 7 | 12 |
| Sectoral Interests & Business, Local Authorities | Business, Farming, Industry, Transport sectors, Organisations, Industry, Corporations, Public Service Bodies, Civicl Services | 9 | 34 |
| Think Tanks & Government Related Organisati | ESRI, EPA, IIEA, SEI/SEAI, Comhar (SD authority) | 6 | 7 |
| ZZZ- Discursive Themes | Interpretative Analysis of dominant discursive themes from data-driven and theoretical studies of LCT/DC | 0 | 0 |
| Consensus | | 0 | 0 |
| Contestation & Controversy | | 0 | 0 |
| Distancing | | 0 | 0 |
| Empowerment | | 0 | 0 |

Sources
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Collections
Queries
Reports
Models
Folders

BMCN　96 Items

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Thematic Analysis

| Name | Description | Sources | References |
|---|---|---|---|
| Topics | | 3 | 17 |
| ZZ - REFERENCES TO LCT & DC | Specific examination of article in relation to discussion of LCT/DC focussing on discursive aspects relevant to public engagement at cogn, beha | 3 | 25 |
| Conceptualisation of LCT and DC | Addresses the question what does Transition involve/mean. The understanding of transition that is promoted/deployed, why it is a public issue. | 3 | 9 |
| Energy Transition | LCT presented as choices about energy sources and maintaining/ensuring energy supply through 'self-sufficiency' and alternative, 'clean' ener | 1 | 3 |
| Economic Transition | LCT and DC involves rejuvenating economy, revitalising economic fortunes, a way out of economic crisis. Kick starting the economy - but exclu | 1 | 1 |
| Societal Transition | References to changing lifestyles, low-carbon living, a very different world with different culture, values and expectations. LCT/DC presented as | 1 | 4 |
| Environmental Sustainability | Presented as a means of/strategy for tackling environmental problems, especially climate change and reducing GHG emissions while remainin | 1 | 1 |
| Technological Transition | Presented as choices about techno-scientific innovation, alternative (green/clean) energy or risky technologies (fracking, nuclear). | 0 | 0 |
| Financial & Market Transition | Presented as choices about or need for market and financial instruments to meet Targets and Regulations on Carbon Emissions. Cap and Tra | 0 | 0 |
| Policy or Legislative Issue | LCT/DC presented as a challenge for government or policy makers requiring political regulations pr agreements at local and or international lev | 0 | 0 |
| Future Scenarios | Presented as a future event, something that may/may not be necessary, is likely or not to require action | 0 | 0 |
| Responsibility for Action on LCT | Discourses about who must act or should act on LCT/DC | 2 | 5 |
| Civic Environmentalism | Direct or indirect mention of general civic responsibility, societal involvement and bottom-up or non political responsiblity/action - see notes in | 1 | 2 |
| Ecological Modernisation | Market responsible, focus on maintaining liberal market order (ie eco/financial incentives/measures; Market action required /necessary for tran | 0 | 0 |
| Green Governmentality | Policy-makers and elites must act to solve a global climate change problem. Top down understanding of responsiblity for acting | 1 | 3 |
| Not Present | Either not found or not specified | 0 | 0 |
| Social Practices and Roles for LCT | What must/should public(s) do in order to move to LC future, what roles are advanced for the public/what social practices are discussed - speci | 2 | 2 |
| Consumer Engagement | Private sphere engagement, passive consumption of new consumer choices (ie) new technologies that maintain existing patterns/lifestyle cho | 0 | 0 |
| Not Present | Either not found or not specified | 0 | 0 |
| Post-Carbon Consumerism | New choices and decision-making about/ that support or encourage alternative lifestyles ?? | 0 | 0 |
| Sources | Citations associated with discussion of LCT, identifies who/what are key references (events, people, reports, websites) | 1 | 1 |
| International Sources | References, documents, reports, websites used to support, persuade, explain an understanding of LCT/DC or used in discusion about LCT/DC | 0 | 0 |
| Irish Sources | Reports, documents, books, websites, references used to persuade, explain or associated with understanding LCT/DC | 0 | 0 |
| Not Present | Either not found or not specified | 0 | 0 |
| Voices of Authority on LCT | Who are the claims makers or who calls for action, recommends/suggests action on LCT | 2 | 8 |
| Civil Society | Community groups, non Env NGO related orgs, Public orgs (Trade Unions), Religious groups, the Church | 0 | 0 |
| Environmental Organisations | Intn'l and national Env NGOs, think tanks, eg Greenpeace, Friends of the Earth, WWF | 1 | 3 |
| Journalist, author | Opinion-maker, columnist, editor | 1 | 1 |
| Not Present | No claims makers found or specified (define claims-maker?) | 0 | 0 |
| Political Elites | National and international policy-makers, government spokespersons, gov related organisations (eg) ESRI, Comhar, Teagasc, Think Tanks (no | 1 | 4 |
| Scientific and Academic | Science-related organisations, insitutions, groups, individuals. OtherUniversity, college experts eg economics, geog, given title academic | 0 | 0 |
| Sectoral Interests | Business, Farming, Industry, Transport sectors | 0 | 0 |
| ZZZ- Discursive Themes | Interpretative Analysis of dominant discursive themes from data-driven and theoretical studies of LCT/DC | 0 | 0 |

266

**Appendix 1.7 Coding Instruction for 'References to LCT'**

| i | Keyword searches | Low Carbon, Decarbon!; Creative Carbon Compounds |
|---|---|---|
| ii | Carbon management processes, strategies or tools | CO2/emissions/greenhouse gas targets<br>LCT/DC technologies:<br>Financial mechanisms: carbon tax, carbon markets, etc<br>Low Carbon farming; smart farming; |
| iii | Carbon reduction activities | Going green; greening; green economy; sustainability;<br>green living; eco-friendly, low carbon living/lifestyles; |
| iv | Energy Transition | Energy efficiency;<br>Alternate/Green Energy: solar, renewable energy |
| v | Tackling climate change | Reducing emissions, reducing CO2 |

**Appendix 1.8: Final Categories for Multi-Modal Codebook**

| | Category Label | Category Definition | Rules for Inclusion/Exclusion |
|---|---|---|---|
| **Cognitive Engagement:** Describing the Problem | | | |
| | Economic Growth and Efficiency | This category identifies the problem as maintaining competitiveness and rejuvenating the economy. It advances economic imperatives as the rationale for action and suggests that LCT involves economic change. | It is distinguished from Environmental Responsiveness by the absence of references to climate change or environmental crisis as rationale for action and by prioritising of economic concerns. Coding excludes references to energy economy, or discussion advocating/calling for specific financial instruments or technologies (i.e.) references to 'solutions' to LCT.<br><br>It is identified by references to economic crises, benefits or rejuvenation & efficiency; kick starting the economy, maintaining competitiveness and low carbon economy. These references are often accompanied by tokenistic, throw-away comments about environmental protection. |
| | Advocating Energy Transition | This category presents the problem as the need to move away from fossil fuels and thus the rationale for action is tackling energy crisis. It promotes the benefits of alternate/ renewable energy sources and it highlights the benefits as well as the costs of green energy. | The coding excludes references promoting particular renewable energy technology or discussion of technological choices.<br><br>It is identified by references to energy crisis, security, consumption, policy and general references to moving to renewable energy |
| | Environmental Responsiveness | This category describes the problem as tackling environmental crisis and advocates environmental concern and action. It promotes the benefits of environmental protection and concern and the need for future environmental sustainability. Countering claims that environmental protection is costly, this | It is distinguished by its focus on environmental protection as the rationale for action. The coding includes references promoting economic benefits of green technology &/or financial measures *for* environmental protection. |

| | | theme argues that environmental responsibility is economically viable. Over the timeframe, a second line of argument stresses the cost of penalties associated with failing to meet emissions targets. | |
|---|---|---|---|
| | Future Scenarios | This category describes a possible low carbon future world. LCT is presented as choices about the future and ways of adapting in a post-carbon world. The rationale for action is the need to move to new modes of living and ways of thinking about everyday life. | It was added during the trial coding process and is recognised by references to visions or expectations of a low carbon future. It includes discussion of future imaginaries, generations, expectations, lifestyles and envisaging future problems/ solutions |
| **Cognitive Engagement:** <br> Promoting Solutions | | | |
| | Financial and Market Measures | This category advocates market and financial measures over top-down government regulation and promotes markets/financial instruments such as 'carbon credits', 'polluter pays' as the best way of motivating required behaviour change. <br><br> It is related to the Ecological Modernisation discourse as it promotes the view that market/economic change is needed to underpin technological and societal change (i.e.) it advances the idea of responsibility at the level of liberal market | It is identified by references promoting 'markets' as agents of change and the starting point for LCT (i.e.) references advancing carbon tax and markets, market forces, maintaining market activity. Therefore it promotes market repsonses over top down Government regulations and prioritises maintaining liberal market order. <br><br> Coding excludes references simply promoting economic benefits of financial/market measures. (These are included in Economic Growth and Efficiency) |
| | Techno-Innovation and Low Carbon Solutions | This category promotes techno-fix, techno-optimism and advances the idea that LCT involves technological change. | It is identified by references promoting low carbon solutions (especially farming related) and discussion of the benefits of techno-innovation or choices about technological solutions (i.e) Techno-fix, optimism; Green/Clean Tech, fracking etc) <br><br> It excludes references to energy change or discussion of technology related to discussion of energy transition. Coding also |

| | | | excludes references simply promoting economic benefits of either solution. |
|---|---|---|---|
| Assigning Responsibility | State/Sectoral Intervention and Regulations | This category advocates elite-driven transition and promotes government and business as the responsible agents of change. It advances two perspectives on government action. Firstly, that top-down regulations are needed to ensure the 'right conditions' for LCT and that this will effect required behaviour change (in markets and society). It also includes a highly critical perspective, which argues that top-down regulation stifles competitiveness and is bad for business and farming.<br><br>It is related to a Green Governmentality discourse which advances responsibility at the level of international and national policy makers based on scientific management | It is identified by references to the need for government legislation/ action, business leadership, compliance with regulations (i.e.) LCT is a government/policy problem requiring poliy-maker input and responses; Global climate change governance; Kyoto Treaty, etc<br><br>It is distinguished from Financial & Market measures by the emphasis on compliance and references to government legislation as the first step |
| | Citizen Responsibility and Consumer Action | This category describes LCT as involving fundamental shifts to human behaviour, cultural expectations and social norms. It emphasizes or promotes the view that people are agents of change (rather than markets, governments, or technology).<br><br>It is related to the Civic Environmentalism discourse and discussion of transforming consumption patterns and existing institutions to more eco-centric and just world order | It is identified by references to civic/societal agency, community action and possible societal upheaval. It advocates societal questioning of the status quo or consciousness change around everyday living and green lifestyles.<br><br>Includes references to reducing CO2 emissions as part of everyday lifestyle change, as a social problem/ issue, need for social response/change/justice |

| **Affective Engagement:** | | | |
|---|---|---|---|
| Consensus Repertoires | | | |
| | Calls for Leadership | This repertories promotes top down action and visions to achieve the 'green benefits' of transition. It emphasises Government and business leadership, it constructs leadership as a pre-requisite for the economic and social transformation. This repertoire initially described LCT as an area of Irish leadership, which could lead to the rebuilding or Irish ('Green') credibility internationally following the economic crisis. Thus it emphasised the benefits of LCT as a means of enhancing a failed Irish reputation, rejuvenating the economy and driving massive employment. During coding however, it became obvious that there were far more calls stressing the need for leadership on LCT and implicit references to transition as a top-down activity, driven by elites and government. This repertoire therefore took on the latter definition and the initial codes were merged into the Opportunity repertoire. | The language is overly optimistic about future LCT and the tone is positive, urgent and conclusive about the inevitable benefits of elite-led transition. It is identified by references to 'need for government action' on EU targets etc, 'transformational', 'revolutionary' or 'ambitious' thinking by government and business, 'companies and organisations should be leaders in carbon reduction'. |
| | Opportunity | This articulation advances the view that CO2 management will be beneficial for Ireland. The emphasis is on what carbon management can do for us, especially in terms of reinvigorating the economy. It focusses on the opportunities of Green Power (ie renewable energy technologies) and tends to advocate techno centric optimism about LCT. It constructs economic interests and Irish credibility as the main issues of concern and transition is made persuasive through optimistic claims about the inevitability of economic benefits, inflated promises of return to competitiveness and appeals to national pride. | The language is future-oriented and conditional, with many promises of unproblematic linear growth. It is identified by the focus on economic values and sense-making as the over-riding, unquestionable, mobilising force (e.g.) 'cutting emissions will make us better off', 'business opportunities', 'if we want the green lining we are looking for…', 'an opportunity to save money' 'cost-effective', 'green economy'. |

| | Sending Signals | This articulation constructs carbon as a commodity. Also known as 'the Magic of Markets' it advances economies or markets as the primary agents of change and takes for granted the view that 'markets' are the most important audience and actor for LCT. | It is recognisable by references to 'putting a price on carbon', 'sending signals to markets or consumers' 'Wall Street' and market needs or implications on markets. The tone is business-like, conclusive and future-oriented. The language employs highly seductive economic metaphors as persuasive rhetoric and as fear appeals (e.g.) failure to prioritise economic interests will lead to 'clinical death' for the market, for years! |
|---|---|---|---|

**Affective Engagement:**
Repertoires of Controversy and Contestation

| | Unfair Burden ('Punishing People') | This articulation presents the local and social injustices of LCT, emphasising the unfair impact of economic measures on the vulnerable. It is critical of government policy and counters the Obligations repertoire but, unlike Church of Green repertoire, it does not simply attack the green agenda, instead the focus is on highlighting the problems with the application and appropriateness of Carbon Tax. | The language is mocking and emotive, and this repertoire is identified by its focus on constructing citizens as victims of LCT (e.g.) 'fleecing ordinary citizens', 'imposing carbon tax on families', 'motorists will be hit', 'impacts on the vulnerable' and references to 'hardship', 'unfair' and 'pain'. |
|---|---|---|---|
| | Carbon Indulgences | This repertoire is very critical of the commodification of the atmosphere, which is seen as an excuse to carry on business as usual. It argues financial and market measures simply enable the guilty to pay for absolution rather than encouraging behaviour change | This articulation contests the 'Sending Signal' repertoire and is identified by references to 'Buying our way out of Kyoto', 'Pollution Credits'. The language draws on metaphors to highlight the foolishness of the measures (e.g.) 'buying indulgences from the Church' 'a get out of jail free card' and 'a shuffling of the deck-chairs on the Titanic'. |
| | 'Church of Green' | This articulation challenges the need for LCT driven by 'Green Principles' and is critical of the authoritarian aspect of Irish eco-rhetoric. It constructs the Irish green agenda as imposing unreasonable changes on people's lifestyles and is antagonistic about what it | The tone is scathing and it mobilises a particularly Irish sense of humour to ridicule what argues is the imposition of a Green Orthodoxy (e.g.). 'Tax on Fun', 'what with all that guilt and finger-waving from the environmentalists', 'Captain Smug himself, John |

| | | sees as the 'moralising' of carbon. | Gormley', 'green sins' and 'carbon confession box'. |
|---|---|---|---|
| | Climate Denialism | This articulation questions the basic climate science and thus the need for LCT. It is a very marginal repertoire and was only found in the early days of the debate when it was employed by business to resist changes such as the Carbon Tax | It is identified by references challenging climate science (e.g.) 'Scientists are deeply divided about the causes of global warming.' |
| | 'It'll Be Difficult' (Questioning Simple Solutions) | This articulation questions the validity of the simple solutions narrative by emphasising the difficulties associated with achieving proposed solutions and interrogating the claims made about linear growth. | It is identified by references challenging the optimism about techno-innovations as unproblematic solutions for carbon management and also criticism of targets associated with techno scientific innovation (e.g.) EU Biofuels targets. 'We have to be honest with people about how difficult this will be', 'no one knows how to achieve decarbonisation', 'weaning our economy off fossil fuels will be a very difficult task'. |
| | Failure | This repertoire calls attention to the political mismanagement of LCT, particularly in relation to failed international agreements and failure to meet emissions targets. It suggests that agency lies with political elites and that mismanagement of LCT is due to a failure of political will. As such it provides a counter-view to the more positive stances on top-down management found in the Leadership and Obligations repertoires as it presupposes political ineptitude and is sceptical of the ability of leaders to lead. | The tone is cynical and much of the commentary is scathing about the Green Party and 'Green Hypocrisy' especially in relation to their high carbon footprints (e.g.) 'then he jetted off to Bali for the latest UN conference on climate change. As you do.' and 'Mr Gormley now looks like the environmental emperor with no clothes'. It is identified by negative evaluations of government action (e.g.) 'atrocious', 'complacent', 'glaring omissions', 'the mess' and 'political inertia'. |
| | 'It'll Cost Us' | This repertoire constructs measures to tackle climate change as a 'cost'. It emphasises that the negative effects of meeting targets on business outweigh the supposed environmental benefits. | Like Protecting Competitiveness, this repertoire challenges the rationale for economic measures, but it is more extreme, arguing that business can't afford to meet targets and advocating that importance of free market protection. The language is |

| | | | |
|---|---|---|---|
| | | | argumentative and critical of impact of regulations (e.g.) 'drive manufacturing jobs out of Ireland', 'remains to be seen if it will … drive behavioural change', 'it will add to costs for agriculture'. |
| | 'No Need for Action' (Futility/Folly of Decarbonisation) | Initially, this articulation was defined as constructing Irish recession and austerity as the common-sense issue we have to tackle, however it was not found. Instead, this repertoire challenges the need for LCT by emphasising the futility of economic measures and government regulations because of the recession. In doing so, it promotes the logic that tackling climate change is something about which there is a choice. | This repertoire is identified by arguments indicating that 'It's not our problem' or 'we're too small to matter' and references to impact of Irish recession on carbon emissions (e.g.) 'the recession has had a significant impact on carbon emissions', 'we're barely a blip internationally'. |
| | Protecting Competitiveness | This repertoire takes a cautious view of LCT and argues against actions that will impede Irish competitiveness. Thus it is similar to repertoires prioritising economic interests and critiquing constraints on business. However, instead of outright opposition to the principles of LCT it promotes responsible, pragmatic approaches. | The language is persuasive rather than critical or scathing and the tone is reasoned and adamant. It is identified by references to Irish exceptions and the need to protect the growth of agriculture and food production (e.g.) 'our sustainable model of farming', 'unique role of agriculture and food in Irish economy', 'limits to what farming can do to reduce emissions' and 'it will undermine competitiveness'. |
| **Affective Engagement:** Distancing Repertoires | | | |
| | Small Changes and 'Happy Talk' | This articulation constructs a positive, can do vision of LCT which involves small personal lifestyle changes. It is the product of merging two initial codes (small changes and Happy Talk). This repertoire merges 'Small Changes' and 'Happy Talk' as both present an upbeat account of change and encourage action by focussing on 'selling good news' rather than 'doom and gloom'. Overall, their tone is optimistic and they both paint | It is identified by upbeat references to, and sunny prognosis about, tackling climate change. The language is speculative and characterised by non-specific generalisations about minimal personal sacrifice, economic sense and convenience (e.g.) 'doing my bit for the planet', 'saving energy tips'. |

| | | a rosy picture of how easy it is 'to help save the planet' through simple everyday actions. Thus, the merged repertoire purposefully contrasts with the apocalyptic language and fear appeals of other environmental repertoires. | |
|---|---|---|---|
| | Dire Warnings | This repertoire constructs visions of catastrophic loss to motivate action to save the planet. This was initially labelled Counsel of Despair however the emphasis is more on finger-pointing than hand-wringing | It is recognisable by its use of heightened, cinematic language, references to apocalypse and fear appeals and it often deploys latest science to bolster its arguments about environmental risks. The tone is one of urgency, ultimatums and warnings of impending doom related to future possibilities (e.g.) 'window of opportunity closing fast', 'change may be forced on us', 'we can't afford to wait', 'the pain of necessary change', 'grim prospects'. |
| | Obligation | This repertoire emphasises the need to meet CO2 targets and also constructs the idea of empty promises for failing to do so. It stresses our responsibility and commitment to act on EU/International Agreements however this responsibility is primarily to meeting legal agreements. | It is recognised by references to Ireland's or national 'requirement to comply', 'pledges' and 'legal requirements' to 'Kyoto' and the techno-bureaucratic language. This repertoire stresses that commitments have been made and that required actions are imperative and non-negotiable, however the tone is often recriminatory or reproachful and implicitly suggests that we're not taking issue seriously. While the rhetoric is less inflated than Dire Warnings, it is cautionary and deploys threats and fear appeals about costs of penalties to motivate action on meeting targets. |
| | The Appliance of Science | This repertoire constructs LCT as the technical challenge of how to manage an industrial sustainable future. It promotes the logic that 'technology will save us' and is related to the Ecomodernist | The tone is aspirational and focuses on the promise of 'eco-efficiency' and technological management of LCT. However, the language is vague, future-oriented and conditional |

| | | | |
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| | | discourse that argues modern technologies can reduce demands on the environment while improving outcomes for humanity. | (e.g.) 'technologies will…', 'technologies could…' |

**Affective Engagement:**
Empowerment Repertoires

| | | | |
|---|---|---|---|
| | Curbing Consumption | This repertoire constructs LCT as part of new consumption choices and promotes human agency through green consciousness. It emphasises eco-awareness and green living by curbing consumption but the focus is on private sphere actions, it doesn't promote public sphere engagement or radical change (i.e.) green radicalism. | It is identified by references to practical everyday actions such as low carbon transport, holidays, diet etc. The tone is generally informative, balanced and often inspirational or motivational. It increasingly applies business metaphors to personal behaviour change (e.g.) 'audit your lifestyle' 'measure your liabilities' and references to 'carbon accounting' |
| | Eco-Responsibility | This repertoire constructs LCT as a moral or global issue and promotes global social values, human solidarity. It was initially labelled 'Eco-Redemption and Responsibility' however references to eco-responsibility dominate and, unlike with Obligation, these are motivated by moral and ethical considerations to save the planet and combat poverty. | It is identified by its focus on global social injustices and global eco- awareness (e.g.) 'It is a global problem, so everybody should help solve it…' and to 'equitable solutions', 'poverty' and 'Climate Justice'. The tone is balanced and objective, it states the black and white case for global justice and advocates reasonable actions. |
| | David and Goliath | Ereaut and Segnit (2006) define this repertoire as the voice of 'ideological fury' and associate it with Green Radicalism discourse | It is identified by use of highly adversarial rhetoric and language of radical fringe (e.g.) 'Flying is an obscenity'. |
| | Post Carbon Transformation | This articulation describes new ways of thinking and working in a carbon constrained world. The emphasis is on highlighting the profound social challenges as well as environmental disruption and honest, balanced accounts of the need for transition. It constructs change as revolutionary, emancipatory and involving collaborative creativity. | It is identified by references to 'post-carbon' or 'carbon' and upbeat visions of a low carbon world. It is distinguished from Curbing Consumption by its faith in the future and optimism about social and technical innovation rather than focussing on eco-awareness, romanticising the 'old ways' or talk of 'limits', 'curbing', 'frugality'. Hard Truths. Hard Truths counters the |

| | | It was merged with the Hard Truths repertoire which focusses on the changes to everyday lifestyles, landscapes or expectations. This repertoire described the fundamental changes ahead either because of climate change or in order to tackle climate change. | bright-siding of 'Happy Talk' but is distinguished from Dire Warnings by its balanced, stoical view of change as something we must accept and can adapt to. The language is cautionary and implicitly or explicitly suggests that changes will be profound (e.g.) 'It's going to change our coastline, yes for sure'. |
|---|---|---|---|

**Behavioural Engagement:**
Private Sphere Practices

| | | | |
|---|---|---|---|
| | Consumer Acceptance | This category is identified by general references to green and eco-friendly consumerism and/or to the need to 'incentivise consumers' to change to new 'low carbon' products. The focus is primarily on changing consumer trends or pattern to adopt new carbon-friendly brands. | It is distinguished from other categories by its preoccupation with promoting new products, changing consumer trends and maintaining consumption (i.e.) it does not reference changing practices or behaviour to reduce carbon emissions. It prioritises passive consumer engagement and changing brands rather than raising concern about or changing consumption levels. |
| | Personal and Household Behaviour | This category addresses individual and community based lifestyle/behaviour change and domestic resource use. It involves more thoughtful engagement with LCT than Consumer Acceptance (e.g.) buying locally sourced food | It is distinguished from other themes by its focus on 'behaviour' over practices and is associated with discussion of changing lifestyles, habits of individuals or in the home. It includes references to new products which promote personal and household behaviour change, especially energy efficiency and retro-fitting around the home. It includes all forms of individual behaviour change as well as references to community (of individual) actions associated with household behaviour |
| | Low-Carbon Living and Consumerism | This category includes explicit mention of carbon management and is distinguished by references to social practices or behaviour change in order to reduce carbon emissions. It emphasizes that LCT involves changing a range of everyday practices such as consumer, transport choices and it is critical or questioning of consumption | It is distinguished by informative and evaluative references to carbon reduction as part of everyday lifestyles (i.e.) explicit references to or links to carbon emissions and carbon management rather than focussing on consumer or personal actions. This is a socially (re)contextualized discussion of LCT lifestyle and consumption choices |
| | Organisational (Work) Practices | This theme was added during the coding process. It predominantly describes daily farming and business operation change and promotes efficiency and cost or 'bottom-line' savings as the | It is identified by references to work or professional practice change or the need to make such changes and is frequently expressed in discussions about sustainability. |

| | | rationale for change | |
|---|---|---|---|
| | | 279 | |

**Behavioural Engagement:**
Public Sphere Practices

| | Community and Societal Action | This category includes reference to community and societal actions to reduce carbon emissions and includes both activist and non-activist forms of collective action. The focus is on highlighting political, social and community activity to reduce intensity of carbon in everyday lifestyles | IT is easily identified by references to community and collective actions to reduce emissions or references to participate in environmental activism such as attending marches, protests, public gatherings. It also includes non-activist behaviour such as signing petitions, joining NGOs etc as well as references to community carbon reduction activities.<br><br>It excludes references to individual actions |
|---|---|---|---|

**Appendix 1.9a Development of Categories for Coding Affective Engagement**

| Version I: Literature on Climate Change & LCT | | | |
|---|---|---|---|
| **Climate Change Discourses*** | **Meta Discourses of Climate change**** | **Discourses on Carbon Management***** | **Linguistic /Interpretative Repertoires of LCT******* |
| Catastrophism; Alarmist; Pessimistic | | Carbon Catastrophism | Apocalypse; Impending Doom; |
| Gradualism | | | |
| Economic Rationalism | *Ecological Modernisation* | Carbon Fetishism | Market Environmentalism |
| Administrative Rationalism | *Ecological Modernisation* | | |
| Quest for Sustainability; Pragmatic Optimism | *Green Governmentality* | Carbon Utilitarianism | Irish Leadership/Playing the Green Card Opportunities in Green Power |
| Green Radicalism | *Civic Environmentalism* | Carbon Enlightenment; Green Consciousness | |
| Scepticism | | Carbon Scepticism | Folly of Decarbonisation |
| | | Techno-optimism/ Techno-Utopia | Technology Will Save Us |

**(\*)       =       Dryzek,** (Dryzek 2005)**2005; Urry, 2011; Doulton and Brown 2010;**

**(\*\*)      =       Backstrand & Lovbrand (2006, 2007)**

**(\*\*\*)     =       Nerlich 2012, Nerlich & Kotyeko 2010**

**(\*\*\*\*)   =       Data-Driven Codes**

| Appendix 1.9b Development of Categories for Coding Affective Engagement | | | |
|---|---|---|---|
| Version II – Hybrid Approach Initial Categories for Coding | | | |
| **Positions on Climate Mit** | **Carbon Mng Discourses** | **Carbon Mngmt Repertoires** *Variants* | **LCT Definitions/Caricatures** |
| *Green Agenda/ Vision* | Carbon Catastrophism | Alarmism(ist?) | *Counsel of Despair*: Features 'Scare Stories'/ 'Talk of Apocalyse'; 'Impending Doom' |
| | Green Radicalism | Green Consciousness: (Civic Env - lifestyle greens ) | *Green Living*:  Focus on 'Curbing consumption/production' Human subjects have agency |
| | | Green  Politics (Radical) Changing Society | 'David & Goliath': A small number can change the world - Adversarial |
| | Green Gov | Admin Rationalism: (Env Mngmt) | 'Obligation/Commitment to Meet EU Targets' |
| *Economic Implications* | Carbon Fetishism | Market Environmentalism | *The Magic of Markets*: 'Putting a Price on Carbon'/ 'Sending Signal to Markets' |
| | | | *'Carbon Indulgences'* (Rejects commodification of Carbon) |
| | | Free Market Protectionism | *'It'll cost us'* (Highlights costs of Climate Mitigation, prioritises need for economic growth) |
| *Banal Nationalism /Localism* | Carbon Utilitarianism | Green Benefits | *'Irish Leadership/ Playing the Green Card'*: National pride, reinvigorating economic landscape/track record. |
| | | | *'Opportunity in Green Power (Green Capitalism)'* Inflated rhetoric, overly optimistic accounts of inevitability of economic growth. |
| | | | *'Protecting Competitiveness/ Special Cases/Irish Exceptions'*- focussed on farming & sustainability, rejects regulations/Targets to tackle CC. |
| | Carbon Scepticism | Folly of Decarbonisation (rejects Green Agenda/Vision & Confrontational/ | *No Point in Taking Action:* Austerity/Recession Is *the* Problem; 'We're Too Small To Matter' Constructs CC as something about which we have a choice on whether |

| | | Adversarial | to act on or not.<br><br>*Inevitable Failure:*<br>*'Political Mismanagement'*<br>/Politician's To Blame'<br>Mismanagement, cynicism over Emissions Targets<br><br>*'Church of Green'*:<br>'Tax on Sin'/ 'Punishing People'<br>Mocks Green Agenda & Enviro concern as unreasonable choices about lifestyle (ie) 'authoritarianism' of Greens |
|---|---|---|---|
| | Carbon Pragmatism | Necessary Sacrifices | *Loss & Nostalgia:*<br>Change/Action viewed negatively as loss and not as progress.<br><br>*Small Changes*:<br>'Doing My Bit for the Planet' 'Saving energy tips'<br>It's serious but individuals can do something without too much personal sacrifice. Change/ actions are convenient, easy to do. |
| **████████████████████** | | | |
| *Social Agenda/ Vision* | Carbon Enlightenment | Climate Resilience | *Brightsiding: 'Happy Talk'*<br>Selling good news v doom & gloom . Rejects/ downplays alarmism.<br><br>*Post-Carbon Lifestyles:*<br>New ways of thinking & working in a carbon constrained world; honesty about problem and focus on personal efficacy. |
| | Carbon Justice | (Cosmpolitanism) Eco-Redemption/ Responsibility<br><br>Communitarian | Global Values/Social Justice<br><br><br>'Unfair Burdens' – Hurting the vulnerable, local injustices |
| *Innovation* | Techno-Utopia optimism<br><br>Techno-scepticism | Technology Will Save Us<br><br>Questions Simple Solutions | 'Techno-opt' In Ireland, promotes the idea of technology as a business proposition that requires market support first.<br><br>Argues that the comforting but simplistic hopes placed in technology are a distraction – (Cottle, px, 2009) |

# Appendix 2: Empirical Data Samples

**Appendix 2.1: Additional samples of print media texts shaping carbon literacy**

**Appendix 2.2: Additional samples of print media texts normalising low carbon practices**

**Appendix 2.3: Additional samples of print media texts mainstreaming carbon repertoires**

## Appendix 2.1: Additional samples of print media texts shaping carbon literacy

### Appendix 2.1a: Assigning Responsibility - State/Sectoral Intervention and Regulations

"If we are finally to exploit the massive energy resources we have available to us on this windy island, there will now need to be a revolution in thinking in Whitehall, where the energy dinosaurs have prevailed for too long," he said. "We need the government to guarantee premium prices for clean electricity so industry can take risks to get tens of thousands of turbines built and installed out at sea.

***Britain to build 7,000 wind turbines around its coastline, Irish Examiner, 10.01.07***

'The Minister billed the first "pilot" carbon budget as bringing climate change to "the heart of Government decision-making" - putting it on a par with managing the economy. "We have to think carbon," he told the Dáil on December 6th. "If we are to successfully tackle climate change, if we have to de-carbonise society, then we have to put a price on carbon, and I hope that all deputies in this House will begin to understand the necessity of a carbon levy."

***Several shades of Green, Irish Times, 22.12.07***

'The best science available says we have less than a decade to start radically slashing greenhouse gas emissions, otherwise the planet is going to start radically slashing us. Ultimately, it's not the planet that we're damaging, rather the conditions that allow us to live comfortably upon it. Intellectually, our leaders know this. Behaviourally they seem utterly unwilling to address our self-inflicted fate.'

***Eco worrier: Carbon credit where it's due, Sunday Business Post, 6.01.08***

'Mr Motherway said the implementation of building energy rating (BER) for commercial buildings from January 1st next would lead to a "massive upscaling" of the pace and extent of energy efficiency, making it one of the prime considerations in valuing a building.'

***Putting the carbon genie back in its bottle, Irish Times, 28.08.08***

'It is now more than two years since Europe first offered to make a unilateral 20 per cent cut in its emissions by 2020, in the hope that such a bold gesture would encourage others to follow suit. Indeed, the EU said it was prepared to go even further, reducing emissions by 30 per cent, if there was a multilateral agreement involving its principal competitors.'

***Planning a low carbon future, Irish Times, 15.12.08***

'He said the new Bill and the new carbon levy announced in the main budget on Wednesday would form the cornerstone of the new low carbon society.'

***Climate change Bill to formalize emissions targets, Irish Times, 12.12.09***

"It is ludicrous that Ireland could introduce emission reduction targets way in excess of those proposed by other countries, while at the same time countries such as Brazil destroy Amazonian rainforests and allow their greenhouse gas emissions spiral out of control."

***Climate bill 'no threat' to the future of farming, Irish Examiner, 23.12.10***

'This will not happen unless Mr Hogan and his advisers engage with the private and public investors who have projects in the pipeline but are frustrated at the Government's inability to get its plans to a "shovel ready" state. Legislation will be needed, but as correctly stated by Mr Hogan, its content must be informed by evidence-based policy research.'

***We have potential to be world leaders in the green economy, Irish Independent, 1.12.11***

**Appendix 2.1b Assigning Responsibility - Citizen Responsibility and Consumer Action**

'Here, Elaine Nevin, director of Eco-Unesco, will explore the environmental impact of our daily activities, and how we can reduce that impact by making simple changes to our routine.

*Eco Warrior: All the fun of the eco-fair, Sunday Business Post, 19.08.07*

'Only the most hardened sceptics now doubt the reality of climate change, but getting people to take action is much more difficult. One part of our brain knows what's happening, yet most of us continue to fly to foreign destinations, procrastinate about getting the house properly insulated, and to skip hastily over newspaper articles prophesying doom.'

*Alarm bells are call to act on climate change, Irish Times, 1.12.07*

'Around the world tomorrow people will march to press our politicians to rise to that challenge. In Ireland church bells will ring across the country at 2pm to sound the alarm, and in Dublin a parade for the planet will go from the civic offices on Wood Quay to the Custom House.'

*Carbon budget is just a first small step, Irish Times, 7.12.07*

'So far, so good and all apparently logical. But whether it is accepted by the public is another thing entirely. It is the small things that often get people outraged. This is going to be controversial for a number of reasons. One is the cost. While it is possible to buy relatively cheap CFL and LCD bulbs, some of the better ones are far more expensive. For some people the price of replacing a lightbulb will become an issue.'

*Why we take a dim view on being forced to accept energy-saving ideas, Irish Ex, 10.12.07*

'But the Government must introduce a Carbon Tax on all fossil fuels to give people an incentive to switch to less polluting vehicles and methods of transport and to change heating systems, Mr Fitzgerald said.'

*Ireland will pay for slow start in eco-fight, Irish Examiner, 24.01.08*

'The calculator, available at www.change.ie, was developed as part of the Change Campaign to reduce greenhouse gas emissions. Lorraine Fitzgerald from the Change Campaign said the aim was to have a 20pc reduction in carbon counts. "It is looking at things like travel, home heating, electricity and seeing how people in their everyday lives contribute," she said. "It is about giving people an understanding about where they are making an impact."

*Gormley's carbon footprint almost triple State's target, Irish Independent, 6.05.08*

'For when you look at it in the most fundamental way, the future of the planet essentially depends on how we live our daily lives. Not that that's always easy. 'Are we going to walk, or cycle, a lot more often rather than drive; are we going to save diminishing oil supplies by cutting down on home heating and are we going to get really serious about recycling?'

*Get on your bike to save the planet, Irish Examiner, 24.05.10*

"Climate change policy and the transition to carbon neutrality can only work if they engage a wide range of actors including local authorities, public agencies, firms, researchers, civil society organisations, communities and families in exploring new possibilities and finding ways to learn from and generalise their innovations."

*Climate report is a dismal technocratic document, Irish Times, 22.02.13*

'The tax on solid fuels, introduced by the previous government, had been deferred for two years because of the potential impact on lower income households. 'Age Action said the Government must act to ease the hardship created by the carbon tax on solid fuels.'

*Low carbon tax considered for smokeless fuel, Irish Examiner, 6.05.13*

**Appendix 2.1c: Describing the Problem - Economic Growth and Efficiency**

A similar shift may also be taking place among economists, with some formerly circumspect analysts now saying it will cost far less to cut emissions now than to adapt to the consequences later. Insurers, meanwhile, have been paying out increasing amounts each year to compensate for extreme weather events. And growing numbers of corporate and industry leaders have been voicing concern about climate change as a business risk.

*Clear, credible signal on climate change must be sent, Irish Times, 9.11.06*

'Mr Price said developing countries, especially China, were very conscious of the risks from global warming and keen to make their economies more efficient in terms of emissions, but they could not be expected to actually cut them.'

*Carbon tax on consumers not 'the way to cut back emissions', Irish Indo, 20.04.07*

'By putting a price on carbon the effect is to move the cost on to a company's balance sheet. Carbon then becomes a driver for earnings.'

*Environmental threats – and opportunities – facing business today, Sunday Tribune 16.09.07*

'A change in business and financial sentiment may be one of the key drivers. "The corporate sector is saying to the politicians that it needs early, predictable policies in making its decisions. We are already seeing on Wall Street that they are nervous about whether they should finance new coal-fired power stations or not. Voters will need to be convinced that burdens are shared fairly between consumers, taxpayers and shareholders. "Unless we can convince people that this is compatible with jobs growth, it won't be politically practical. It cannot be done on the basis of austerity policies. People will not vote for that".'

*Bright spark leading the way, Irish Independent, 13.03.08*

'Some of the trendy measures being advocated, however, could be particularly dangerous. We are already witnessing spiralling food prices, largely attributed to the diversion of agriculture into biofuels instead of food. As a result the cost of animal feed is going up and, along with it, the price of food itself. 'We must ensure that famine and starvation in poor countries are not a replacement for carbon emissions in rich ones.'

*Carbon footprint – Responsible ways to save the planet, Irish Examiner, 6.05.08*

'Irish proposals to reduce emissions - by introducing a carbon tax or a 'cap and share' carbon permit scheme - are still being considered by the Government, but rising oil, food and energy prices could also see them shelved for the time being.'

*Economics, Irish Times, 9.06.08*

'We have to begin the transition to a low-carbon economy and start changing how we create and use energy, he said. The changes involved will be profound and will impact significantly on the structure of the economy. No sector, organisation or individual will be immune.'

*Cowen stresses economic challenges of climate change, Irish Times, 10.07.08*

"Many companies make savings even after they pay for the offsets because there would be dramatic reductions in terms of costs and from improving energy efficiency - in some cases up to 50 per cent. It makes better sense. Not only will they make cost savings, they will also improve their competitiveness."

*Wiping your carbon footprint clean, Irish  Times, 19.09.08*

"The challenge we therefore face is determining how targets can be achieved without reducing the national herd and damaging the Irish economy," she said.

*Conference hears call for strategic rethink on cutting emissions, 9.01.09*

'BUSINESSES can reap massive savings by using a new online carbon calculator to help slash their emissions, the Government claimed yesterday'

*Firms warm to climate bid, The Mirror, 30.04.09*

"Whether it is called a carbon tax or not, it is, in effect, just a price rise," spokesman Conor Faughnan said.

*Homeowners and motorists to feel the pain of new charges, Irish Independent, 10.12.09*

'After the two governments committed to this "programme of work", Rabbitte said: "Ireland has the potential to generate far more wind energy than we could consume domestically. The opportunity to export this green power presents an opportunity for employment growth and export earnings which we must seize if we can".'

*Sales in our Wind, Irish Times, 6.04.13*

'The additional costs of hitting the 30% target are estimated at 33bn a year. But the move would reduce oil and gas imports by 40bn a year, and cut the costs related to air pollution by 6.5bn to 11bn a year. 'The carbon price in the EU emissions trading system in 2020 would increase from 16 per tonne of $CO_2$ under the 20% target, to 30.'

*EU firms welcome CO2 cuts freeze, Irish Examiner, 27.05.10*

'Mr Bryan said: "If we fail to develop our low-carbon, sustainable model of food production, and the opportunity that exists to grow jobs and exports, it will be a disaster for the country's economic recovery."

*IFA insists legislation must give credit to pasture and forestry, Irish Examiner, 23.12.2010*

'The prevailing view within Government is that commitment to long-term targets is premature, especially in the absence of solutions or technology to make it happen. The agrifood industry is a case in point. It is a much bigger component of the Irish economy than of many other EU states - meeting the targets would necessitate a mammoth downsizing of the sector. 'The Government argument is that an 80 per cent reduction by 2050 means annual emissions of 11 million tonnes of carbon equivalent, for everything. But agriculture alone accounts for 19 million tonnes at present. That means if everything else was reduced to zero, Ireland would still need to substantially reduce the amount of food, or dramatically cull national herds.'

*Political reality stymies action on climate change, Irish Times, 26.02.13*

## Appendix 2.1f: Describing the Problem - Environmental Responsiveness

'Mr Cullen said Irish industry would now be best placed to participate in the emerging carbon market in a manner that best protected its competitiveness, while maximising overall environmental performance.'

*Brussels approves carbon dioxide emissions plan, Irish Times, 8.07.04*

'It's clear that something will have to be done to rein in pollution - if only to avoid paying the fines.'

*Stern measures on climate change will be very taxing for business, Sunday Tribune, 5.11.06*

'If you walk to work you are entitled to feel pretty smug about how petite your carbon footprint is, aren't you? But what if someone told you it would be better for the environment if you drove to work instead?'

*An Irishman's Diary, Irish Times, 18.08.07*

'Launching the Government's communications strategy on climate change with Tánaiste Brian Cowen and Minister for the Environment John Gormley, Mr Ahern said climate change was now a social and economic issue as well as an environmental one.'

*Climate issue affects every sector – Ahern, Irish Times, 30.11.07*

'Being a good corporate citizen also pays off in the battle to win customers. "Climate change is very important. Everybody wants to make an effort to combat it; consumers will be happy to use products and services from companies that are making a difference and taking leadership in the fight against climate change".'

*Wiping your carbon footprint clean, Irish Times, 19.09.08*

'The reality of economic recession should not be seen as a deterrent, still less as an excuse to postpone taking action, but rather as an opportunity to make the much-needed transition to a low-carbon future. That is the only realistic route we can follow to avoid catastrophic climate change.'

*Planning a low carbon future, Irish Times, 15.12.08*

'Ms Kelly said fundamental changes would be required to ensure that economic recovery, when it comes, was low carbon and sustainable.  It will require imagination, innovation and new ways of working, and it will also require investment in research and development, infrastructure, in systems and lots more.'

*Call for urgent action on green economy, Irish Times, 24.09.09*

'The UN's climate scientists, in their most recent (2007) report, said developed countries would need to cut emissions by 25 to 40 per cent below 1990 levels by 2020, and by 80-95 per cent by 2050, if the world was to have any chance of averting "dangerous" climate change.'

*Statement from China a boost for Copenhagen, The Irish  Times, 27.11.09*

'Dr Rogier Schulte of Teagasc said: "Based on the low carbon footprint of our Irish dairy and meat products, it is possible to turn the threat of reducing greenhouse gas emissions into opportunities for Irish farmers.'

*The 'green card' could help Irish agricultural sector grow to E30bn, Irish Ex, 23.06.10*

'One Dublin station has taken the initiative to 'rethink' the future of public service premises. Kilbarrack fire station was the first in the world to begin trading carbon with major companies on the stock exchange as part of an effort to reduce emissions. Its sale of carbon savings means that reductions are spread across companies and the profits are reinvested in the service.' (Excpn, lone social voice!! – other articles with quotes only from citizens)

*'Green' fire station sends carbon footprint up in smoke, Sunday  Tribune, 4.07.10*

'IFA president John Bryan said the commitment to adjust the way in which emissions are calculated is an important acknowledgement of the advantages of Ireland's grass-based system. IFA has consistently argued that our permanent pasture and carbon sink from forestry had to be taken into account when devising our climate change policy," he said. "The Government's move will assist the

sector in meeting the targets set out in Food Harvest 2020. The need to feed the world's population must take priority."

*Welcome for Government move to axe 2020 targets, Irish Independent, 8.11.11*

'…. the report allows for a massive increase in production under Food Harvest 2020 and talks about "a need to improve the understanding of agriculture and how it can contribute to the ambition of reducing global greenhouse gas emissions while increasing food output".'

*Climate report is a dismal technocratic document, Irish Times, 22.02.2013*

## Appendix 2.1e: Describing the Problem – Advocating Energy Transition

'More efficient technologies and cleaner energy can compensate for dirty fossil fuels. And it is important that Ireland, which is twice as dependent on imported oil and coal than other EU states, should begin the transition to cleaner energy as quickly as possible.'

*Carbon tax must be introduced, Irish Times, 25.08.04*

"What matters is that they become more energy-efficient. That's how they'll improve their carbon output - and save money."

*Following the green road to profit, one step at a time, Irish Times, 3.10.08*

'Brian Motherway, head of the industry division of Sustainable Energy Ireland (SEI), said the price of carbon fuels would only go up. "The future is a low-carbon society, however long it takes. We really are on the cusp of something here. This issue is hot and it's not going away".'

*Buildings g green to save money, Irish Times, 15.10.08*

'Launching his second "carbon budget" Mr Gormley said the Government wanted 10% of all road traffic electrically powered by 2020. 'The minister also increased the target for the amount of the country's electricity from renewable sources to 40% by 2020.'

*Gormley defends 'hard decisions' in budget, Irish Examiner, 16.10.08*

"Much of what we do involves the use of energy generated through burning coal, oil, gas and peat so the way we live, work and travel has a huge bearing on climate change.''

*Guide helps measure carbon footprint, Irish Independent, 25.11.08*

'Renewable energy could bring a significant jobs boost to the county, and fits in with the Government's predictions that up to 80,000 jobs could be created by the green economy by 2020'

*Approval for Clare wind farm, Irish Times, 21.08.10*

'Friends of the Earth said rules which require a percentage of UK transport fuels to be made up of the "green" fuels could, instead of cutting emissions, have created an extra 1.3 million tonnes of CO2.'

*Biofuels worse than fossil fuels for environment, say activists, Irish Independent, 15.04.09*

'The bulk of the task of decarbonising the economy "will have to be achieved by creation of low-carbon energy for electricity and transport", the report says, adding: "It is technically and economically feasible for the power-generation sector to be entirely decarbonised by 2050" with wind supplying more than 60 per cent. 'Retrofitting housing to make it much more energy-efficient and widespread use of electric vehicles from 2020 onwards are seen as positive developments.'

*Climate report is a dismal technocratic document, Irish Times, 22.02.13*

'It seems there is no alternative but to wean ourselves off fossil fuels. This will not be easy as the world's population continues to grow and developing countries continue to industrialise.'

*No relief as climate change accelerates, Irish Times, 30.05.13*

## Appendix 2.1f: Describing the Problem - Future Scenarios

'IIEA working group chairman Dr Peter Brennan said the EU's proposals to reduce carbon emissions by as much as 30pc by 2020 would have profound economic implications. Not only businesses, but farmers, commuters and households will have to start adapting to a new way of life as Ireland will have no option but to reduce -- in the most fundamental manner -- its current over-dependency on fossil fuel," he warned.'

*Report targets drivers in bid to cut emissions, Irish Independent, 30.09.08*

'Brian Motherway, head of the industry division of Sustainable Energy Ireland (SEI), said the price of carbon fuels would only go up. "The future is a **low-carbon** society, however long it takes.'

*Buildings go green to save money, Irish Times, 15.10.08*

"This Government has insisted that we have the economic strategy to bring us into recovery. The investment and the jobs of tomorrow will be low-carbon and high-tech," Mr Ryan said in the wake of yesterday's Budget announcement.

*Blair: Taking no action 'grossly irresponsible', Irish Examiner, 14.12.09*

"The future will be different and it will be largely driven by the unhappy twins of energy needs and climate change. Both of these will loom large on the political and economic agenda in various fashions," he concludes.

*Get on your bike to save the planet, Irish Examiner, 24.05.10*

'Pat O'Doherty, chief executive of ESB, said that the electricity sector would lead the way to a decarbonised society. "As one of the largest producers of carbon, the electricity sector is expected not only to lead the way by decarbonising itself, but also to carry the burden for other sectors. Our vision for the future is one of a decarbonised electricity sector providing the engine for a decarbonised society," he said.'

*Talks aim for British-Irish green energy deal, Sunday Business Post, 3.03.13*

**Appendix 2.1g: Promoting Solutions - Financial and Market Measures**

'An Taisce has warned that the Government's decision to defer the introduction of carbon energy taxes for two years, also announced in the Budget, means that Ireland could have to pay penalties of up to E1.25 billion a year for breaching its Kyoto target.'

*Wind industry criticizes Budget, Irish Times, 11.12.02*

'Last year the Government revealed it planned to buy carbon credits to make up for an expected shortfall in its Kyoto target, which requires the State to limit carbon-dioxide (CO2) emissions to a certain level.'

*State faces EUR400m bill for failing to meet Kyoto target, Irish Times, 22.09.05*

"If carbon is to become the new global currency then we must put a price on carbon . . . Targets are an essential underpinning of the international carbon market, which will drive consumer and investor behaviour towards a low-carbon, sustainable future."

*Gormley demands action, Irish Times, 13.12.07*

'The minister claimed Irish people needed an "incentive" to reduce their use of fossil fuels. He said: "The market, Irish householders and customers need a clear signal we need to reduce our dependence on fossil fuels because ultimately they are finite and they are not going to be as easily available in five or 10 years".'

*Green light for carbon tax, The Mirror, 9.01.09*

'Behaviours need to be taxed to reflect the downstream costs inflicted on society as a whole'

*Time for carbon tax to move beyond rhetoric, Irish Times, 10.09.09*

"Putting a price on carbon is an important step in the fight against climate change," he said."EUR15 a tonne is far lower than is necessary to drive the transition to a low-carbon future. The tax will need to increase year-on-year."

*Homeowners and motorists to feel the pain of new charges, Irish Independent, 10.12.09*

"Europe needs a robust carbon market to meet our climate targets and spur innovation," she said.

*Carbon prices fall to record low in wake of MEP vote, Irish Times, 17.04.13*

'The trading scheme, which covers major energy users such as power generators and heavy industry, was meant to encourage them to reduce their emissions by switching to cleaner technologies.'

*Call on EU to abolish emissions trading scheme, Irish Times, 5.03.13*

## Appendix 2.1h: Promoting Solutions - Techno-Innovation and Low Carbon Solutions

'The Stern review suggests that markets for low-carbon energy products are likely to be worth at least $500 billion a year by 2050. Even today, it is baffling that readily available energy-efficient technologies and know-how are not used more often - a win-win approach that produces less pollution, less warming, more electricity and more output.'

*Clear, credible signal on climate change must be sent, Irish Times, 9.11.06*

'Ireland's landscape, and the world's, looks set to be changed radically by our pursuit of biofuels, writes Frank McDonald, Environment Editor 'The current buzz about biofuels as a way to cut our greenhouse gas emissions clouds one overwhelming fact - an awful lot of land will be consumed to grow the rapeseed and giant miscanthus (elephant grass) needed to produce them.'

*Is there a dark lining in a greener future, Irish Times, 17.02.07*

'Transforming the world's energy economy will require a "fourth technological revolution", changing society as fundamentally as did the harnessing of steam power, the invention of the internal combustion engine and the microprocessor, said Mr Brown.'

*Brown resolves to lead green revolution, Irish Examiner, 20.11.07*

"We will have to invest hugely in new technology and become a net exporter of green energy," he said, adding that he welcomed the targets as ministers were now taking account of the science. 'Tackling the country's gas emissions would mean greater investment in public transport and electric cars and the introduction of a carbon tax early next year.'

*Europe must cut carbon emissions by up to 95%, Irish Examiner, 22.10.09*

'Kicking our carbon habit within a few decades will require a feat of engineering and innovation to match anything in our history.'

*An appeal to Copenhagen, Irish Times, 7.12.09*

"It is important that the legislative mechanism adopted does not penalise Irish agriculture resulting in the reduction of the national herd at a time when demand for Irish food exports is increasing and food scarcity is becoming a major global issue; rather, it should stimulate innovation and additional research and development for the Irish agricultural sector, resulting in the private sector, in conjunction with public funding, supporting projects that deliver a competitive advantage to Irish agriculture while enabling the continuing transition to low-carbon production on-farm."

*Forests, fields key to future, Irish Times, 25.03.11*

**Appendix 2.2 Additional samples of print media texts normalising low carbon practices**

**Appendix 2.2a: Private Sphere Practices – Low Carbon Living and Consumerism**

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*Characteristic/Typical Statements:*

'CHANGES IN MOTOR taxation, with all vehicles to be rated exclusively on the basis of their CO2 emissions (with larger ones such as SUVs paying proportionately more), are designed to enable motorists to make more informed choices in buying new vehicles - so that, ultimately, the "gas guzzlers" will be shunned as much as energy-wasting fridges.'

*Several shades of Green, The Irish Times, 22.12.07*

'AS GREEN Party leader and Minister for the Environment, John Gormley has done many things that minimise personal carbon emissions. He does not own a car and holidays in north Wales, which means he doesn't have to fly. He is also a vegetarian and so does not contribute to the meat industry, which is one of the worst contributors to CO2 emissions.'

*Carbon footprint  calculator the latest step in trying to reduce emissions, 6.05.08*

'Consumers too have a key role, but only if they "understand the implications of their consumption and buying choices - they need clear, honest information and the right price signals", says the WEF.'

*Big business edging towards a green future, The Irish Times, 26.06.08*

'However, the situation also provides Ireland with a unique opportunity. It is at the dawning of the era of a carbon conscious consumer and a carbon competitive market place.'

*Conference hears call for strategic rethink on cutting emissions, Irish Examiner, 9.01.09*

*Exceptional/Atypical Statements:*

'But then he tells you most of the planet-saving solutions favoured by the middle classes are relatively meaningless if not accompanied by change that actually requires sacrifice. Not leaving the television on standby saves 25kg of carbon dioxide annually. This measure pales into insignificance given that one flight spends 500kg-12,000kg of C02 depending on the destination.'

*Alarm bells are call to act on climate change, The Irish Times, 1.12.07*

'Changing major systems like these can't be done quickly, so what can we the consumers do to play our part? One of the strategies that has been vigorously proposed by ecologists has been avoiding food miles… Since less fuel will be used in distributing local food, less carbon will be released into the atmosphere.'

*And you thought the carbon footprint debate was simple!, Irish Independent, 1.04.08*

'The purpose of the tax is to encourage responsible consumption of products or services that produce carbon and thus to help protect the environment by reducing carbon emissions.'

*Budget 2010 – New carbon tax a route to green jobs, Sunday Tribune, 13.12.09*

**Appendix 2.2b: Private Sphere Practices - Organisational (Work) Practices**

*Characteristic/Typical statements:*

'To this end, US retail giant and eco-pariah Wal-Mart in 2006 announced its intention to go green. The retailer has already improved its massive truck fleet's fuel efficiency by 20 per cent. Banks of solar panels have been installed on the roofs of its stores, and the company is moving towards renewable energy.'

*Big business edging towards a green future, The Irish Times, 26.06.08*

"We approach this very much from a business perspective: so whether our clients reduce their carbon footprint through behaviour change or through using new technology doesn't really matter. What matters is that they become more energy-efficient. That's how they'll improve their carbon output - and save money."

*Following the green road to profit, one step at a time, The Irish Times, 3.10.08*

'Sustainability is embedded in this business, states Curran. It reduces costs and improves efficiency. Energy and waste management make sound business as well as environmental sense. I've heard a lot of commentators saying that, in light of the recession, the era of sustainability is dead. I believe the opposite may come to pass, as we are now focusing our attention even more on making the business leaner and more efficient. Sustainability features very much as part of that strategy.'

*Sustainability edges up the business agenda, The Irish Times, 4.05.09*

*Exceptions/Atypical statements:*

'From Farm to Fork   A Sustainability Enhancement Programme for Irish Agriculture is the result of this initiative which proposes measures for adoption on farms, in factories and in retail outlets. It is an attempt to address the challenges that face the Irish agri-food sector up to 2020, including climate change and resource depletion.'

*Blueprint for sustainable farming, Irish Examiner, 4.12.09*

"Basically it started three years ago. The morale wasn't great in another station I worked in because it was so old," said McCabe. "I came up with this idea of the green plan that had everyone becoming involved in the running costs of the station and its carbon footprint."

*'Green' fire station sends carbon footprint up in smoke, Sunday Tribune, 4.07.10*

"We should be looked at as leaders of sustainability," explained visionary firefighter and father of two Neil McCabe. "We have two beehives under construction, insect habitats, and a bio-diversity garden. We also have an impressive bat box and everything is made by the guys for the station on their days off."

*'Green' fire station sends carbon footprint up in smoke, Sunday Tribune, 4.07.10*

A low-carbon food production system is becoming an increasingly important ecological concern, with meat consumption set to rise 73% and dairy up 58% by 2050.

*Ireland plays a key role in assessing environmental impact of livestock, Irish  Examiner, 6.07.12*

**Appendix 2.2c: Private Sphere Practices – Personal and Household Behaviour**

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*Characteristic/Typical Statements***:**

'Another tool for monitoring your eco-impact is carbon accounting - working out how many greenhouse gases your lifestyle releases into the atmosphere. As energy analysts predict global oil reserves are close to peaking, some campaigners say it's time to ration personal carbon emissions. In Ireland, on average, we're each responsible for 11 tonnes of greenhouse gases.'

*How green is my living, The Irish Times, 16.07.05*

Expressing confidence in the public information campaign, he said the "Race Against Waste" and "The Power of One" had changed public opinions about the need to cut waste and reduce electricity waste.

*Cowen to put 'green' hue on next week's budget, The Irish Times, 30.11.07*

'"From now on people will be looking at their cars in a very different way. There is commonality now between the VRT system introduced yesterday and the new system I introduced this morning, I think it will embed in people's minds the importance of climate change and how their actions can actually effect climate change." Only some 2.5 per cent of the current fleet of cars were "gas guzzlers," Mr Gormley said, but the importance of the tax changes was that they would affect people's future choices.'

*Gormley concedes Kyoto target hard to meet, The Irish Times, 7.12.07*

*Exceptions/Atypical statements:*

'He said his aim was to change French habits to prepare for a post-petrol economy, to reduce consumption of fossil fuels and to tax actions that damage society.  There is one objective: to encourage homes and businesses to change their behaviour.'

*Sarkozy imposes carbon tax to 'save human race', The Irish Times, 11.09.09*

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**Appendix 2.2d: Private Sphere Practices - Consumer Acceptance**

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*Characteristic/Typical Statements*:

'Stamp duties on well-insulated homes would be cut, large cars would be hit with tough Vehicle Registration Tax penalties, while mono-filament electric bulbs would be banned within two years.'

*Carbon emissions an election issue, say Greens, Irish Times, 6.04.07*

'Centrepiece of the Carbon Budget was new measures to get the boot into stuck-up yummy mummies in their gas-guzzling people carriers -- not that Minister Gormley put it quite like that. Instead it was peddled as a necessary reform of the motor tax system to encourage drivers to switch to vehicles with lower CO2 emissions. Hence, from July next year, everyone who buys or imports a naughty car will be forced to fork out up to  2,000 a year in tax, while those investing in nice cars may get away with paying as little as  100.'

*Green signals make drivers go red, Sunday Independent, 9.12.07*

'IF YOU'RE feeling guilty about the effects on the planet of your latest flight to the sun, you don't have to spend your autumn planting trees in the garden to ease your conscience. A new Irish company is offering a service that means that most individuals can neutralise their carbon footprint for less than EUR 200 per year.'

*Wiping your carbon footprint clean, The Irish Times, 19.09.08*

'Being a good corporate citizen also pays off in the battle to win customers. "Climate change is very important. Everybody wants to make an effort to combat it; consumers will be happy to use products and services from companies that are making a difference and taking leadership in the fight against climate change".'

*Wiping your carbon footprint clean, The Irish Times, 19.09.2008*

**Appendix 2.2e: Public Sphere Practices - Community and Societal Action**

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*Characteristic/Typical Statements*:

What's needed, according to Grian, is a substantive public process to tackle the problem of our emissions, including the establishment of a national commission on climate change - to bring an end to the "inter-departmental feuding that has disabled effective national climate policy for the last five years."

*Keep on the way we are going and no country will escape, The Irish Times, 31.10.06*

'That makes demonstrations like the Public Parade more important. Already, 25,000 citizens have signed the call to action. Individuals, families and communities can act at the local level, but it must be underpinned by real commitment to radical change by all our elected representatives. As the bells ring out on December 8th, if enough people march, it will be a reminder to politicians that this issue really matters to the electorate.'

*Alarm bells are call to act on climate change, The Irish Times, 1.12.07*

'This requires engagement and rational debate by all stakeholders as we identify and adopt solutions, said Mr Cowen.'

*Cowen stresses economic challenges of climate change, The Irish Times, 10.07.08*

'We have to mobilise citizens to say more can be done to get us out of what [UN secretary general] Ban Ki-Moon has said is the last chance saloon and time is running out. ….. Prof McGlade said there was evidence of citizens mobilising on the climate issue, with at least 1,000 events in 88 countries planned to mark the week-long summit in New York including screenings in 40 countries of the climate change film The Age of Stupid.'

*Call to lobby politicians over climate change, The Irish Times, 21.09.09*

'"The Irish government should propose, enact and implement strong, effective climate legislation without delay; establish a strategy to raise awareness and promote public engagement in the development and implementation of a climate law," according to the new report.'

*Trocaire climate change call, Sunday Business Post, 16.10.11*

*Exceptions/Atypical Statements:*

'However, if even one country starts changing, and manages to show that the sky won't fall as society adjusts to new patterns of behaviour, then the pressure will build on other countries to follow suit. … Given our abundance of under-utilised natural resources like wave and wind power, we could also become leaders in positive action on climate change.'

*Alarm bells are call to act on climate change, The Irish Times, 1.12.07*

'A continuing protest by local communities in Meath and Cavan against overhead power lines may be a taste of the problems the minister faces in his plan to upgrade the grid on a national basis to boost wind supply.'

*Ryan to push carbon tax issue, Sunday Business Post, 27.07.08*

**Appendix 2.3 Additional samples of print media texts mainstreaming carbon repertoires**

**Appendix 2.3a: Distancing Repertoires**

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*Media Repertoire: Dire Warnings*

"The energy landscape is changing," O'Doherty said, ahead of the session, titled 'Energy across borders -- delivering the economic opportunities'. "We are now facing challenges of such scale and complexity that we will undoubtedly see new developments and innovations unfolding over the course of the next ten years. These will be driven by the need to address climate change and support market integration."

*Talks aim for British-Irish green energy deal, Sunday Business Post, 3.03.2013*

We do so because humanity faces a profound emergency. Unless we combine to take decisive action, climate change will ravage our planet, our prosperity and security. The dangers have been becoming apparent for a generation. Now the facts are speaking: 11 of the past 14 years have been the warmest on record, the Arctic ice-cap is melting, and last year's inflamed oil and food prices provide a foretaste of future havoc. In scientific journals the question is no longer whether humans are to blame, but how little time we have got left to limit the damage. Yet so far the world's response has been feeble.

*An appeal to Copenhagen, The Irish Times, 7.12.2009*

Launching the agency's annual highlights for 2008, EPA director general Dr Mary Kelly said the environment was an asset under threat and early warnings about the potentially catastrophic effects of climate change must be heeded. While she said there was little indication of the scale of the economic crisis the world was facing in early 2008, Dr Kelly warned that the economic crisis was now coinciding with a climate-change crisis and an ecosystems crisis.

*EPA calls for move to low-carbon economy, The Irish Times, 3.04.2009*

We have to begin the transition to a low-carbon economy and start changing how we create and use energy, he said. The changes involved will be profound and will impact significantly on the structure of the economy. No sector, organisation or individual will be immune.

*Cowen stresses economic challenges of climate change, The Irish Times, 10.07.2008*

IRELAND CANNOT meet the onerous emissions reduction targets by 2020 set by the EU unless the most "lunatic" draconian measures are implemented, an Oireachtas committee heard yesterday

*ESRI says Ireland cannot meet onerous EU emissions target, The Irish Times, 17.07.2008*

Sir Nicholas Stern of Britain, called climate change "the greatest and widest-ranging market failure ever seen", with the potential to shrink the global economy by 20 per cent and cause economic and social disruption on a par with the two World Wars and the Great Depression. The scientific consensus, already clear and incontrovertible, is today moving towards the more alarmed end of the spectrum. Many scientists long known for their caution are now saying that warming has reached dire levels, generating feedback loops that will take us perilously close to a point of no return. A similar shift may also be taking place among economists, with some formerly circumspect analysts now saying it will cost far less to cut emissions now than to adapt to the consequences later.

*Clear, credible signal on climate change must be sent, The Irish Times, 9.11.2006*

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*Media Repertoire: Obligation*

In advance of the Copenhagen Climate Change Conference in December, it's worth reminding ourselves that all industries have an environmental impact, not just those obviously polluting sectors such as mining or oil extraction, and that all industries have an obligation to minimise their carbon footprint and greenhouse gas emissions.

*Movies and music: the price for the planet, The Irish Times, 6.11.2009*

The Government's solution to traffic congestion is to provide even more roads to facilitate motorised traffic - all of which adds to our carbon emissions which we're obliged to reduce under EU directives.

*Get on your bike to help the planet, Irish Examiner, 26.05.2008*

Dr Mary Kelly, director general of the EPA, said emissions trading was "a very important element of our national commitment to achieve reductions in greenhouse gas emissions in order to address the ever

more serious global problem of climate change".

*EPA to allow increase in carbon emissions, The Irish Times, 15.07.2006*

"We now have to face up to these responsibilities because the consequence for us as a people and for industry will be severe," Cullen said. "If we fail to meet our Kyoto target, we're facing annual nes of E1.3bn, and that falls on the taxpayers of this country. The targets are real. Our legal obligations are real. We can't exclude ourselves, we've got to face up to it, and clearly the whole green energy tax is quite central.

*We're a gas nation and now we're going to have to pay the price, Sunday Tribune, 15.12.2002*

## Media Repertoire: The Appliance of Science

Hence the importance of the Supergrid, an EU initiative to integrate renewable energy production across Europe - to "decarbonise" electricity generation, allow power to be traded between one country and another, strengthen energy security and create opportunities for European companies to export their know-how.

*Sales in our wind, The Irish Times, 6.04.2013*

In the smart grid of the future, electric power will be measurable, traceable and auditable much like data on the internet today, she says. Encrypted power tags that monitor production, consumption and transmission of electricity gives the grid embedded intelligence.

*Green hub, The Irish Times, 28.05.2010*

Lighting technology was "moving incredibly rapidly", offering very substantial efficiency gains. "There's an extremely rapid payback, plus lower maintenance costs," he said. For example, new lighting equipment saved Shamrock Foods over 70 per cent of its electricity bill. Musgraves achieved cost savings of 40 per cent a year by opting for energy-efficient design; Bewley's Airport Hotel is saving EUR 15,000 a year by having solar panels on the roof while AL Goodbody expects to save EUR 50,000 a year by using a combined heat and power (CHP) plant.

*Buildings go green to save money, The Irish Times, 15.10.2008*

## Media Repertoire: Small Changes and 'Happy Talk'

IF YOU'RE feeling guilty about the effects on the planet of your latest flight to the sun, you don't have to spend your autumn planting trees in the garden to ease your conscience. A new Irish company is offering a service that means that most individuals can neutralise their carbon footprint for less than EUR 200 per year.

*Wiping your carbon footprint clean, The Irish Times, 19.09.2008*

This can go some way towards offsetting your guilt, as well as offsetting CO2. And it makes a great dinner party conversation

*Clearing carbon debts, The Irish Times, 12.12.2007*

Here, Elaine Nevin, director of Eco-Unesco, will explore the environmental impact of our daily activities, and how we can reduce that impact by making simple changes to our routines.

*Eco Warrior: All the fun of the eco-fair, Sunday Business Post, 19.08.2007*

# Appendix 2.3b: Repertoires of Contestation and Controversy

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*Media Repertoire: Failure*

"He provided little enlightenment as to how we will tackle the carbon emissions crisis we now face. Most of the announcements he made referred to deferred action or proposals that he is looking into. "It is particularly disappointing that he has undertaken to purchase 4.6m tonnes of carbon credits, using scarce taxpayers money... instead of the 2.58m he predicted would be purchased in last year's carbon budget. Mr Gormley now looks like the environmental emperor with no clothes," she said.

*Gormley defends 'hard decisions' in budget, Irish Examiner, 16.10.2008*

International carbon trading schemes won't work, unless they are rigidly pegged to the one thing that would put them out of business - an annual global reduction in the very commodity they deal in. But when have you ever known a lucrative scheme to plan its own suicide?

*Eco worrier: Carbon credit where it's due, Sunday Business Post, 6.01.2008*

He described the current climate change strategy as "an abysmal failure because the Government failed to take on the vested interest and implement the policies in it". He said that "fairly drastic and visionary steps" were now needed by the Government in the new climate change strategy, to be published early next month. "They need to be meaningful, not simply aspirational," he said.

*Ireland trying to buy its way out of trouble, report author says, The Irish Times, 15.03.2007*

The Government's plan to purchase at least EUR 270 million worth of pollution permits overseas is a breach of the spirit, and most likely the letter, of the Kyoto Protocol on Climate Change. It is a U-turn based on pandering to vested interests rather than sound economic analysis. It will penalise ordinary taxpayers instead of polluters, while failing to trigger the shift to a sustainable economy.

*Carbon credit purchases betray the future, The Irish Times, 22.12.2006*

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*Media Repertoire: 'It'll Be Difficult'*

None of this has reassured objectors, who are concerned about the noise and visual impact of onshore turbines and see the export of wind energy to Britain as equivalent to "selling the family silver".

*Sales in our wind, The Irish Times, 6.04.2013*

The prevailing view within Government is that commitment to long-term targets is premature, especially in the absence of solutions or technology to make it happen. The agrifood industry is a case in point. It is a much bigger component of the Irish economy than of many other EU states - meeting the targets would necessitate a mammoth downsizing of the sector. The Government argument is that an 80 per cent reduction by 2050 means annual emissions of 11 million tonnes of carbon equivalent, for everything. But agriculture alone accounts for 19 million tonnes at present. That means if everything else was reduced to zero, Ireland would still need to substantially reduce the amount of food, or dramatically cull national herds. That is not a feasible solution, practically or politically, it is argued.

*Political reality stymies action on climate change, The Irish Times, 26.02.2013*

No one knows how fast we can end our dependence on fossil fuels, the National Economic and Social Council (Nesc) secretariat admits. 'Certainly, no one knows how to achieve decarbonisation at the rate of 5 to 6 per cent per year over the next 50 years that seems necessary to keep global warming to 2 degrees celsius,' it states in its recently completed report, Ireland and the Climate Change Challenge.

*Climate report is a dismal technocratic document, The Irish Times, 22.02.2013*

According to Teagasc experts, achieving the Government's ambitious Food Harvest expansion targets would lead to an increase in emissions of about 800,000 tonnes, putting it on a collision course with Ireland's existing GHG emissions targets.

*Climate bill 'no threat' to future of farming, Irish Examiner, 23.12.2010*

Electric cars are being held up by many as the answer to the prayers of both the motorist and a Government seeking to reduce a nation's reliance on fossil fuels and the carbon footprint, which inevitably follows. The Government has set targets to have 10 per cent of all vehicles on the road, or 230,000 vehicles, running on electricity by 2020. This is itself an ambitious target, dependent on many parties, not least the ESB, which is charged with rolling out the infrastructure to provide the charging

points essential for these vehicles. But is the relentless pursuit of the electric car dream just another environmental red herring, or is it the obvious solution to a problem that just won't go away?

*Forum highlights electric uncertainty, The Irish Times, 9.09.2009*

From the beginning, the two Green Ministers said they had no illusions how difficult this target would be. A cumulative decrease of 15 per cent during a single Government term was almost the political equivalent of putting the genie back into the bottle.

*Putting the carbon genie back in its bottle, The Irish Times, 28.08.2008*

Being an eco-warrior has got more complicated.  Even if carbon labelling can be done, we're still left with another ethical dilemma -- can we really continue to keep poor countries poor by refusing to buy their produce on the basis that transporting it has too high a carbon cost?

*And you thought the carbon footprint debate was simple! Irish Independent, 1.04.2008*

### Media Repertoire: Protecting Competitiveness

The IFA delegation also highlighted the unique role of agriculture and food in the Irish economy must be recognised in the proposed legislation. Mr Bryan said: "If we fail to develop our low-carbon, sustainable model of food production, and the opportunity that exists to grow jobs and exports, it will be a disaster for the country's economic recovery."

*IFA insists legislation must give credit to pasture and forestry, Irish Examiner, 23.12.2010*

The worst thing about the Climate Change Bill the Green Party tried to bring in was the fact that it would have had a severe impact on agriculture without really addressing the problem.  There is a limit to what agriculture can do to reduce emissions without actually reducing stock and, if we were to reduce stock here in Ireland, it would simply be replaced in other countries. So that would not reduce global emissions at all.

*Forests, fields key to future, The Irish Times, 25.03.2011*

"This means that Ireland has a unique strategic challenge and will be required to make the transition to sustainable agricultural production before its European partners," she said. Ms Donoghue said failure to introduce cuts in the agriculture sector will mean an increase in the burden on other sectors. Eventually a point will be reached where Ireland's "distance to target" begins to appear unmanageable. "The challenge we therefore face is determining how targets can be achieved without reducing the national herd and damaging the Irish economy," she said.

*Conference hears call for strategic rethink on cutting emissions, Irish Examiner, 9.01.2009*

"However, we have to make sure this transfer to a low-carbon economy will be carried out in a sustainable manner so economic growth is sustainable and public finances do not suffer too much," he said.  "We need to take into account all costs incumbent from the climate energy package proposals. We are talking of very expensive programmes which should be kept within the framework of market forces and efficiency," Mr Bajuk said.

*Climate change costs 'must not harm competitiveness', Irish Independent, 13.02.2008*

All catch-up countries, have a similar dilemma, including even a rich one like Ireland. Its potential economic growth is twice that of the eurozone.   No matter what the policies, or what Cabinet ministers say, Ireland cannot achieve its potential growth without emitting more carbon, while a country like Germany can.  Growth below potential means unemployment. Our original negotiators seem not to have understood this, or taken it seriously.   Ireland's Kyoto targets were impossible to achieve without economic under-achievement, and the same will probably be true of its new EU limits.

*A lot of hot air blowing on the cost/effect of global warming, Irish Independent, 15.02.2007*

### Media Repertoire: Unfair Burden

The tax on solid fuels, introduced by the previous government, had been deferred for two years because of the potential impact on lower income households.  Age Action said the Government must act to ease the hardship created by the carbon tax on solid fuels. "The Government must recognise the greater energy needs of the most vulnerable of older people."

*Lower carbon tax considered for smokeless fuel, Irish Examiner, 6.05.2013*

Families and small businesses have been hit by a crippling combination of budget hikes in VAT and

excise duty, carbon tax increases, a weak euro and high crude oil prices resulting in record prices in forecourts across Ireland. 'For people all over the country, the cost of motoring is just becoming unaffordable,' Mr Dooley said. 'For many of those who need their cars to get to work, but who are struggling to pay mortgages, the rising cost of motoring is bringing them close to breaking point. 'Since 2009, the cost of a litre of petrol has increased by 75 per cent. This is unsustainable and having a real dampening effect of demand in the domestic economy.

*Slash petrol by 5c to rescue economy, Irish Daily Mail, 23.04.2012*

"Households and businesses are already at financial breaking point and cannot shoulder further tax increases."

*Green light for carbon tax, The Mirror, 9.01.2009*

Conor Faughnan of the AA told the Sunday Independent: "If CO2 and climate change are what you really care about then you would not be looking at private cars. The data does not justify anti-car taxes, especially when these measures have no carbon benefit whatsoever."

*Green car taxes 'just don't add up' for motorists, Sunday Independent, 5.10.2008*

From next summer, anyone buying a car with a large engine is going to be royally screwed and most ordinary people will go along with that. But those buying luxury cars can easily drop a couple of grand for the privilege of driving a plush motor. One thing you can be sure of and that's the ordinary driver in their Astra, Focus or Yaris, the ones who need their cars to get to work or take the children to school, will continue to be well and truly fleeced. For generations, politicians have seen cars as cash cows to be milked each Budget, and this year was no exception.

*Carbon is gold for politicians, The Mirror, 7.12.2007*

The Government's plan also violates a core principle of sustainable development - to make the polluter pay. The money to buy the carbon credits will come from general taxation, in a form of stealth tax, hitting taxpayers no matter whether they make every effort to curb their own pollution or fail to make even a single change.

*Carbon credit purchases betray the future, The Irish Times, 22.12.2006*

## Media Repertoire: 'It'll Cost Us'

Ireland is committed to an extensive (and inevitably costly) expansion of renewable energy deployment, supported by government subvention in various forms.

*Four-year plan has plenty of room for improvement, The Irish Times, 27.11.2010*

IRELAND MAY have purchased more carbon credits than necessary to meet the country's Kyoto targets for greenhouse gas emissions, Minister for the Environment John Gormley has said. The recession has had a significant impact on carbon emissions, which have fallen because of lower activity in areas such as transport and construction.

*Ireland may have surplus carbon credits, says Gormley, Irish Times, 26.01.2010*

While it agreed that climate change was a major global issue begging address, the association felt the proposed carbon tax would not have resulted in a change in behaviour in the road haulage sector. The director of the Small Firms Association, Mr Pat Delaney, said the decision was a "victory for common sense" at a time when business was reeling from increased energy prices.

*Decision welcomed as one of common sense, The Irish Times, 11.09.2004*

## Media Repertoire: 'No Need for Action'

But the Green party leader said the collapse in the economy now meant that Ireland's contribution to global warming would not be as great as previously feared. He admitted: "Indeed, some commentators have suggested that we may now achieve Kyoto compliance without any recourse to carbon credits."

*Government spent EUR72m on carbon credits it didn't need, Irish Independent, 9.04.2009*

"We concluded at a Cabinet meeting on Wednesday that going ahead with the carbon tax just wasn't worth it. It is abandoned," he said. Mr McCreevy said most of the interested parties that had made submissions to the Government on carbon tax were either fully or partially opposed to the proposal.

He added that the modest tax envisaged would have little impact on the Exchequer and would not dissuade consumers from using carbon fuels. "To have an effect, you would have to have a colossal increase in levels of taxation . . . It was going to be an enormous amount of bureaucracy for very little effect," he said.

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*Parties fear cost of decision to scrap carbon tax, The Irish Times, 11.09.2004*

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### Media Repertoire: Carbon Indulgences

"The EU maintains a scheme which allows polluters and financial 'market makers' and speculators to move around pollution permits and cash in on windfall profits without making any significant contribution to halting runaway climate change," it claimed.

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*Call on EU to abolish emissions trading scheme, The Irish Times, 5.03.2013*

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However, carbon offsetting, it is increasingly agreed, is the environmental equivalent of buying indulgences from the Church, a get-out-of-jail free card that magically promises to exonerate polluters from the real cost of their lifestyle.

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*Movies and music: the price for the planet, The Irish Times, 6.11.2009*

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These allowances effectively allow the government to buy its way out of international commitments to reduce harmful carbon-gas emissions. It is a legitimate response but a short-term one which does little to make Ireland greener and cleaner.

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*Inside politics – Out with the old, in with the flue, Sunday Tribune, 17.12.2006*

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### Media Repertoire: 'Church of Green'

Though my carbon output was low, the calculator agreed, there was still scope to reduce it further. Must try harder. What's more, if I was really serious about this, I could get it down as low as 2.29 tonnes. Helpfully, there were some handy hints offered on how this might be achieved. These included washing clothes in 'cold or warm water' rather than at a temperature that might actually clean them properly. Another involved moving the fridge to a colder location such as a 'utility' room. (Unless I missed it, there didn't appear to be any advice on how to manage this when you live in a two-bedroomed flat).

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*Excuse my emissions if you please, Mr Gormley, Irish Daily Mail, 4.06.2012*

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ONCE upon a time the public were screwed just once a year, but not any more - from now on we're going to have two Budgets. Yesterday's carbon budget was billed as an attempt to save the planet by reducing emissions, which is supposed to make us all feel good. In a period where it is increasingly difficult to levy new taxes, carbon is the new gold for the Government. Captain Smug himself, John Gormley, would probably like to see us all ride around on bicycles made of organic straw, but in the meantime, penal taxes will have to suffice.

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*Carbon is Gold for Politicians, The Mirror, 7.12.2007*

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Centrepiece of the Carbon Budget was new measures to get the boot into stuck-up yummy mummies in their gas-guzzling people carriers -- not that Minister Gormley put it quite like that. Instead it was peddled as a necessary reform of the motor tax system to encourage drivers to switch to vehicles with lower CO2 emissions. Hence, from July next year, everyone who buys or imports a naughty car will be forced to fork out up to 2,000 a year in tax, while those investing in nice cars may get away with paying as little as 100.

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*Green signals make drivers go red, Sunday Independent, 9.12.2007*

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**Appendix 2.3c: Consensus Repertoires**

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*Media Repertoire: Opportunity*

When you look at different sectors of the economy, new energy is doing much better than any other sector. It's the bright spot in the economic downturn.

*Green hub, The Irish Times, 28.05.2010*

But the shift to a low-carbon society holds out the prospect of more opportunity than sacrifice. Already some countries have recognised that embracing the transformation can bring growth, jobs and better quality lives. The flow of capital tells its own story: last year for the first time more was invested in renewable forms of energy than producing electricity from fossil fuels.

*An appeal to Copenhagen, The Irish Times, 7.12.2009*

She warned that many countries had already identified the green technologies which could give Ireland a competitive advantage.  Ireland cannot afford to wait; if we want the green lining we are looking for we need to invest or we will be left behind.

*Call for urgent action on green economy, The Irish Times, 24.09.2009*

However, the situation also provides Ireland with a unique opportunity. It is at the dawning of the era of a carbon conscious consumer and a carbon competitive market place. "If Irish agriculture can find ways to meet these challenges, it will be positioned to take advantage of these trends. The skills and research developed in the process would be valuable not only in Ireland, but in Europe and the wider world," she said.

*Conference hears call for strategic rethink on cutting emissions, Irish Examiner, 9.01.2009*

The reality of economic recession should not be seen as a deterrent, still less as an excuse to postpone taking action, but rather as an opportunity to make the much-needed transition to a low-carbon future. That is the only realistic route we can follow to avoid catastrophic climate change.

*Planning a low carbon future, The Irish Times, 15.12.2008*

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*Media Repertoire: Calls for Leadership*

The report calls on the government to support emission reduction targets at EU level of at least 40 per cent by 2020, based on 1990 levels…."The Irish government should propose, enact and implement strong, effective climate legislation without delay; establish a strategy to raise awareness and promote public engagement in the development and implementation of a climate law," according to the new report.

*Trocaire climate change call, Sunday Business Post, 16.10.2011*

With the scientific evidence hardening all the time, governments needed to be much more ambitious about delivering a low-carbon economy. An extra push is needed, with families all over the world putting this message to political leaders.

*Call to lobby politicians over climate change, The Irish Times, 21.09.2009*

Government subsidies, such as funding for efficient technologies, biofuels and insulation, were insufficient on their own in addressing climate change, said the ESRI. Regulations, policies and legislation were needed to really change attitudes to climate change, it was added.

*Carbon tax could net 500m for exchequer, Irish Examiner, 29.07.2009*

"It will be essential to reduce Ireland's dependence on fossil fuels and ensure that very significant increases are achieved in the use of alternative energy sources." Ms Kelly said it's up to the Government to finance green energy projects such as wind, wave and solar power.

*Ireland losing Green fight, The Mirror, 14.03.2009*

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*Media Repertoire: Sending Signals*

The rationale for a target is simple. It provides the long-term certainty about the direction of government policy that business and households need to invest in the transition to a low-carbon economy and society. It provides a  benchmark against which to measure progress.

*Temperature of climate Bill debate stable, The Irish Times, 15.07.2013*

"Putting a price on carbon is an important step in the fight against climate change," he said."EUR15 a

tonne is far lower than is necessary to drive the transition to a low-carbon future. The tax will need to increase year-on-year."

*Homeowners and motorists to feel the pain of new charges, Irish Independent, 10.12.2009*

The minister claimed Irish people needed an "incentive" to reduce their use of fossil fuels. He said: "The market, Irish householders and customers need a clear signal we need to reduce our dependence on fossil fuels because ultimately they are finite and they are not going to be as easily available in five or 10 years.

*Green light for carbon tax; families will pay Eur250 levy, The Mirror, 9.01.2009*

"We have to think carbon," he told the Dáil on December 6th. "If we are to successfully tackle climate change, if we have to de-carbonise society, then we have to put a price on carbon, and I hope that all deputies in this House will begin to understand the necessity of a carbon levy."

*Several shades of Green, The Irish Times, 22.12.2007*

## Appendix 2.4d: Empowerment Repertoires

*Media Repertoire: Curbing Consumption*

Forget about all those scientific terms and lingo about 'carbon footprints' and 'sustainability' for a moment. For when you look at it in the most fundamental way, the future of the planet essentially depends on how we live our daily lives. Not that that's always easy.

*Get on your bike to save the planet, Irish Examiner, 24.05.2010*

So, to help to slow down global warming you do not have to spend lots of money installing solar panels, purchasing hybrid cars and so on. You can exert a very significant effect simply by eating lower off the food chain (more fruits and vegetables, less meat, particularly beef, and dairy).

*Carbon footprint solution in diet, The Irish Times, 5.03.2009*

Every person has responsibility to reduce their carbon footprint, and this must be done quickly now that the very obvious effects of climate change are upon us. Gco2 offers customers a full service, which allows them to inform themselves, measure their liability and reduce emissions where they can.

*Wiping your carbon footprint clean, The Irish Times, 19.09.2008*

Thus it provides an opportunity for people to audit their lifestyle to determine ways of playing their part in reducing carbon emissions. So many human activities contribute to carbon emissions - from showering in the morning, using lighting at night, or using automotive transportation to work or recreation.

*Carbon footprint – Responsible ways to save the planet, Irish Examiner, 6.05.2008*

*Media Repertoire: Post Carbon Transformation*

We need a total transformation of the energy and transport systems underpinning global economic activity…. Success depends on profound behavioural changes in consumption, travel and heating. The potential benefits are huge, but the costs are also arguably high and therefore divisive. How high? We can't say because nobody yet knows how to reduce emissions at 5 per cent per year over many decades, which is necessary to keep global warming under 2 degrees.

*Ireland needs to be ambitious on climate change, The Irish Times, 1.03.2013*

Kicking our carbon habit within a few decades will require a feat of engineering and innovation to match anything in our history. But whereas putting a man on the moon or splitting the atom were born of conflict and competition, the coming carbon race must be driven by a collaborative effort to achieve collective salvation. Overcoming climate change will take a triumph of optimism over pessimism, of vision over short-sightedness, of what Abraham Lincoln called "the better angels of our nature".

*An appeal to Copenhagen, The Irish Times, 7.12.2009*

The main reason why the climate talks are so complex and difficult is that the long-term aim is 'to redirect development into a low-carbon future, change the fundamentals of industrial civilisation as we know it and create a new paradigm for developing countries' .

Bear in mind that right now, you and I and everyone else in Ireland account for 17.5 tons per head of emissions a year, and you begin to see just how fundamentally we are going to have to rethink our relationship with energy. And no, we're not going to be able to buy our way out of this with carbon offsets.

### Media Repertoire: Eco-Responsibility

Climate justice is key to tackling global poverty. At both global and domestic levels those living in poverty must be placed at the centre of decision making, he said.

Climate change is a shared responsibility. We all have to take stock, and then look for ways to do our part, to walk the talk. Offsetting, using quality credits, is an important part of the secretariat's efforts to reduce its emissions," she said earlier this week.

What's needed, as Oxfam put it, is for countries to reduce their emissions in line with their historic responsibilities for the build-up of CO2 in the atmosphere and their capacity to tackle climate change.

Mr Stern calls for a co-ordinated international approach to combat climate change, saying the effort must be shared fairly by rich and poor. He suggests rich nations take responsibility for emissions cuts of 60-80 per cent from 1990 levels by 2050.