

# **Ethics and Carbon Pricing: An analysis of stakeholder rights and interests**

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## Abbreviations

ACRES	Agri-Climate Rural Environment Scheme (Ireland)
ANC	African National Congress
BCA	Border Carbon Adjustment Mechanism
BUSA	Business Unity South Africa
CAIA	Chemical and Allied Industries Association (South Africa)
CBDRRC	Common but Differentiated Responsibilities and Respective Capabilities
CDM	Clean Development Mechanism
CGE Model	Computable General Equilibrium Model
COP	Conference of the Parties
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
COSATU	Congress of South African Trade Unions
COVID-19	Coronavirus Disease 2019
CRU	Commission for Regulation of Utilities (Ireland)
DECC	Department of Environment, Conservation and Communications (Ireland)
DFFE	Department of Forestry, Fisheries and the Environment (South Africa)
DFIN	Department of Finance (Ireland)
DMRE	Department of Mineral Resources & Energy (South Africa)
DPER	Department of Public Expenditure and Reform (Ireland)
DTC	Davis Tax Committee (South Africa)
DTI	Department of Trade and Industry (South Africa)
EDD	Economic Development Department (South Africa)
EPA	Environmental Protection Agency (Ireland)
ESB	Electricity Supply Board (Ireland)
ESRI	Economic and Social Research Institute (Ireland)
ETS	Emissions Trading Scheme
EU	European Union

EU CBAM	European Union Carbon Border Adjustment Mechanism
EV	Electric Vehicle
GCET25	25 <sup>th</sup> Global Conference on Environmental Taxation
GDP	Gross Domestic Product
GHG	Greenhouse Gas Emissions
GNI	Gross National Income
I3E	Ireland Environment, Energy and Economy Model
Ibec	Irish Business and Employers' Confederation
ICAO	International Civil Aviation Organisation
ICAP	International Carbon Action Partnership
ICT	Information and Communications Technology
IEA	International Energy Agency
ILO	International Labour Organisation
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
JET IP	Just Energy Transition Investment Plan (South Africa)
kWh	Kilowatt Hours
LDCs	Least-Developed Countries
LPG	Liquid Petroleum Gas
LULUCF	Land Use, Land Use Change and Forestry
MaREI	Marine Renewable Energy Ireland
MEC	Minerals-Energy-Complex
MPRN	Meter Point Reference Number
MRV	Monitoring, Reporting and Verification
NGO	Non-governmental Organisation
ODA	Official Development Assistance

OECD	Organisation for Economic Co-operation and Development
PBO	Parliamentary Budget Office
PCC	Presidential Climate Commission (South Africa)
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
REDD+	Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
REIPPPP	Renewable Energy Independent Power Producer Procurement Program (South Africa)
SDGs	Sustainable Development Goals
SEAI	Sustainable Energy Authority Ireland
SIDs	Small-Island Developing Countries
TD	Teachta Dála (member of parliament, Ireland)
TWh	Terawatt Hours
UCC	University College Cork
UN	United Nations
UNEP	United Nations Environmental Program
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value-Added Tax
WWF	World Wildlife Fund
ZAR	South African Rand

## **Abstract**

In the face of climate change, policymakers have recognised the need for a just climate transition, which shifts the global economy towards lower greenhouse gas (GHG) emissions while addressing concerns about economic development, competitive fairness, and energy access from the global to the household level. Carbon pricing is one measure that has been proposed to efficiently incentivise low-cost emissions reductions when used in combination with other measures. However, carbon pricing is considered by some to be a divisive instrument, as critics have justice concerns about the impacts of carbon pricing on vulnerable communities. As carbon pricing instruments continue to be designed and implemented, a study of ethics and carbon pricing is important to 1) Identify the ethical issues involved in carbon pricing, 2) Conduct a normative analysis of a selection of ethical issues involved in carbon pricing and 3) Develop a set of recommendations for a selection of stakeholders.

A review of the literature indicates that many of the ethical issues arising in the use of carbon pricing instruments can be addressed through careful policy design. Two case studies of national carbon tax policies demonstrate that during the policy design process, power imbalances between different stakeholder groups influence the development of carbon pricing policies, and that the rights and interests of some groups are not always represented in policy design. A normative analysis based upon stakeholder theory focusses on how the rights and interests of dependent stakeholders are represented in the design of carbon pricing instruments and provides recommendations on how representation of those rights and interests can be improved in policy design.

The study advances the debate on ethics and carbon pricing from a stakeholder theory perspective and offers insights into how policy design can address the unique needs and vulnerabilities of diverse populations under a carbon price.

## Chapter 1 – Introduction

### 1.1 Background and research objectives

In the face of climate change, policymakers have recognised the need for a just climate transition, which shifts the global economy towards lower greenhouse gas (GHG) emissions while addressing concerns about economic development, competitive fairness, and energy access from the global to the household level. Carbon pricing is one measure that has been proposed to efficiently incentivise low-cost emissions reductions when used in combination with other measures. The use of carbon pricing instruments has proliferated globally, as the World Bank has recorded 75 carbon pricing initiatives implemented, scheduled or under consideration from 1990 to date (World Bank, 2024).<sup>1</sup> However, carbon pricing is considered by some to be a divisive instrument for reducing GHG emissions due to justice and fairness concerns (Baranzini et al., 2017; Carattini et al., 2018; Mintz-Woo, 2021; Rabe, 2018). Critics are concerned about the effectiveness of a carbon price to reduce emissions quickly enough to protect the environment and vulnerable communities who are disproportionately impacted by climate change, and have justice and fairness concerns about the impacts of carbon pricing on vulnerable communities (Baranzini et al., 2017; Carattini et al., 2018; Mintz-Woo, 2021; Rabe, 2018). As carbon pricing instruments continue to be designed and implemented, this study of ethics and carbon pricing seeks to:

1. Identify the ethical issues involved in carbon pricing,
2. Conduct a normative analysis of a selection of ethical issues involved in carbon pricing, and
3. Develop a set of recommendations for a selection of stakeholders.

### 1.2 Methodology

To achieve the research objectives, the following research methodologies are deployed in chapters 2–6 of this dissertation:

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<sup>1</sup> As of 2024, the World Bank recorded 39 carbon taxes and 36 emissions trading instruments implemented, scheduled or under consideration worldwide. Since this dissertation focusses on compliance mechanisms, 35 voluntary crediting mechanisms have not been included in this count (World Bank, 2024).

### *1.2.1 Research objective 1: identification of the ethical issues involved in carbon pricing*

In pursuit of research objective 1, I undertake a systematic review of the literature on ethical issues related to carbon pricing, the methodological details of which are described in section 2.2. The literature review provides valuable background information and outlines the key ethical issues and ethical approaches considered in the literature.

Two case studies are developed in chapters 3–5 to further interrogate the findings from the literature review and better understand the ethical issues, normative concerns and stakeholder considerations which arise in the development of carbon pricing instruments *in practice*. A detailed methodology for the case studies is discussed in chapter 3. When selecting the country cases, it was useful to study one developed country and one developing country to consider contextual factors which contribute to the justice implications of carbon taxes and to isolate factors that are likely to have a common influence on justice considerations arising in national carbon tax design (Blatter & Blume, 2008; Maggetti et al., 2013). Therefore, the Irish carbon tax and the South African carbon tax were chosen for these case studies. The case study approach is useful to address objective 1 because it draws further nuance from the findings of the previous chapters, highlights ethical issues in carbon pricing as perceived by interviewees in their national contexts, investigates the ethical principles which are considered (or not) in the development of national carbon pricing policies, as a matter of fact, and considers how experts involved in the design and implementation of carbon pricing policies consider the rights and interests of different stakeholder groups.

### *1.2.2 Research objective 2: conduct a normative analysis of a selection of ethical issues involved in carbon pricing*

The literature review and case studies demonstrate that many of the ethical issues arising in the use of carbon pricing instruments can be addressed through careful policy design, and that during the policy design process, power imbalances between different stakeholder groups influence the development of carbon pricing policies, leaving some stakeholders more vulnerable than others. Therefore, in chapter 6, I conduct a normative analysis of the rights and interests of dependent stakeholders (those with urgent and legitimate claims but little power) in the design of national carbon taxes in Ireland and South Africa.

The dependent stakeholders are identified in a descriptive analysis which draws from Mitchell et al.'s (1997) stakeholder theory. Stakeholder theory was initially posited as a

business management theory (Freeman, 1984; Freeman et al., 2010b), but has evolved to include public policy and social science research (Freeman et al., 2010a; Wicks et al., 2019). Descriptive stakeholder theory is useful in the context of carbon pricing ethics to identify the different interests of groups impacted by a carbon price and acknowledge the trade-offs that must be considered when carbon prices impact stakeholder groups differently. A descriptive stakeholder analysis is conducted to determine which groups possess the attributes of urgency and legitimacy but lack power, thus classifying them as dependent.

Subsequently, a normative analysis is conducted to consider the ethical obligations of governments towards dependent stakeholders, drawing from two *prima facie* obligations that governments have: 1) not to violate the rights and not to harm the interests of the stakeholders, and 2) to respect the rights and further the interests of the stakeholders (Ross, 2002). I specifically focus on the rights and interests of dependent stakeholders on the premise that the government has obligations which are specific to the interests of dependent or vulnerable stakeholders, as further discussed in section 6.5.

### *1.2.3 Research objective 3: develop a set of recommendations for a selection of stakeholders*

Based on the ethical analysis described in detail in chapter 6, I develop policy recommendations in relation to dependent stakeholders in the Irish and South African carbon tax. The normative analysis sets out the obligations of governments to not harm, or to further promote, the rights and interests of dependent stakeholders within the context of a carbon tax. However, since what is considered ethical in the design of carbon taxes is often dependent on contextual factors, I take the moral norms identified in the normative analysis and make them more specific to the Irish and South African case studies. Specification is the process of clarifying how moral principles are applied depending on situational context (Beauchamp & Childress, 2001). By contextualising moral norms in the two case studies, I make recommendations to improve the extent to which the governments of Ireland and South Africa promote or do not harm the interests of dependent stakeholders in the design of a national carbon tax. Contextual specifics are identified from the interview data and accompanying literature collected in the case study chapters.

### 1.3 Relevance

According to the Intergovernmental Panel on Climate Change (IPCC), “scientific evidence for warming of the climate system is unequivocal” (Pachauri & Reisinger, 2007, p. 2). The current level of warming and increase in atmospheric GHGs is rising at a rate which is unprecedented in earth’s history of glacial advance and retreat, and can be strongly linked to human activity since the first wave of industrialisation (NASA, 2024). Climate change is leading to both slow-onset and extreme weather events resulting in losses and damages to the ecosystem and humankind, some of which are irreversible (Pörtner et al., 2022). Sea levels are rising, droughts are increasing in frequency and severity, and economic productivity is being negatively impacted by higher temperatures (Pörtner et al., 2022). Climate change has resulted in economic damages in exposed sectors, effecting the agriculture, forestry, fishery, energy and tourism sectors and outdoor labour productivity (Pörtner et al., 2022).

The most vulnerable of communities and ecosystems are disproportionately impacted by these changes in climate (Lee & Romero, 2023). The increase in frequency and intensity of weather extremes has reduced food security and had negative impacts on people’s physical and mental health (Lee & Romero, 2023). Extreme weather events and changes in climate are driving human displacement, with small island states being most affected (Lee & Romero, 2023).

In light of the urgent need to reduce GHG emissions and mitigate the impact of climate change, several policy measures have been proposed. Carbon pricing has been proposed as a measure to reduce GHG emissions among other measures such as energy efficiency standards, subsidisation of sustainable energy alternatives, direct investments in research and development for sustainable energy, direct public investment in sustainable infrastructure, fossil fuel divestment and geoengineering (Baranzini et al., 2017; Bridge, 2022; Healy & Barry, 2017; Mintz-Woo, 2021; Stuart et al., 2019). Among these measures, carbon pricing has been endorsed by its proponents as an economically efficient and environmentally effective measure, which in certain national contexts can improve the public acceptability of mitigation policy compared with other measures (Baranzini et al., 2017). Critics of carbon pricing oppose this instrument on the grounds that it disproportionately benefits groups with more political power, who may be high emitters, that it does not reduce emissions quickly enough to protect vulnerable groups from climate change impacts, and that vulnerable communities, many of whom have lower emissions, disproportionately bear the costs of rising fuel prices (Abplanalp, 2010; Coelho, 2015; Espinosa-Flor, 2022; Lohmann,

2006; Sandel, 2012). Despite its divisiveness, 75 carbon pricing initiatives have currently been implemented, scheduled or are under consideration worldwide (World Bank, 2024). As carbon pricing policies continue to be proposed and implemented, a review of the ethical implications is necessary in order to consider design elements and complementary policies which address ethical objections and ensure that stakeholders are included equitably in policy design.

This thesis contributes to the existing debate around ethics and carbon pricing. It provides insights into how power imbalances in the policymaking process impact the interests of different stakeholder groups, and which normative rights and interests are considered in the development of carbon pricing policies. It especially focusses on how the rights and interests of vulnerable groups are represented in the design of carbon pricing instruments and provides recommendations on how representation of those rights and interests can be improved in the policy design.

#### **1.4 Outline**

Following on from this introductory chapter, Chapter 2 describes the results of the systematic literature review, including the ethical issues related to carbon pricing, which arguments apply to which instruments, and how different stakeholders are considered. This chapter highlights the most discussed ethical issues related to carbon pricing and those which remain undiscussed or under-discussed in the existing literature, prompting further exploration in the following chapters.

Chapter 3 presents the methodology for two country case studies to get a better contextualised understanding of the ethical issues related to carbon pricing. The reasoning for selection of the two cases is discussed and the methods for data collection and analysis across the two case studies is described.

Chapter 4 describes the results of a case study of the Irish carbon tax and EU ETS in Ireland, including which ethical principles are considered in the development of the tax and ETS, which elements of those policies are considered to have an ethical dimension by the interviewees, and how the rights and interests of stakeholders are considered by those involved in the design and implementation of the tax and ETS.

Chapter 5 describes the results of a case study of the South African carbon tax. The results show which ethical principles are considered in the development of the South African carbon tax, which elements of the tax are considered to have an ethical dimension by the

interviewees, and how the rights and interests of stakeholders are considered by those involved in the design and implementation of the South African carbon tax.

Chapter 6 considers a list of stakeholders identified from previous chapters and assesses the power, urgency and legitimacy of the stakeholders' claims. The chapter considers the rights and interests of stakeholders whose claims are urgent and legitimate but who have less power in the policy design process. Following the descriptive analysis, I conduct a normative analysis of government obligations to protect the rights and interests of dependent stakeholders. Chapter 6 further offers recommendations for policymakers to better protect the interests of dependent stakeholders in the Irish and South African carbon tax.

Chapter 7 offers a summary of the main findings and recommendations of the thesis, highlights its limitations, and outlines potential directions for future research.

## Chapter 2 – Ethics and carbon pricing – a systematic literature review

### 2.1 Introduction

As carbon pricing policies continue to be developed and refined, it is critical to analyse the current literature to understand the main ethical issues and approaches being discussed and identify gaps in the existing literature which can be filled with further ethical analysis. The aim of the literature review is to address the following questions:

1. What are the arguments in favour and against carbon pricing?
2. Are there arguments for or against carbon pricing that apply to some types of carbon pricing instruments but not others?
3. How are the rights and interests of different stakeholder groups considered in the literature? Which stakeholder groups are discussed?

### 2.2 Methodology

Given that issues arising in carbon pricing are discussed across disciplines, a comprehensive search required multiple and multidisciplinary databases. Searches were run on ProQuest Social Sciences Premium Collection, Web of Science Core Collection and Scopus on 27th November 2023.<sup>2</sup> A second search was run which added search terms on 22<sup>nd</sup> March 2024.<sup>3</sup> The search string below captures the different terms used to refer to carbon pricing and to capture the ethical terms used to analyse the ethics of carbon pricing.

<b>Rationale</b>	<b>Search Terms</b>
Referring to Carbon Pricing	(1) Carbon Pric* (carbon price, carbon prices, carbon pricing) (2) Carbon tax* (carbon tax, carbon taxes) (3) Cap-and-trade, cap and trade (4) Emissions trading (5) Market-based measures (6) Quantity instrument (7) Price instrument (8) Offsetting, offset credit, carbon credit
Referring to ethical approaches or considerations	(1) Ethic*(ethic, ethics, ethical, ethically) (2) Human Right*(human right, human rights) (3) Justice (4) Moral (5) Utilitarian* (utilitarian, utilitarians, utilitarianism)

<sup>2</sup> ProQuest is a platform of many databases; for a full list of databases included from ProQuest, refer to Appendix A

<sup>3</sup> The added search terms were offsetting, offset credit, carbon credit, equit\* (equity, equitable).

	(6) Consequentialis*(consequentialist, consequentialists, consequentialism) (7) Equit* (equity, equitable)
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Table 2.1: Search Terms

Searches were run on the three databases checking the article titles, abstracts and keywords for the above search terms.<sup>4</sup> All results were downloaded and reviewed as per Figure 2.1: PRISMA analysis. The eligibility criteria are as follows:

**Inclusion Criteria:** Carbon pricing can be used as both a regulatory instrument implemented by public institutions (governments, supranational organisations, such as the European Union, or international organisations) or as a voluntary instrument adopted by private entities (i.e., voluntary offsetting). For this review, articles were included which focus on carbon pricing instruments designed and implemented by public institutions. This review focuses on the ethical dimensions of carbon pricing, so papers are included which discuss the ethics of carbon pricing to a significant extent. Only articles written in English were included.

**Exclusion Criteria:** Sources which did not consider the ethics of carbon pricing to a significant extent were excluded. Since this paper examines public sector carbon pricing policies, sources which only discuss voluntary mechanisms were excluded.

182 original sources were selected using the eligibility criteria. Using the backward snowballing method, reviewing the bibliographies of the selected sources to identify further documents, 24 additional sources were selected. Finally, 4 additional sources were added that did not appear in the search but were known to be relevant to the researchers from supplementary reading about ethics and carbon pricing (Davidson, 2021; Dirix et al., 2016b; Ivanova et al., 2020; Sayegh, 2020). This brought the total number of relevant sources to 210. A complete list of the 210 articles is presented in Appendix C.

The selected sources were analysed using qualitative content analysis. Widely used in the social sciences discipline, qualitative content analysis is used to systematically identify themes or patterns in qualitative data (Schreier, 2012). In adherence to qualitative content analysis, the data were subjected to three rounds of coding, beginning with the identification of recurring themes, proceeding to the more precise categorisation of themes within a structured framework, and concluding with the refinement and analysis of themes into the arguments presented in the findings below.

<sup>4</sup> See Appendix B for exact search terms used for replicability.

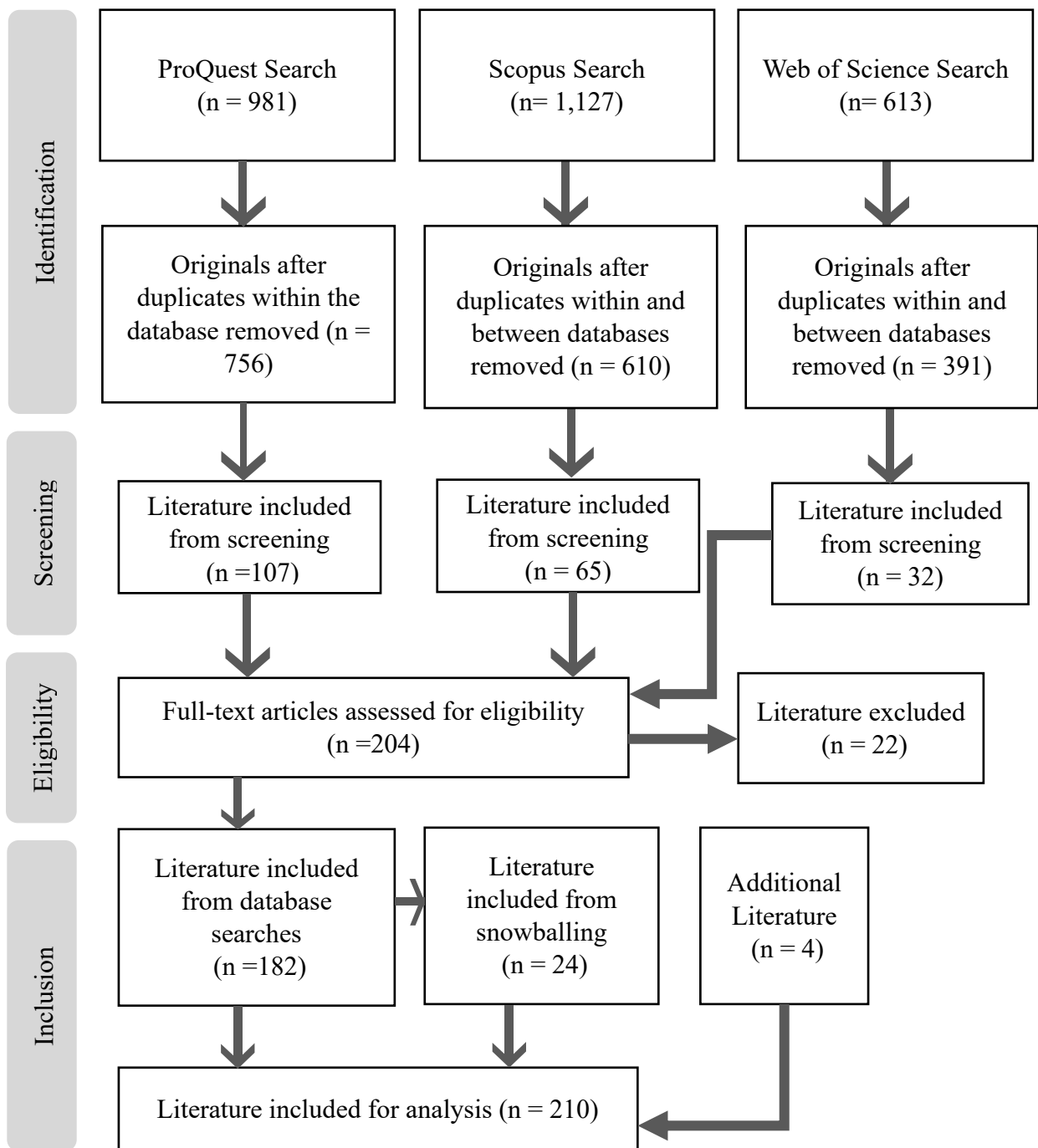


Figure 2.1: PRISMA Analysis

## 2.3 Results

### 2.3.1 Existing literature reviews

Eight existing studies which consider the literature on ethics and carbon pricing were considered. These reviews differ from the one conducted here along three dimensions.

Firstly, most of the existing reviews consider specific types of carbon pricing or their applications to a sector. Dirix et al. (2015) Page (2013) and Coelho (2015) focus on emissions trading. Mintz-Woo (2023a) focusses on carbon taxes. Kamminga (2019), Mintz-Woo (2021), Monios (2022), and Abplanalp (2010) discuss carbon pricing more broadly. However, Monios (2022) focuses on how different forms of carbon pricing apply to the maritime sector. This review differs also from most of the above because its scope is not confined to carbon taxes or emissions trading, but it includes also regulatory forms of offsetting. This is useful because whether carbon pricing as such is morally objectionable or whether only certain types of carbon pricing are morally objectionable should be clarified in the debate. While Kamminga (2019), Mintz-Woo (2021), and Abplanalp (2010) also consider different types of carbon pricing, they differ along the two other dimensions discussed below.

The second dimension on which the reviews differ is ethical lenses considered. Abplanalp (2010) considers different types of carbon pricing from the lens of environmental ethics. Kamminga (2019) considers different types of carbon pricing but focuses on the implicit Protestant foundation of carbon pricing criticisms. This review differs from Abplanalp and Kamminga's in that it accounts for a broader set of ethical lenses and considers the distribution of different ethical arguments that have been made in favour of and against carbon pricing. Considering the distribution of different ethical arguments in the literature is helpful from a policymaking perspective because it demonstrates the extent to which carbon pricing is considered a morally objectionable or desirable policy instrument.

Finally, the previous literature reviews differ on the extent to which they take a systematic approach. Mintz-Woo's (2021) review considers different types of carbon pricing and uses a similar ethical lens to this review but conducts a narrative literature review.<sup>5</sup> While narrative reviews are helpful to synthesise areas of conceptual knowledge or to understand the scope or context in which a study is set, a systematic approach is more rigorous and ensures that the body of evidence which is used to inform decision-making about the use of carbon pricing as an emissions reductions policy tool is balanced and complete (Tranfield et al., 2003). With the exception of Coelho (2015), all of the reviews discussed above are narrative literature reviews.

Coelho's review takes a more systematic approach in that it uses key search terms, searches multiple databases and selects sources from the search results using inclusion and

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<sup>5</sup> A narrative or traditional literature review relies on the researcher's expertise and knowledge of the field to identify, select, and analyse relevant studies. This type of review is characterised by a more informal methodology, and by broader and more flexible inclusion criteria. See (Jesson et al., 2011).

exclusion criteria (Coelho, 2015). Coelho (2015) does not refer to any set of systematic reporting guidelines. Of course, (Coelho, 2015) also has a narrower focus on emissions trading (see above), and does not capture the literature published between 2015 and 2024.<sup>6</sup> The review conducted here follows a more systematic approach to reviewing the literature on ethics and carbon pricing than the aforementioned sources. It uses the PRISMA guidelines for reporting findings (Page et al., 2021).<sup>7</sup> In adherence with the PRISMA guidelines (Page et al., 2021), a research librarian was consulted in development of the study protocol.

### ***2.3.2 Types of carbon pricing discussed in the literature***

The types of carbon pricing considered for this review are carbon taxes, emissions trading schemes, border carbon adjustment mechanisms (BCAs) and offsetting schemes allowed for compliance under an emissions trading scheme or carbon tax.<sup>8</sup> A carbon tax charges a set price per tonne of GHGs emitted by regulated entities into the atmosphere or the GHG content of fuels (World Bank, 2023b). Under carbon tax, the price is set and remains certain, but the level of emissions remains uncertain if firms are willing to pay to emit GHGs (World Bank, 2023b). Emissions trading schemes can take the form of cap-and-trade and baseline-and-credit approaches (World Bank, 2023a). A cap-and-trade scheme limits the amount of GHG emissions covered firms are allowed to emit (World Bank, 2023a). Firms must surrender units of emissions, usually worth one tonne of GHGs per unit, and these units can be traded between firms. Under baseline and credit, entities that reduce GHG emissions more than the baseline earn credits that can be sold to underperforming regulated entities (OECD, 2024). A border carbon adjustment mechanism is a policy that imposes a charge on imports from countries with less stringent climate policies than the importing country, with the charge based on the difference between the two country policies (Dominioni & Esty, 2023). A carbon offset or offset credit is a way for polluters to compensate for their polluting activities. In theory, an offset credit reduces or mitigates the impact of emitting a tonne of GHGs by reducing or removing a tonne of GHGs from the atmosphere through a separate project. Offsetting is often done via voluntary markets, which are not discussed in this dissertation, but they are also a feature of some governmentally regulated carbon pricing instruments.

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<sup>6</sup> 114 of the sources included in this literature review were published after 2015. For a full list, see Appendix C: Sources included in the literature review.

<sup>7</sup> The PRISMA guidelines are a 27-item checklist for researchers to explain how sources in a study are identified, selected and evaluated. The guidelines are designed to ensure that studies are transparent, accurate and eliminate researcher bias. See Page et al. (2021).

<sup>8</sup> The Clean Development Mechanism (CDM) is a mechanism defined in Article 12 of the Kyoto Protocol which allows developed countries to purchase offset credits from developing countries in exchange for implementing emissions reductions projects in those countries. See (UNFCCC, 2023a).

Of the literature reviewed, some authors discuss carbon pricing and market-based measures in a general sense while others discuss either one instrument or some combination of carbon taxation, emissions trading measures and offsetting.<sup>9</sup> Some authors argue that all or some of these instruments are not ethically permissible, or that a non-price GHG instrument would be preferable (against instrument, in Table 2.2). Others argue that some or all these instruments are ethically permissible, or that the arguments against these instruments do not convincingly preclude the use of carbon pricing instruments (in favour of instrument). Some authors are very critical of specific instruments but would support their use if they were adjusted to fulfil certain conditions (conditional). Finally, some authors do not take any stance for or against carbon pricing instruments (unspecified). For a complete list of which sources argue in favour of or against the different instruments, see Appendix D.

<b>Number of sources arguing in favour or against different instruments</b>					
	Carbon Tax	Emissions Trading	Offsetting	BCA	Carbon Pricing (instrument not specified)
In favour of instrument	65	61	9	0	3
Against instrument	8	26	34	2	2
Conditional	12	19	21	4	0
Unspecified	11	17	13	1	0

Table 2.2: Number of sources arguing in favour or against different instruments

As evident in the table above, there is some variation in the relative acceptability of different instruments amongst the authors. Offsetting is subject to objections in most of the articles that cover this topic; it is also the only instrument for which sources “against” are more than the combined sources in “favour” and “conditional”. Carbon taxes have the highest number of sources in support and comparatively fewer articles against. The arguments for and against carbon pricing presented in sections 2.3.3 and 2.3.4 can apply to all forms of carbon pricing discussed in this paper. However, there are some ethical arguments which apply to specific carbon pricing instruments and not others. Some authors are against emissions trading but in favour of taxation (Coelho, 2015; Dash & Mukherjee, 2020; Drury et al., 1999; Lohmann, 2006; Ockenfels et al., 2020; Spash, 2010) or vice versa (Hahnel, 2012;

<sup>9</sup> The instruments discussed in the literature can be applied at either the domestic or international level. While it is not the remit of this paper to discuss differences in arguments between international and domestic trade instruments, generally speaking, carbon taxes and emissions trading schemes are applied domestically, with the exception of the EU ETS, which as a regional instrument, could be considered international. Carbon offsets applied under a regulatory instrument are most commonly applied under emissions trading schemes as international or domestic offset credits. In rare cases, offsets may be purchased under a carbon tax, as with the South African carbon tax. Domestic offset credits are also sold under voluntary instruments, which are not discussed in this paper.

Tirumalachetty & Kockelman, 2011). Others are in favour of emissions trading but object to the use of offsetting under an emissions trading scheme (Caney, 2010; Dirix et al., 2013, 2015; Kaswan, 2011; Page, 2012). The arguments in favour of or against specific instruments are discussed further in section 2.3.5.

### **2.3.3 Arguments in the debate**

The results from the literature show five main arguments against carbon pricing and six arguments in favour of carbon pricing. The table below shows the distribution of arguments across the literature.<sup>10</sup> The sources identified are either making an argument in favour or against carbon pricing, or simply describing the arguments advanced by others. Since the proponents of carbon pricing are describing the ethical arguments against carbon pricing before responding, there are necessarily more sources which reference the arguments against carbon pricing.

Many of the ethical arguments below made in favour of carbon pricing are responding to critics of carbon pricing, rather than advancing independent arguments in favour of carbon pricing. Independent arguments in favour of carbon pricing, which do not appear to a great extent in the literature reviewed here, include arguments of effectiveness, cost-effectiveness, efficiency, and in the case of a carbon tax, administrative ease of implementation (Baranzini et al., 2017; Carattini et al., 2018; Rabe, 2018; Stiglitz et al., 2017). While important points, these reasons for implementing carbon pricing instruments discuss ethical dimensions of carbon pricing to a lesser extent. This review includes papers which discuss the ethical dimensions of carbon pricing to a significant extent. As such the independent arguments in support of carbon pricing, such as effectiveness and economic efficiency, are not discussed at length in the papers reviewed here.

<b>Arguments Against Carbon Pricing (ranked in frequency of appearance)</b>	<b>No. of Sources</b>
Distributive justice objections	122
Procedural justice objections	63
Carbon pricing results in moral hazard	49
Recognition justice objections	48
Carbon pricing commodifies the environment and non-human animals	39
<b>Arguments in Favour of Carbon Pricing (ranked in frequency of appearance)</b>	
Distributive justice objections can be corrected through policy design	128

<sup>10</sup> For a complete list of references for the distribution of arguments in favour of and against carbon pricing, see Appendix D: References for Ranking of Arguments.

Procedural justice objections can be corrected through policy design	37
Recognition justice objections can be corrected through policy design	37
Carbon pricing is not more morally objectionable than existing policy alternatives	13
Moral hazard arguments are unconvincing	17
The argument that carbon pricing commodifies the environment and non-human animals is unconvincing	16

Table 2.3: Distribution of arguments for and against carbon pricing

As shown in the table above, distributive justice objections and arguments addressing distributive justice objections far outweigh the other arguments considered in the literature. This is likely because the impact of carbon pricing on different groups has significant practical implications for policymakers and influences political debates more than other ethical arguments described in the literature.

### ***2.3.4 Ethical arguments for and against carbon pricing<sup>11</sup>***

#### *2.3.4.1 Distributive justice arguments*

Distributive justice is defined in the context of climate justice as the fair allocation of the benefits and burdens associated with climate change (Caney, 2006; Garvey, 2008; Shue, 2014). The most common objection to carbon pricing in the literature is that marginalised groups are negatively impacted by carbon pricing (Bubna-Litic & Chalifour, 2012; Chalifour, 2010; Farber, 2011, 2012; Mayer et al., 2021). Aydos (2020) and Farber (2011) argue that, in many industrialised countries, carbon pricing can be regressive because low-income households spend a larger portion of their budgets on heating and electricity, so they will be more negatively impacted by rising energy prices.

In cases where carbon pricing is found to be regressive, scholarship has highlighted ways to mitigate regressive impacts of carbon pricing or make carbon pricing progressive. According to Caney and Hepburn (2011), revenues raised through carbon taxes and the auction of emissions allowances can be used to mitigate the regressive impacts of carbon prices on low-income households and prevent an unequal distribution of wealth. Scholarship has suggested several methods for revenue distribution, such as equal per capita distribution to all households, lump-sums targeted at vulnerable households, reinvestment in public and

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<sup>11</sup> While distributive, procedural and recognition justice are defined independently in the sections below in the context of carbon pricing and were coded inductively for this study, the origins of this trichotomy can be traced back to David Schlosberg's (2004) proposal to more precisely define environmental justice and his later (2014) work to utilise the same trichotomy to consider climate justice.

clean energy infrastructure (retrofits, green transportation, etc.), reduction in other taxes (labour, income, VAT, corporate tax) or redistribution of revenues from developed to developing countries (Bubna-Litic & Chalifour, 2012; Corvino, 2023; Fredriksson et al., 2021; García-Muros et al., 2022; Ivanova et al., 2020; Jorgenson et al., 2018; Mercer-Blackman et al., 2023; Sayegh, 2019; van Schalkwyk, 2012).

Several empirical studies have found an equity-efficiency trade-off between revenue recycling options wherein lump-sum transfers are considered more effective in reducing regressiveness, while reducing distortionary taxes is considered more efficient (Antosiewicz et al., 2022; Goulder et al., 2019; Grottera et al., 2017; Hänsel et al., 2021; Jorgenson et al., 2018). Other studies find that a mix of different revenue uses can balance or reduce the trade-off between equity and efficiency (Caron et al., 2018; Fredriksson et al., 2021; García-Muros et al., 2022). Others suggest a luxury tax reduces regressive impacts without sacrificing efficiency (Oswald, 2022; Oswald et al., 2023). Which recycling options sufficiently address equity and efficiency concerns differs based on the country or region studied (Caron et al., 2018; Kaufman & Krause, 2016; Klenert et al., 2018).

#### *2.3.4.2 Procedural justice arguments*

Procedural justice is defined in the context of climate justice as fairness, transparency and inclusivity of decision-making processes related to climate change (de Ridder et al., 2023; Suiseeya & Caplow, 2013). It emphasises the importance of allowing all relevant stakeholders, including marginalised and vulnerable groups, to participate in the development of policies and agreements that address climate issues (de Ridder et al., 2023; Suiseeya & Caplow, 2013).

Scholarship identifies several procedural justice objections to carbon pricing. Some argue that carbon tax rates or emissions caps are often politically determined by those with the most power and capital (who may be high emitters) and the preferences of these influential groups are heavily reflected in carbon pricing policies; meanwhile, marginal actors arguably do not have enough power to advance their concerns about policy design (de Ridder et al., 2023; Lohmann, 2005, 2006; Pearse, 2014; Slocum, 2018; Suiseeya & Caplow, 2013). In addition, Page (2012) observes that the technical nature of carbon pricing reduces the transparency and accessibility of the process to non-experts. In his view, the complexity of banking, borrowing, and accounting in emissions trading hinders public participation in carbon markets, and exchanges of carbon credits only take place between legal agents under the scheme, such as industries, brokers or investors (Page, 2012). Even carbon taxes, which

are less administratively complex, have been criticised for not allowing enough direct participation for citizens to express their preferences (Driscoll, 2021). Under a carbon price, citizens can only be said to take part in the policy by publicly supporting or opposing the choice to increase costs in energy, transportation or consumer products (Page, 2012).

Some argue that properly designed carbon prices can address procedural justice concerns to make policies more transparent and equitable (Caney & Hepburn, 2011; Dirix et al., 2016a; Sayegh, 2019). Measures have been suggested to incorporate bottom-up approaches into emissions abatement policy, which would allow greater participation from the public (Dirix et al., 2013; Sayegh, 2019). According to Sayegh (2019), improved communications to the public about the progress of emissions reductions and the circumstances of carbon trading can give the public adequate information to support or object to emissions trading even if they cannot participate in the technical aspects of a carbon market. Moreover, Ivanova et al. (2020) indicate that assessment models which measure policy dimensions such as fuel choice, behavioural heterogeneity, informal economies, supply shortages, performance of the power sector, the use of traditional biofuels, or the urban–rural divide will improve transparency on how costs and benefits are distributed under different carbon pricing instruments and complementary policies. According to Ivanova et al. (2020), these policy dimensions are especially relevant in developing countries, particularly if they allow energy models to be linked to alternative development pathways.

#### *2.3.4.3 Recognition justice arguments*

The concept of recognition justice goes beyond narrow conceptions of distributive or procedural justice in that it stresses the importance of recognising and respecting individual persons and groups. The development of this idea is significantly influenced by Honneth's book on the pivotal role of recognition in social conflicts, the development of identities and justice (German original 1992 & translation 1995). In Honneth's conception 'recognition' ('Anerkennung' in German) can take the form of love, rights and solidarity, which are instrumental for the development of self-confidence, self-respect and self-esteem. Disrespect ('Mißachtung' in German) —the opposite of recognition— can take the form of abuse, rape, denial of rights, exclusion, denigration or insult, which can threaten physical and social integrity as well as honour and dignity (Honneth, 1995, pp. 92–130).

In the context of climate justice, Benjaminsen et. al (2022, p. 3) define recognition justice as requiring that the “knowledge, interests, priorities, and livelihoods,” particularly of those who are marginalised, are respected in climate discourse, narratives and policy

development. If distributive justice refers to “who gets what” in climate policy (Benjaminsen et al., 2022, p. 2) and procedural justice refers to “who decides and how” (Benjaminsen et al., 2022, p. 2), then recognition is concerned with “who is given respect (or not)” in the climate policy process and its outcomes (Benjaminsen et al., 2022, p. 4).

According to Espinosa-Flor (2022), some countries and economic agents have greater influence and financial capacity to pay higher taxes, lobby for exemptions or accumulate more emissions allowances, leaving poorer or more marginalised actors with only subsistence emissions remaining in the global carbon budget; by hoarding emissions rights to more powerful actors, the interests and priorities of less powerful groups are not sufficiently respected. Additionally, Turhan and Gündoğan (2019) argue that attempts in Türkiye to develop a carbon market were driven by pressures from more powerful international actors, to the detriment of development priorities and justice concerns within Türkiye.

However, pricing instruments can be designed to improve recognition justice. Under emissions trading, some argue for auctioning rather than freely allocating emissions allowances or allowing grandfathering (Aydos et al., 2020; Dirix et al., 2016a; Nakamatte, 2007), while others have proposed limiting banking or borrowing permits (Coelho, 2015; Nakamatte, 2007). These design elements under an emissions trading scheme prevent more powerful actors from gaining favourable treatment. In addition, Bubna-Litic and Chalifour (2012) argue that Indigenous groups have a different pattern of fuel use than other households and existing policies of revenue redistribution under a carbon tax are insufficient for Indigenous groups. The authors find that income-tax credits and corporate tax credits do not benefit Indigenous households, while reinvestment of revenues into climate change mitigation or job reskilling may be of greater benefit to Indigenous households (Bubna-Litic & Chalifour, 2012). By more carefully considering policy design under a carbon tax or ETS, policymakers can overcome recognition justice objections.

Another recognition justice concern is the spatial distribution of co-pollutants under a carbon price. Critics contend that carbon prices create pollution hotspots at dirtier plants, many of which are based near low-income communities, and many of which are composed of ethnic or racial minorities (Anderson et al., 2018; Drury et al., 1999; Finley-Brook & Holloman, 2016; Grainger & Ruangmas, 2018; Pastor et al., 2013). Critics argue that under a carbon price, high-emitting industries will reduce emissions in the cleaner plants first because it is more cost-efficient, leaving dirtier plants to continue polluting; in theory, these dirtier plants will continue to produce GHG emissions, along with dangerous unregulated co-pollutants which have negative health impacts on nearby communities (Anderson et al., 2018;

Drury et al., 1999; Grainger & Ruangmas, 2018; Pastor et al., 2013). Anderson et al. (2018), Bachram (2004) and Cushing et al. (2018) have argued that co-pollution under a carbon price is a recognition justice issue because the disadvantage that many ethnic and racial minority groups face, particularly in the United States, forces them to live in areas with higher levels of pollution.

Many studies on carbon pricing and localised co-pollutants have been undertaken since the 1990s (Anderson et al., 2018; Corburn, 2001; Drury et al., 1999; Farber, 2011; Grainger & Ruangmas, 2018; Hernandez-Cortes & Rosas-López, 2022; Pastor et al., 2013; Ringquist, 2011). While the issue of co-pollutants remains contentious, several studies show that co-pollutant impacts on vulnerable communities do not occur at a scale which has been theorised by critics (Benear, 2022; Corburn, 2001; Farber, 2011, 2012; Hernandez-Cortes & Rosas-López, 2022; Ringquist, 2011). In addition, some authors have argued that, in the event that a carbon price is found to cause localised co-pollution, emissions trading can be restricted in certain geographic areas, the direct regulation of co-pollutants can be increased in areas of concern, or the revenues from carbon pricing can be used to fund environmental protection or public health programs in vulnerable communities (Farber, 2012; Kaswan, 2011; Pastor et al., 2013).

#### *2.3.4.4 Moral hazard arguments*

Pricing carbon is alleged to result in moral hazard because it delays moral change and subverts attempts to change moral attitudes (Coelho, 2015; Drury et al., 1999; Sandel, 2012). For instance, a carbon tax or emissions-trading credit may confer upon buyers a right-to-pollute; under this objection, if emitters have paid a tax or purchased a carbon credit, they may feel morally justified in continuing to emit harmful GHGs into the atmosphere (Abplanalp, 2010; Coelho, 2015; Espinosa-Flor, 2022; Lohmann, 2006). A similar objection is made that carbon pricing results in a commons problem; under this argument, the absorptive capacity of the atmosphere is considered to be held in common and should not be bought and sold into private ownership through emissions trading (Coelho, 2015; Espinosa-Flor, 2022). It is thought that once actors have purchased an emissions allowance, they now own a portion of unpolluted atmosphere into which they can emit GHGs (Coelho, 2015; Espinosa-Flor, 2022). Furthermore, Kamminga (2019, p. 65) has noted the criticism that because carbon pricing emphasises market efficiency and competitive fairness, it downplays the “vice of wastefulness”. Since carbon pricing does not make a distinction between luxury emissions and subsistence emissions, excessive emissions behaviour is not stigmatised in a

way that motivates behaviour change (Kamminga, 2019). In this way, selling emissions allowances has been likened to the sale of indulgences by the Catholic Church in medieval times (Bührs, 2010; Goodin, 1994). In sum, critics of carbon pricing believe that command-and-control instruments send a stronger moral signal that continuing to emit GHGs is wrong.

Meanwhile, Caney & Hepburn (2011), Page (2011a) and Sayegh (2019) have concluded that the right-to-pollute argument is invalid because GHG emissions are dissimilar to other forms of pollution. In the case of littering or dumping of toxic materials, individuals have no right to do so, and littering policies seek to prevent *any* pollution, while emissions reduction policies seek a *relative* level of pollution that does not overwhelm the atmosphere's absorptive capacity (Page, 2011a). In this view, carbon pricing does not confer a right to pollute, but rather attempts to reconcile the right to energy access with the harm that non-renewable energy use causes (Sayegh, 2019).

Caney & Hepburn (2011), Dirix et al. (2016b) and Page (2011b) have also considered the argument that carbon pricing privatises rights to the atmosphere, which should be held as a global commons right. Caney & Hepburn (2011), Dirix et al. (2016b) and Page (2011b) have noted that this objection ignores the concept of usufruct rights. If the atmosphere is a global commons, and a carbon price grants a temporary and limited right to emit GHGs into the atmosphere to prevent harm, then no global commons rights are being violated (Caney & Hepburn, 2011; Dirix et al., 2016b; Page, 2011b). Page (2011b) compares carbon pricing to conservation measures like a fish and game licenses, which allow license holders to extract a limited number of resources from the land in a way that protects the ecological integrity of protected areas.

#### *2.3.4.5 Carbon pricing commodifies the environment and non-human animals*

The final argument against carbon pricing is that it does not reflect the intrinsic value of nature in addition to its economic usefulness. Coelho (2015) and Lohmann (2006) argue that pricing carbon is done through the valuation of nature in market terms, and does not account for non-economic measures of nature's value, such as biodiversity or the relationship between people and nature. Carbon pricing is arguably unethical because it is putting a price on something that is considered priceless (i.e., the climate or the natural world), or too valuable to be expressed in market terms (Goodin, 1994). Furthermore, Abplanalp (2010) refers to the argument that carbon pricing is anthropocentric; it costs GHG emissions in terms of the atmosphere's value to people, as opposed to the atmosphere's value to non-human species who are under threat.

Meanwhile, several authors consider the inappropriate commodification argument unconvincing (Caney, 2010; Dirix et al., 2016a; Hahnel, 2012; Ott & Sachs, 2000; Page, 2011a). Caney (2010) and Dirix et al. (2016a) argue that the market is not assigning a value to nature per se, but rather attaching a price relative to the context in order to protect something which is agreed to have value; this is compared to the way that national parks charge entry fees to protected forests without presuming that these fees ascribe a value to the forests. According to Caney (2010), a carbon price can be a reliable instrument for protecting something that has value, even if the market cannot estimate that thing's true value. In addition, Caney (2010) argues that if a market-based instrument does not adequately protect the asset being priced, then it is objectionable, but carbon pricing instruments are not objectionable in and of themselves.

#### *2.3.4.6 Carbon pricing is not more morally objectionable than existing policy alternatives*

Some argue that ethical objections to carbon pricing also apply to alternative emissions reduction policies. For instance, Mintz-Woo (2021) and Posner & Sunstein (2008) have noted that the same power dynamics that make it politically difficult to implement *any* kind of emissions abatement measures (either a carbon price or direct regulation) also make it difficult to adopt an instrument that penalises wealthy emitters and protects the vulnerable.

In addition, some argue that even if problems remain after carbon pricing instruments are designed to mitigate justice concerns, there are no viable policy alternatives that overcome all the ethical objections highlighted by critics of carbon pricing (Alvarado & Garreta, 2021; Klinsky, 2015; Page, 2011b; Povitkina et al., 2021). Alvarado & Garreta (2021) and Page (2011b) have argued that direct regulation policies are not any more transparent or accessible to the public than carbon pricing, and regulators are not any more or less accountable to the public than the administrators of carbon taxes or emissions trading. Alvarado & Garreta (2021) and Klinsky (2015) have stressed that it is not any more likely that stakeholders with less negotiating power will be able to ensure their interests are represented using direct regulation, or that industry lobbies will not be able to press for subsidies or less stringent regulations.

### ***2.3.5 Ethical arguments specific to certain carbon pricing instruments***

The ethical arguments for and against carbon pricing described above apply to all forms of carbon pricing. However, there are some ethical arguments which apply to specific instruments.

#### ***2.3.5.1 Carbon tax versus emissions trading***

While carbon taxes and emissions trading can be designed to operate in many of the same ways, there are several ethical arguments that carbon taxes are more acceptable. For instance, carbon taxes are preferred because they provide fewer loopholes for emitters to avoid their mitigation responsibilities (Dash & Mukherjee, 2020; Mintz-Woo, 2023b; Mintz-Woo, 2021; Nakamatte, 2007; Sovacool, 2011). Nakamatte (2007) has described objections under the common but differentiated responsibilities principle (CBDRRC), wherein the level of flexibility granted under emissions trading schemes (banking, borrowing, offsetting, grandfathering) allows developed countries to shirk their leadership responsibilities as first-movers in emissions abatement relative to their level of responsibility for and capacity to mitigate climate change. A carbon tax could be designed to provide tax exemptions or tax rebates to polluters similarly to an emissions trading instrument, but according to Dash and Mukherjee (2020), it is more often emissions trading instruments which are taken to task for grandfathering emissions allowances to big polluters, allowing borrowing of emissions allowances above the cap, or allowing offsetting of emissions reductions.

Meanwhile, Tirumalachetty & Kockelman (2011) describe circumstances in which emissions trading is more ethically advantageous. For instance, an empirical study conducted of US households concludes that at a national level, an emissions trading scheme is advantageous because a greater portion of emissions reductions come from high-income households under an ETS, while welfare loss as a share of income is found to be higher for low-income households under a carbon tax (Tirumalachetty & Kockelman, 2011). Additionally, Boyce (2023) argues that an ideal carbon price would be designed as a emissions trading instrument with a rising floor price. In this case, the cap ensures a limit on emissions while the floor price acts as a baseline tax on emissions (Boyce et al., 2023).

#### ***2.3.5.2 Offsetting***

Offsetting has been proposed as a method of transferring more climate finance from developed to developing countries and as a way to encourage leadership in emissions

mitigation in developed countries by making emissions reductions more cost-effective (Anger et al., 2012; Forsheit, 1997; Hultman & Kammen, 2007; Hwang & Kim, 2011; Kaswan, 2008; Lee et al., 2015; Nakamatte, 2007; Ott & Sachs, 2000; Watt, 2017)

However, offsetting is ethically controversial on several points. Firstly, the valuation of offsets depends on hypothetical concepts of equivalence, additionality and permanence (Broderick, 2011; Hyams & Fawcett, 2013; Lohmann, 2006; Pearse, 2014). Offset credits are purchased on the assumption that the GHG emissions absorbed by activities in one location are equivalent to emissions being made by unrelated activities in another location (Hyams & Fawcett, 2013; Page, 2011a). Moreover, those estimating the value of offset credits must determine whether an offsetting programme is additional to abatement activities that would have already taken place, and that the abatement efforts are permanent and will not be reversed (for example, if a replanted forest is cut down at a later date) (Hyams & Fawcett, 2013; Pearse, 2014). Critics also argue that offsetting encourages gaming of the crediting system, using such tactics as clearing existing forests and re-planting with fast growing plantations to count them as CDM or REDD+<sup>12</sup> projects (Sovacool, 2011; Vlachou & Konstantinidis, 2010). In sum, the use of carbon credits may not represent a genuine effort to reduce GHG emissions.

Moreover, offsetting is subject to recognition justice objections. Using offsetting, wealthy industrialised countries can displace or postpone responsibility for reducing carbon emissions by purchasing credits from developing countries, who tend to emit less now but may be forced to pay higher prices for emissions credits later as they develop (Aldred, 2012). In one example, wealthy emitters from developed countries may continue to practice “wasteful self-indulgence” by driving high-emitting luxury cars, but assuage their guilt for not switching to low-carbon alternatives by paying to plant trees in Brazil (Kamminga, 2019, p. 62). Furthermore, critics point to well-documented instances of carbon credit projects which devalue or conflict with local forms of knowledge and land use practices, displace Indigenous groups and threaten their traditional ways of life or conservation practices (Bachram, 2004; Brown et al., 2023; Hahnel, 2012; Klinsky, 2015; Saunders et al., 2013).

Offsetting also subject to procedural justice objections. Some have argued that, in countries where offset programmes take place, host communities accrue few benefits from crediting projects and have difficulty protecting their interests against the priorities of more

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<sup>12</sup> REDD+ stands for ‘reducing emissions from deforestation and forest degradation in developing countries’. REDD+ is a framework defined by the UNFCCC under which developing countries can receive carbon offset payments for deforestation reduction projects that meet a set of standards defined in REDD+. See (UNFCCC, 2023b).

powerful actors (Horn, 2023; Mathur et al., 2014; Suiseeya & Caplow, 2013; Xu & Zhang, 2022). Evidence from evaluations of existing REDD+ and CDM projects have found that host communities lack the technical capacity and normative influence to participate in important decision-making processes (Boyd & Goodman, 2011; Xu & Zhang, 2022).

Some studies show offset projects can be better designed to empower local communities or Indigenous groups (Mathur et al., 2014; Suiseeya & Caplow, 2013). Offset programmes which are designed with local development as the primary objective or which emphasise local capacity building and respect local power relations are found to be more procedurally just (Mathur et al., 2014). Other authors argue for stronger local safeguards and monitoring practices, and more robust and institutionalised property, land tenure and usufruct rights (Atela et al., 2015; Boyd & Goodman, 2011; Cox, 2013; Finley-Brook & Thomas, 2011; Suiseeya & Caplow, 2013).

### ***2.3.6 How are the rights and interests of different stakeholder groups considered in the literature? Which stakeholder groups are discussed?***

A reading of the sources shows eight stakeholder groups considered in the literature whose rights and interests are impacted by a carbon price. Recognising that there may be overlap between some of these groups, the stakeholders identified in the table below are discussed to the extent that these stakeholders are impacted by a carbon price in different ways. In the sections below, the scholarship considers that the power dynamics of different stakeholder groups influences the development of carbon pricing policies, that different groups may have different needs and be impacted differently by a carbon price, and that the rights and interests of some groups are not always represented in policy design.

<b>Stakeholders discussed in the literature</b>	<b>No. of Sources</b>
Low-income households	75
Ethnic or racial minorities	26
Businesses in high-emitting sectors	21
Indigenous Groups	16
Developing Countries	16
Future Generations	12
Workers in high-emitting sectors	10
Women	10

*Table 2.4: Number of sources discussing different stakeholders*

### *2.3.6.1 Low-income households*

As noted in section 2.3.4.1, a most common objection to carbon pricing is that it is regressive, negatively impacting low-income households because they spend a larger share of their household budget on energy needs (Abplanalp, 2010; Mintz-Woo, 2021; van der Ploeg, 2021). As noted above, regressive impacts can be mitigated by using revenues from carbon pricing to reimburse low-income households (Caney & Hepburn, 2011; Ivanova et al., 2020). In addition, some authors have highlighted the need to acknowledge different levels of responsibility for reducing carbon emissions, with respect for the difference between subsistence emissions by the poor and luxury emissions by the rich (Shue, 2013). As such, some authors have advocated for the use of a luxury or sliding-scale tax to place a higher cost on emitting past a certain threshold (Oswald, 2022; Oswald et al., 2023).

### *2.3.6.2 Ethnic or racial minorities*

Much of the scholarship which references the impacts of carbon pricing on racial and ethnic minorities is concerned with the impacts of localised co-pollutants on communities living near high-emitting factories or plants (Chinn, 1999; Corburn, 2001; Drury et al., 1999; Ringquist, 2011). Authors argue that ethnic or racial minorities are more likely than other groups to belong to low-income households, making them more likely to live in communities with high levels of local pollution and lack the power or resources to relocate away from factories emitting localised pollutants (Chinn, 1999; Corburn, 2001; Drury et al., 1999; Ringquist, 2011). As noted in the above section 2.3.4.3, many authors find that localised pollutants do not constitute as great a threat as anticipated in theory, and can be easily tracked through monitoring and evaluation of emissions and mitigated using additional regulations and targeted revenues (Bennear, 2022; Corburn, 2001; Farber, 2011, 2012; Hernandez-Cortes & Rosas-López, 2022; Ringquist, 2011). Racial and ethnic minorities are also discussed in the literature when considering recognition justice issues that go beyond localised co-pollutants. According to one interpretation of recognition justice, the systemic power imbalances which have led racial and ethnic minorities to make up a disproportionate percentage of low-income households who are vulnerable to carbon pricing impacts should be corrected through a redistribution of resources such as wealth and emissions entitlements (Slocum, 2018).

#### *2.3.6.3 Businesses in high-emitting sectors*

Some arguments made in the literature indicate that the rights and interests of businesses in high-emitting sectors are over-prioritised. Some authors are critical of the economic and lobbying influence of businesses in high-emitting sectors, arguing that they are able to manipulate the design of carbon pricing instruments to keep prices low and exemptions high (Coelho, 2015; Dawson, 2000, 2000; Farber, 2012; Lohmann, 2006; Monios, 2022; Pearse, 2014; Spash, 2010). Authors criticise the use of allowances, grandfathering and exemptions which they argue have been used of overcompensate firms or result in windfall profits (Caney & Hepburn, 2011; Dirix et al., 2015; Farber, 2012; Pearse, 2014; Spash, 2010).

Where authors are concerned with the negative impacts of a carbon price on businesses in high-emitting sectors, they are generally considering the issue of carbon leakage. In these cases, authors consider the argument that domestic firms in jurisdictions which have implemented a carbon tax have a right to maintain market competitiveness with firms in other jurisdictions with less stringent climate policies (Böhringer et al., 2012; Deane & Brockett, 2023; Dirix et al., 2015; Eicke et al., 2021; Espinosa-Flor, 2022; Meunier & Ponsard, 2012; Ren et al., 2023). BCAs are posited as a tool to protect high-emitting sectors from carbon leakage, although this method of protecting competition rights is controversial when considering the interests of developing countries as discussed in section 2.3.6.5 below (Böhringer et al., 2012; Deane & Brockett, 2023; Eckersley, 2010; Eicke et al., 2021; Perdana & Vielle, 2022).

#### *2.3.6.4 Indigenous groups*

Due to the different lifestyle and energy consumption patterns characteristic of Indigenous groups, they may be impacted by carbon prices in ways that go beyond regressiveness for low-income households. For instance, a study of carbon pricing instruments in British Columbia and Australia found carbon taxes to have negative impacts on Indigenous communities that go beyond the distributive effects of fuel poverty (Bubna-Litic & Chalifour, 2012). The rural isolation of Indigenous communities and reliance on traditional livelihoods such as hunting, fishing and forestry cause rising carbon prices to affect Indigenous people living on reservations more profoundly than other low-income households (Bubna-Litic & Chalifour, 2012). Because they live in predominately rural communities, Indigenous communities are more dependent on energy-intensive forms of transportation, as they lack the option to use public transport (Bubna-Litic & Chalifour, 2012). Similarly, rising fuel costs

negatively impact the eco-tourism economy, leading to disproportionate employment losses in Indigenous communities as they are heavily represented in the eco-tourism sector (Bubna-Litic & Chalifour, 2012). In addition, increases in the costs of food (particularly the carbon cost of foods being transported to rural areas) put more pressure on traditional livelihoods such as hunting and fishing, which in combination with existing climate impacts on biodiversity, could further compromise the natural resources Indigenous groups depend on (Bubna-Litic & Chalifour, 2012). This could lead to poorer diets in Indigenous communities, resulting in negative health outcomes from poor nutrition (Bubna-Litic & Chalifour, 2012). Without particular care paid to the impact of carbon pricing on Indigenous peoples, carbon pricing instruments risk exacerbating inequalities which are specific to the Indigenous context.

Secondly, for some, carbon pricing is considered a capitalist or colonialist policy which inherently contradicts Indigenous values (Eaton, 2021; Montess, 2019). Some authors have contended that the valuation of land or nature in market terms may be incompatible with Indigenous culture and its intrinsic valuation of nature (Eaton, 2021; Montess, 2019). One proponent of carbon pricing has conceded that the stewardship and usufruct rights under which carbon pricing is acceptable would not be morally acceptable if nature is a right-holder and the rights of nature disallow persons from using it for purposes beyond those necessary for human subsistence (Caney & Hepburn, 2011). As such, efforts to reduce carbon emissions using capitalist value systems may contradict Indigenous culture and ways of life, unless policies are designed with Indigenous values in mind.

Indigenous groups are also of particular concern in the scholarship on offsetting because offset credits make Indigenous lands more valuable, attracting different actors with interests which may be contrary to those of Indigenous groups (Hahnel, 2012). As discussed in section 2.3.5.2, offset crediting mechanisms may not reflect the rights and interests of Indigenous groups due to power imbalances in the planning process for offset credits and a lack of robust land tenure rights for Indigenous groups (Boyd & Goodman, 2011; Cox, 2013; Hahnel, 2012; Klinsky, 2015; Mathur et al., 2014; Saunders et al., 2013).

#### *2.3.6.5 Developing countries*

When considering who is harmed and benefited by carbon pricing policies, some issues are critical to developing countries. Some authors in the literature urge policymakers to consider the rights of developing countries to raise themselves out of poverty, and recognise that industrialisation has, to date, been the primary pathway to economic development (Sayegh,

2019). Communities in developing countries are more likely to suffer from energy poverty, and it is recognised that they have not been able to enjoy the benefits of industrialisation and that they are often not the benefactors of current economic chains of production (Reyes & Gilbertson, 2010). One proposal to ensure that carbon pricing respects countries' rights to development is to use a combination of carbon pricing revenue and additional investment from wealthy countries to fund mitigation and adaptation (Sayegh, 2019). In this way, carbon pricing can effectively reduce emissions without compromising developing countries' right to energy and economic development (Sayegh, 2019).

The rights of developing countries to economic development are of particular importance in literature which discusses BCAs (Böhringer et al., 2012; Deane & Brockett, 2023; Eckersley, 2010; Eicke et al., 2021; Perdana & Vielle, 2022; Ren et al., 2023). Sources considering the rights and interests of developing countries under a BCA discuss the trade-off between equal competitiveness for domestic firms in developed countries under a BCA and rights to economic development (Böhringer et al., 2012; Deane & Brockett, 2023; Eckersley, 2010; Eicke et al., 2021; Perdana & Vielle, 2022; Ren et al., 2023). According to the principle of common but differentiated responsibilities and respective capabilities (CBDRRC), developing countries should be allowed to continue to emit GHGs to the extent that it allows them to develop economically, while developed countries should reduce their emissions more proactively and provide climate finance and renewable technologies to developing countries (Böhringer et al., 2012; Eckersley, 2010; Eicke et al., 2021).<sup>13</sup> However, if a border tax is put in place, there are concerns that unless BCAs are designed carefully to provide financial support or exemptions to developing countries, they will be penalised for not reducing their emissions at the same rate as developed countries (Eicke et al., 2021; Perdana & Vielle, 2022).

In addition, the use of offset mechanisms is of concern to developing countries. As discussed in section 2.3.5.2, offset mechanisms increase the availability of climate finance, but are controversial for allowing developed countries to buy their way out of their emissions reductions responsibilities (Aldred, 2012; Kamminga, 2019) and for resulting in injustices for local communities in developing countries where offset projects take place (Bachram, 2004; Brown et al., 2023; Hahnel, 2012; Klinsky, 2015; Saunders et al., 2013).

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<sup>13</sup> While some papers considered for this literature review use a pre-Paris Agreement definition of the concept of CBDRRC, it is important to recognise that the principle has developed over time. Voigt and Ferreira (2016) show how differentiation of responsibilities to address climate change can be understood in multiple ways under the text of the Paris Agreement: as responsive to national circumstances, through both universal and differentiated obligations, and by permitting discretion while recognising differences between countries.

#### *2.3.6.6 Future generations*

There is some debate as to whether carbon pricing policies should be more ambitious to better consider the rights and interests of future generations. The use of slowly increasing carbon taxes, progressively declining emissions caps, or flexible options under an ETS such as banking or borrowing, is considered by some to be a fair way to distribute mitigations efforts over time (Schuppert, 2011). The energy infrastructure and lifestyle changes which need to take place to bring emissions to a sustainable level will take time and investment, and future generations will benefit from the energy investments of current generations (Schuppert, 2011). Similarly, some economists use a social discount rate to reduce the value of more immediate GHG emissions, accounting for the higher level of wealth that future generations are projected have, their presumed better access to green technologies, and the lower level of regard for future generations as an accurate representation of societal preferences (Sayegh, 2019). However, the use of the flexible, less ambitious mitigation policies or the social discount rate has been subject to criticism for its impact on the rights and interests of future generations. According to the principles of intergenerational justice, the social discount rate and highly flexible carbon pricing mechanisms delay climate action to the detriment of the lives and well-being of future generations (Sayegh, 2019). It is considered unethical by some to place the well-being of current generations ahead of future generations (Sayegh, 2019). Others have noted that future generations would consider current generations to be a free-riding generation if they were to put off their responsibilities to avoid ecological harm (Dirix et al., 2013). As such, if carbon prices are to be fair to future generations, they need to be more ambitious in the present.

#### *2.3.6.7 Workers in high-emitting sectors*

Scholarship has indicated that since carbon prices incentivise a shift away from fossil-fuel intensive industries, there is a need for complementary policies to support workers transitioning from fossil fuel industries to new, sustainable energy sectors, ensuring fair labour practices and retraining programmes (Antosiewicz et al., 2022; Brown et al., 2023; Castellanos & Heutel, 2024; Godinho, 2022; Onda, 2020). Perry et al. (2013) indicate that, for workers in high-emitting sectors on a relatively low income, it is likely too expensive to change occupations or localities in search of new employment if they do not receive transition supports.

Onda (2020) considers the effect of imperfect labour mobility on worker retraining policies for high-emitting sectors in the U.S. The author demonstrates that effective retraining programmes should carefully consider local labour market conditions and the ability of different households to move localities in areas where high-emitting sectors comprise a large share of the local workforce (Onda, 2020). A similar study of carbon pricing impacts on the coal-intensive economy of Poland finds that a carbon price results in drop in income inequality; since workers in emissions-intensive sectors earn a higher wage than sectors less impacted by a carbon price, such as public services, hospitality, and retail, a drop in labour demand in emissions-intensive sectors will primarily impact higher-income households (Antosiewicz et al., 2022). A study of China's ETS indicates that employment in the coal industry could fall by as much as 75% by 2050 under an ETS, but that these negative impacts can be mitigated through the targeted recycling of revenues (Huang et al., 2019). Differences in the implications of a carbon price on workers in different countries highlights the need for context-specific policy measures to address the impacts of carbon pricing on workers in high-emitting sectors.

#### *2.3.6.8 Women*

The scholarship indicates that women may experience the impacts of a carbon price differently due to intrahousehold inequalities or their added care burden. For instance, increases in the cost of private car usage and the subsequent need to use public transportation or carpooling will disproportionately affect women, who spend more unpaid care time taking children to school, extracurricular activities, appointments, etc. (Chalifour, 2010).

Furthermore, carbon pricing revenues paid to low-income households do not account for intrahousehold inequalities; the male head-of-household may have more control over the receipt of tax credits or rebates (Chalifour, 2010). Intrahousehold inequalities may also limit women's decision-making power to adopt greener technologies; a study of Canadian households showed that men have more authority over household financial decisions including high end purchases (appliances, cars), so women have less relative power in the household to make consumer decisions that reduce carbon emissions (Chalifour, 2010).

While a limited number of sources discussed the gendered impacts of a carbon tax or ETS, a greater number of sources criticise the impacts of offset credits on women, arguing that in many cases, women have less power in the negotiating process for developing offset crediting programmes, resulting in offset programmes where few benefits accrue to local women (Corbera et al., 2007; Howson, 2017; James et al., 2023; Lee et al., 2015).

## 2.4 Discussion

### *2.4.1 The ethics of carbon pricing, offsets, and climate finance*

Although offsetting has been proposed as a method of increasing climate finance to developing countries and increasing low-cost abatement, offsets have been criticised far more extensively in the literature than other instruments, as demonstrated in Table 2.1 above. Furthermore, while some arguments have been made that offsets could be designed to be more fair to Indigenous peoples and local communities, the scholarship has not resolved objections of equivalence, additionality and permanence (see Section 2.3.5.2).

The few responses to the many criticisms of offsets have implications for the design of international climate finance architecture. Currently, many developing countries, including many least developed and climate vulnerable countries, support the development of international markets for carbon credits as a source of climate finance (e.g. African Union, 2023; Ong, 2023; Talbot Wright, 2023). As recently argued by President Ajay Banga (2023) of the World Bank, in the absence of significant upscaling of alternative sources of international public climate finance, these markets remain the sole option for helping to close the gap between current climate finance needs and flows.

Therefore, the research in section 2.3.5.2 on the ethical objections to offsetting supports the urgent need for developed countries to at least meet their climate finance pledges, such as the USD100-billion-a-year by 2020 pledge which they have so far failed to meet (IPCC, 2022). Research indicates that the current climate finance needs in developing countries amounts to trillions of US dollars per year (World Bank Group, 2020). Thus, even if the developed countries' pledges were met, climate finance needs in developing countries are unlikely to be fully addressed (IPCC, 2022). Therefore, additional sources of climate finance need to be identified and mobilised. Here, less ethically controversial forms of carbon pricing could play a role. The recent Taskforce on International Taxation (President of France, 2023) as well as ongoing IMO negotiations on a GHG pricing instrument for international shipping are relevant developments in this regard (Dominioni et al., 2023; Dominioni & Englert, 2022). However, the recent approval of the IMO Net-Zero Framework seems to indicate that few revenues from international shipping will be available to support climate action beyond maritime transport (Dominioni, 2025).

#### ***2.4.2 The ethics of carbon pricing and instrument design***

The review indicates that instrument design can be crucial for the morality of carbon pricing as it can address some of the potential ethical problems. For example, while carbon pricing is often criticised for being regressive, existing empirical research shows this can often be addressed with adequate use of a relatively small share of carbon revenues, thereby addressing distributive justice concerns (Dominioni & Heine, 2019). Similarly, procedural justice concerns can be addressed, at least partially, through adequate stakeholder engagement (Dirix et al., 2016a; Ivanova et al., 2020). Moreover, reducing free allowances or exemptions or introducing escalating carbon taxes can help address recognition justice concerns for stakeholders with lower GHG emissions (Dirix et al., 2013, 2016a). This has implications for scholarship on the ethics of carbon pricing and instrument choice, and more specifically, research that compares the ethics of carbon pricing with that of other climate change mitigation policies.

Some of the scholarship is formulated as a comparison between carbon pricing (or a specific type of carbon pricing, such as carbon taxes) and another GHG instrument. The conclusions reached are then formulated in support of or opposition to one of these instruments. However, some critiques included in these articles focus on potential features of a carbon pricing instrument rather than one of its necessary components. For instance, Huwe and Frick (2022) put forward a critique of carbon pricing that is largely based on criticisms of using the social cost of carbon as the base for setting the carbon price level. However, the social cost of carbon is only one of many potential benchmark levels for setting a carbon price (Parry et al., 2022). Thus, the critique of carbon pricing in Huwe and Frick (2022) applies primarily to instruments that set the carbon price using this metric, and it is unclear how many of the 75 carbon pricing instruments implemented today use the social cost of carbon as the benchmark price level. Similarly, Wood et al. (2023) criticise carbon taxes because of their regressive effects. As discussed above, this is not a necessary effect of carbon taxes, and where they do occur, they can often be addressed with adequate instrument design. The arguments against carbon pricing mechanisms altogether that follow some of these analyses do not adequately account for the partiality of the analysis.

Moreover, the scholarship indicates that many recognition justice concerns may be addressed through instrument choice and instrument design. Minimising the use of offset credits would protect Indigenous groups and developing countries from exploitation which occurs under carbon offset projects and ensure that polluters are not displacing their

abatement responsibilities on other countries by purchasing offset credits. However, in the absence of offsets, the case for developed countries to at least meet their climate finance commitments to help Indigenous groups and climate vulnerable countries protect and preserve the ecosystems upon which their cultures and ways of life depend becomes even stronger.

Similarly, the literature above indicates that emissions trading systems are more objectionable than carbon tax instruments under recognition justice principles. The number of objections in the literature to emissions trading systems is much higher than objections to carbon taxes (see Table 2.1) and the scholarship discussed in Section 2.3.4.6 argues that emissions trading systems are more likely than carbon taxes to be poorly designed with loopholes that well-resourced actors can exploit (Coelho, 2015; Dash & Mukherjee, 2020; Espinosa-Flor, 2022; Nakamatte, 2007). This suggests that carbon taxes are preferable to emissions trading systems in countries where recognition justice issues are of particular concern.

Going forward, we call for the development of research on the ethics of carbon pricing that is more attentive to instrument design as this can help in understanding whether and under what conditions carbon pricing meets certain ethical standards, such as considerations of distributive, procedural and recognition justice. In turn, this can better guide policymakers in choosing GHG reduction policies. Ideally, this scholarship would focus on describing in some level of detail a carbon pricing instrument (and an alternative GHG policy) and then carry out an ethical analysis that is specific to the instrument or the comparison with an alternative GHG policy. Since the design of carbon pricing instruments has evolved rapidly in recent years, this could become a vibrant strand of research.

#### ***2.4.3 The limitations of instrument design in resolving ethical concerns***

When considering the policy design suggestions to resolve distributive justice concerns, it appears that arguments for progressive revenue recycling or luxury emissions pricing address regressiveness objections to some extent. However, there may be limits to the use of revenue recycling to resolve all distributive justice concerns, since there are aspects of inequality in society which go beyond income levels. Non-income differences between households, such as rural compared to urban households, endowments in energy efficient infrastructure, or differences in cultural styles of living may not be sufficiently accounted for in a revenue recycling scheme that focusses on income levels, and there may be limitations in the

availability of data to target revenue schemes for groups who are impacted by non-income factors (Hänsel et al., 2021). These concerns do not show that carbon pricing is impermissible, but indicate that more careful consideration of potential distributional impacts and market fluctuations is necessary, as are more carefully targeted tools to implement revenue recycling equitably (such as more household-specific lump-sum transfers).

In addition, while scholarship has provided policy design recommendations to mitigate procedural justice concerns, the design features suggested may not successfully overcome all these concerns. Given the technical complexity of carbon pricing instruments, there are limits to the level of public participation and transparency that can be achieved under these instruments. Similarly, improved design of stakeholder consultation processes may not be able to overcome the normative weight of more powerful actors in the policymaking process, such as industry lobbies or wealthier more developed countries. As such, there are limits to the extent to which a carefully designed carbon price can overcome procedural justice concerns. Nonetheless, this is not necessarily a strong argument against the use of carbon pricing instruments. As noted in section 2.3.4.6 above, there are limits to the extent to which alternative policies such as direct regulation can overcome similar procedural justice concerns.

#### ***2.4.4 The ethics of carbon pricing and climate effectiveness***

The effectiveness of carbon pricing in driving GHG emissions abatements is more discussed in other academic and policy debates than in the ethics literature reviewed here. Green (2021) reviews several ex-post evaluations of carbon pricing instruments implemented since 1990 and finds that carbon pricing has limited impacts on emissions reductions. In response to this analysis, a systematic review of ex-post studies finds significantly larger effects on emissions reductions, with significant variations across carbon pricing instruments (Döbbeling-Hildebrandt et al., 2024). Others debate the effectiveness of carbon pricing to deliver specific mitigation outcomes, such as investment into and adoption of low carbon technologies. For instance, Lilliestam et al. (2021, 2022) and Verbruggen (2021) argue that carbon pricing does not result in significant adoption of or investment in low carbon technologies, while Van den Bergh and Savin (2021) contest this argument. Overall, there is a need for research that sheds new light on the circumstances under which carbon pricing delivers significant emissions abatements.

One could make a consequentialist argument in favour (or against) carbon pricing based on its effectiveness, but we have found this is largely not the case in the literature

reviewed here. This gap is likely due to the largely technical nature of the topic, where many of the sophisticated analyses of effectiveness appear in discussions of economics and engineering, rather than ethics. However, it is important to bring these practical points to the attention of scholars of carbon pricing ethics. An instrument that does not meet its stated goal could be considered questionable or even unethical. In this respect, it is important to stress that historically the adoption of carbon pricing instruments has not always been motivated by climate mitigation concerns. In some countries, carbon pricing instruments have been put in place primarily to create fiscal space (Skovgaard et al., 2019). However, when implemented for climate reasons, an ethical carbon pricing instrument needs to deliver adequate emissions reductions. A failure on this front would speak in favour of adopting other policies to address climate change *instead* of carbon pricing.

Furthermore, when assessing the effectiveness of carbon pricing it should also be noted that none of the arguments in favour of carbon pricing reviewed here advocate for carbon pricing as a “silver bullet” that will effectively reduce emissions without any further government intervention. This is an important distinction since Espinosa-Flor (2022), Lohmann (2005, 2006) and Slocum (2018) object to the use of carbon pricing as though it would operate in isolation from other policy instruments. It is true that historically, some economic scholarship has promoted carbon pricing as a “backbone” or “cornerstone” of emissions abatement policy, and some economists have considered complementary policies unnecessary with carbon prices (Huwe & Frick, 2022; Stern, 2022). However, some authors reviewed for this study have proposed the use of command-and-control regulations alongside carbon pricing (Boyce et al., 2023; de Ridder et al., 2023; Goulder & Parry, 2008; Kaswan, 2011; Klinsky, 2015) in order to resolve certain justice objections, while others have proposed that carbon pricing needs to be accompanied by direct investment in sustainable infrastructure, and research and development of green technologies (Boroumand et al., 2022; de Ridder et al., 2023; Hasan et al., 2022; Klinsky, 2015; Sayegh, 2019). As such, arguments for or against carbon pricing as a singular instrument for effective emissions abatement should be retired in the scholarship because climate policy design has progressed beyond this in recent years. When considering further research on the circumstances under which carbon pricing delivers significant emissions abatements, research should also be conducted on what combination of carbon price and non-price instruments delivers the most significant abatement and best addresses other ethical concerns.

#### ***2.4.5 Stakeholders considered in the literature***

The design and implementation of carbon pricing mechanisms can have significant consequences on how costs and benefits are allocated across different social groups. The literature overwhelmingly acknowledges that carbon pricing, if not carefully structured, can have regressive effects, disproportionately burdening low-income households that spend a higher proportion of their income on energy. The literature discusses various options for revenue distribution and options for complementary measures, and considers how to implement policies that are both efficient and equitable (see section 2.3.4.1). However, the impact of these measures varies significantly depending on national context and policy design. As such, further research is called for to better understand which kinds of carbon pricing designs and complementary measures are best suited to different national circumstances.

In addition, Indigenous groups and racial minorities are mentioned in terms of both distributive impacts and in terms of recognition justice for their systemic marginalisation. In these cases, it must be acknowledged that a carbon tax is limited in scope, and that if addressing inequality as part of recognition justice is a main policy goal, direct taxation through income taxes is a more efficient way to redistribute wealth than through carbon taxes (Mooij, 2020). The question then becomes whether recognition justice concerns, if to be addressed, are best addressed through the recycling of revenues from specific taxes or through the general budget of the state. It may be the case that, for certain stakeholder groups, their rights and interests are better considered under the auspices of just transition policies more broadly, rather than in the context of what can be accomplished under a carbon price.

Moreover, given the relatively low number of sources discussing gender, there is a need for more gendered research on the impacts of carbon prices, particularly those which do not include offset mechanisms. There is reason to suspect that men are more likely to be impacted in the context of being employed in high-emitting sectors, while women are more likely to be impacted in the context of intra-household power imbalances and the unpaid care burden. However, further data collection and analysis is necessary to better understand how carbon pricing instruments impact women and men differently.

### **2.5 Conclusion**

This chapter presents a systematic, thorough, up-to-date synthesis to the current body of literature on the intersection of ethics and carbon pricing. Analysis of the literature finds that

most of the sources about ethics and carbon pricing instruments are concerned with the distributive, procedural or recognition justice implications of carbon pricing instruments. Furthermore, by analysing the primary arguments within the debate, this chapter offers valuable insights regarding the selection and design of emissions abatement policy instruments: the analysis highlights that many critiques of carbon pricing are focussed on potential features of carbon pricing rather than essential features, such as the use of offsetting, grandfathered allowances, or calculations of the social cost of carbon.

Also, although careful policy design may not fully resolve all justice concerns raised, this is not necessarily a strong argument against carbon pricing as a mitigation instrument from a justice perspective. Other mitigation instruments are also likely to leave some justice concerns unresolved (e.g., related to procedural justice). The review indicates that offsetting is the least ethically defensible form of carbon pricing. This suggests the use of other forms of carbon pricing to address developing countries' needs for climate finance. Moreover, this chapter highlights that while many critiques of carbon pricing are focussed on the shortcomings of carbon pricing as a policy used in isolation from other tools, the literature includes suggestions for how to incorporate both pricing and non-pricing instruments into a more comprehensive climate policy.

In addition, findings from the literature review indicate that addressing the ethical concerns arising in carbon pricing is dependent on various factors, including the ability of different stakeholders to participate in the policy design process, impacts of price instruments on different stakeholder groups, and the various uses of carbon pricing revenues to mitigate negative impacts. As such, further research is called for to understand, in practice, how justice considerations and stakeholders' rights and interests are accounted for in the design of a national carbon pricing policy.

## **Chapter 3: Methodology and development of country case studies**

### **3.1 Introduction**

The literature review has demonstrated that the ethical acceptability of different types of carbon pricing instruments is dependent on various factors, including: the ability of different stakeholders to participate in the policy design process, impacts of price instruments on different stakeholder groups, and the various uses of carbon pricing revenues to mitigate negative impacts on different groups. Unique historical, cultural, political, and economic factors may impact the design and acceptability of carbon pricing instruments in different country contexts, indicating the need for context-specific research on the ethical implications of carbon pricing instruments.

Following this line of inquiry, two country case studies have been undertaken to better understand:

1. What ethical principles are considered in the development of national carbon pricing policies?
2. Which elements of a carbon tax are considered to have an ethical dimension, as perceived by interviewees in their national contexts?
3. How are the rights and interests of stakeholders considered by experts who are involved in the design and implementation of carbon pricing policies? Which stakeholder groups are discussed?

The first case study analyses the ethical implications of the Irish carbon tax and EU ETS system in Ireland and the second case study analyses the ethical implications of the South African carbon tax. Identified patterns and similarities between the two studies provides direction for the normative analysis and insights into generalisable principles or theories that may help policymakers and practitioners tailor their strategies to the specific needs and challenges of a particular country.

This chapter proceeds as follows. Firstly, I explain the use of the case study methodology in the social sciences. Secondly, I introduce the country cases used for this study and describe the rationale for selecting each case. I then describe the methods used to analyse the data collected for this study. Subsequently, I describe the data collected for this study. To conclude, I outline the limitations and constraints of the case study research.

### **3.2 The Case study approach in the social sciences**

The case study is a well-established approach in the social sciences (Hamel et al., 1993). It is helpful to collect multiple sources of rich data to analyse and understand complex phenomena (Yin, 2009). In addition, the case study approach is useful when considering ethics questions and in studying phenomena with policymaking implications. O'Mathúna and Iphofen (2022) have indicated that case studies are especially useful as a methodology to explore ethical issues in order to understand: how ethical decisions have been or should be made; what are the core ethical principles in a given situation, how they were applied or misapplied; and how ethical decision making has impacted the results of certain policies and policy decisions. Due to their focus on specific contexts, case studies can be used to assess the impact of policies or interventions within a specific context (O'Mathúna & Iphofen, 2022; Yin, 2009). In this way, case studies can help policymakers and practitioners assess the appropriateness of carbon pricing in their own country and tailor the design of carbon pricing instruments to the specific needs and challenges of a particular country. Country case studies can inform policy and decision-making by providing real-world examples of how certain policies or interventions have played out in practice (Ebneyamini & Sadeghi Moghadam, 2018; O'Mathúna & Iphofen, 2022; Yin, 2009).

Moreover, researchers may use case studies for comparative purposes. A limitation of case study research is that, given the context-specific factors that make case studies appropriate to consider certain phenomena, the results of case studies are often not generalisable (Flyvbjerg, 2006; Yin, 2009). However, by studying multiple cases, one can, to a limited extent, identify patterns, differences, and similarities, providing more generalisable insights that can be explored in different contexts (Flyvbjerg, 2006; Yin, 2009).

Case studies are useful to understand the ethical implications of carbon pricing instruments in context because national policy design is a complex social phenomenon. In each country context, carbon pricing can be understood to be ethical (or not) in many ways; for instance, whether or not a carbon price is ethical can be understood through environmental impacts, social impacts, economic impacts, the normative ethical views of the individual, or the lived experiences of the individual in designing, implementing, or observing the impacts of carbon pricing (Chalifour, 2010; Goodin, 1994; Klenert et al., 2018; Lohmann, 2006; Mintz-Woo, 2021, 2023a, 2023b; Page, 2012). In addition, the ethical issues involved in carbon pricing can be understood differently from the perspective of stakeholders with different priorities (Aydos et al., 2020; Bailey, 2017; Bubna-Litic & Chalifour, 2012;

Pearse, 2014; Slocum, 2018). As such, the research questions above are best addressed by exploring the perspectives of different stakeholders regarding the appropriateness of carbon pricing in their specific contexts.

The case studies developed here consider carbon pricing at the national level. A case study of carbon pricing at the international level is not feasible since there is currently no internationally applied carbon price (World Bank, 2024), although the Carbon Border Adjustment Mechanism (CBAM) in Europe, currently in a transitional phase and set to be implemented in 2026, has ethical implications at the international level (European Commission, 2023a). These implications include different principles of responsibility for reducing carbon emissions (See 2.3.6.5), and the trade-off between competitiveness rights for firms in developed countries and rights to economic development for developing countries (Böhringer et al., 2012; Corvino, 2023; Deane & Brockett, 2023; Eckersley, 2010; Eicke et al., 2021; Perdana & Vielle, 2022; Ren et al., 2023). It is also possible to conduct a case study at the sub-national level, as thirty-three subnational jurisdictions are currently covered by a carbon price (World Bank, 2024). However, this study focuses on the national level for several reasons. Firstly, the literature from the previous chapter argues that the implementation of carbon pricing instruments has different impacts not only on low-income households but also on rural areas compared to urban areas, women, and racial or ethnic minorities (Anderson et al., 2018; Bubna-Litic & Chalifour, 2012; Chalifour, 2010; Chinn, 1999; Ivanova, et al., 2020; Slocum, 2018). A study at the regional level may not capture concerns from all stakeholder groups in a given country if, for example, one region is more urbanised than another or if an ethnic minority or Indigenous group is concentrated in a specific region. In addition, as described in the section below, carbon pricing instruments have different implications in developed and developing countries due to differences in distributive impacts, institutional capacity, levels of public trust, etc. (Dorband et al., 2019; Parry et al., 2022). To examine the differences in carbon pricing between developing and developed countries in practice, it is better to consider two national carbon pricing instruments, since findings from a regional study would be difficult to extrapolate to the national level.

### **3.3 Selection of country cases: Ireland and South Africa**

When selecting the country cases, it was useful to consider two very different cases in order to consider the replicability of which ethical dimensions are considered under a national carbon tax, despite significant contextual differences between cases (Blatter & Blume, 2008;

Maggetti et al., 2013). By focusing on cases that differ widely, these case studies highlight elements that may consistently contribute to perceptions of justice or fairness under a carbon tax, making it easier to identify factors that are robust across different environments. By focusing on a developed and developing country, I will also be better able to contextualise the normative analysis to ensure that my analysis is meaningful and applicable across diverse contexts. It is important that the normative analysis of carbon pricing is applicable to both developed and developing country contexts because carbon pricing instruments are increasingly being implemented in both contexts (see World Bank 2024), while differences in distributive impacts, institutional capacity, responsibility for global emissions, levels of public trust, etc. (Dorband et al., 2019; Marcos et al., 2022; Parry et al., 2022) may lead to differences in ethical implications for policy design.

These case studies narrow in focus from carbon pricing more broadly to carbon taxes specifically for the following reasons: While the following studies focus on cases which differ widely, it was useful to ensure that the cases were similar along some key dimensions to identify themes which are comparable and consistent across both studies. It would be possible to select a developed and developing country which have implemented an emissions trading scheme, but the literature has recommended that carbon taxes are preferable in developing countries due to their lower level of administrative complexity (Marcos et al., 2022; Parry et al., 2022). As such, I focus on two countries which have implemented a carbon tax. Moreover, since the previous chapter has indicated that many of the ethical arguments applied to carbon pricing are applicable to both carbon taxes and emissions trading during the process of policy design, a focus on carbon taxes will ensure more comparability between the two cases without limiting the applicability of the normative analysis to one type of carbon pricing.

Ireland and South Africa were selected as the cases for the study. While they differ along many dimensions, these cases are similar along two key dimensions; firstly, both countries have implemented a carbon tax, and secondly, both countries utilised a participatory consultation process for the tax design (which is necessary for assessing how stakeholders are involved in policy design). The context-specific factors which impact the design and implementation of carbon pricing instruments in these two countries, including their respective political systems, economic structures and existing energy infrastructures are discussed in the following section 3.3.1.

### ***3.3.1 The Political economy of decarbonisation in Ireland and South Africa***

#### ***3.3.1.1 Governance structure***

Both Ireland and South Africa are governed by a parliamentary democracy where the government is elected by the people through regular, free, and fair elections (Freedom House, 2025a, 2025b). Ireland ranks 97/100 on the Freedom House Global Freedom Index and is considered a stable democracy with robust protections for political rights and civil liberties (Freedom House, 2025a).<sup>14</sup> Ongoing issues of political and civil liberties include discrimination against the Irish Traveller community (Freedom House, 2025a). South Africa scores 81/100 according to the Freedom House Global Freedom Index and is considered a free country (Freedom House, 2025b). The African National Congress was the dominant party for thirty years following apartheid until it lost its absolute majority in the legislature following the 2024 general election (Freedom House, 2025b). Issues of political and civil liberties include government corruption, such as state capture,<sup>15</sup> and high levels of inequality and unemployment stemming from the legacy of apartheid (Baker, 2022; Freedom House, 2025b). The role and functioning of government play a role in both case studies in the selection of climate policy tools and in the design and implementation of carbon pricing mechanisms.

#### ***3.3.1.2 Economy and infrastructure barriers to decarbonisation***

The economic structure of both countries plays a role in their ability to decarbonise. Using favourable tax incentives for multinational corporations, Ireland has positioned itself as the European headquarters for many such corporations, resulting in an economy dominated by the services sector, including finance, technology and business services (HIT Horizons, 2023; OECD, 2022a; Statista, 2022). Similarly, due to the presence of several multinational technology and pharmaceutical companies in Ireland, the country attracts a significant amount of foreign direct investment (FDI), which can be drawn towards sustainable technologies and practices (Heritage Foundation, 2023). While the Irish economy is not

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<sup>14</sup> Freedom House is a nonprofit organisation which produces an annual global report on political rights and civil liberties. The *Freedom in the World* report consists of numerical ratings and descriptive texts for each country. Each report assesses the real-world rights and freedoms as experienced by individual citizens and is largely based upon rights and freedoms as defined in the United Nations Declaration of Human Rights. For further information on the methodology for this index, see (Freedom House, 2023).

<sup>15</sup> State capture refers to a form of systemic corruption wherein specific interest groups seize control of the institutions and public processes responsible for shaping public policy. In doing so, they divert the direction of public policy away from public goods and towards their own agendas (Dávid-Barrett, 2023). A period of state capture took place in South Africa under the presidency of Jakob Zuma, in which the Gupta family used their influence within the Zuma administration to further their personal interests in the mining, energy, transportation and telecommunications industries (Pillay et al., 2023).

characterised by the heavy industry and manufacturing of South Africa, efforts by the government to establish Ireland as a hub for the global digital and data hosting industry may result in increasing electricity demand, a situation under which Ireland will have to decarbonise more quickly to meet both its economic growth and decarbonisation demands (IEA, 2023). In addition, the Irish economy produces significant emissions from its agriculture sector, primarily due to methane from livestock (EPA, 2023b) and significant emissions from heavy reliance on road transport (OECD, 2021). Similarly, energy efficiency in buildings in Ireland presents a challenge, since the temperate climate and historical building practices have resulted in national building infrastructure with poor energy efficiency (Department of the Taoiseach, 2020; European Commission, 2023b). The combination of these factors of the Irish economy and infrastructure are expected to play a role in the development and implementation of its carbon pricing instruments.

Compared to Ireland's economy, mining and minerals, heavy industry and agriculture make up a larger share of the South African economy (Harvard Growth Lab, 2021). An historically key feature of the South African economy, the minerals-energy-complex, refers to a system whereby cheaply acquired coal and labour supports mining-and-minerals-intensive and export-oriented industries (Baker et al., 2015). These energy-intensive industries currently contribute significantly to local and foreign investment and to exports from South Africa (Winkler et al., 2010). Approximately 50–60% of South Africa's emissions came from power and heat generation in 2016 (Prater, 2018) and approximately 40% of electricity in the country is consumed by industrial users rather than households (Baker et al., 2015). While the share of the South African economy which is dependent on the minerals-energy-complex is on the decline (Baker et al., 2015), South Africa is the world's 14<sup>th</sup> largest emitter of GHGs, around 70% of its emissions come from coal, and it is home to the single largest point-source of GHG emissions in the world (Sasol) (Prater, 2018).

In addition, South Africa has one of the world's highest rates of wealth inequality, and poverty continues to be concentrated along racialised lines (Baker, 2022; Baker et al., 2015). Equitable access to and affordability of household electricity in South Africa remains a part of the apartheid legacy (Marquard, 2006). South Africa also has a high rate of unemployment, standing at 32.1% in 2024 (41.9% if including those who have given up looking for work) (Phoshoko, 2024). Due to high rates of poverty and unemployment and the current reliance of the economy on extractives and heavy industry, reducing emissions in a way that protects the lives and livelihoods of vulnerable groups remains a significant challenge.

Furthermore, as a developing country, it is expected that South Africa will need to acquire climate finance from other countries to meet its shortfall in funds: South Africa needs ZAR334 billion and ZAR535 billion per year (€16.4 – €26.4 billion)<sup>16</sup> to meet its net zero goals by 2050 and nationally determined contributions by 2030, against a funding gap of ZAR203 billion to ZAR404 billion (€10 - €20 billion) per year to meet these goals (Presidential Climate Commission, 2023). This is expected to have implications for the perceived and measured effectiveness of the carbon tax and other climate policies in South Africa.

### *3.3.1.3 Political barriers to decarbonisation*

Political opposition to the carbon tax in Ireland comes from the Sinn Fein party and the Independent Rural TDs<sup>17</sup> (Oireachtas, 2022b, 2022c, 2022d). These parties cite concerns about the regressiveness of the carbon tax and the ability of low-income and rural households to afford the increasing cost of fuel (Oireachtas, 2022b, 2022c, 2022d). Further, farmers' associations in Ireland made objections to the initial citizens' assembly proposal to increase the carbon tax, citing competitiveness concerns (Phelan, 2018), but are not currently active in opposing the carbon tax. Union groups have not objected to the carbon tax as such, but both unions and farmers' associations have voiced concerns about overall emissions reductions policies in Ireland; they argue that many such policies place a disproportionate burden on farmers and workers and that the government has not put sufficient supports in place to protect the livelihoods of farmers and workers who are required to reduce their GHG emissions (Power, 2021; Wall, 2018). Non-governmental organisations (NGOs) in Ireland are considered to have a good working relationship with the government, and while they have supported the carbon tax in Ireland, they have called for stronger supports for households in energy poverty as fuel prices rise (O'Connor et al., 2023). Business associations also supported the use of the carbon tax and EU ETS to reach emissions reductions targets in Ireland, but have called for greater financial supports from the government to help install more expensive green technologies (Ibec, 2022, 2023).

Meanwhile, the South African carbon tax and other climate policy tools face strong opposition from the minerals-energy-complex (MEC). Powerful companies in South Africa such as Sasol and Eskom have a history of using their influence to oppose environmental

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<sup>16</sup> Currency conversions from ZAR to EUR are based on an exchange rate of 1 ZAR = 0.49 EUR as of 30<sup>th</sup> May 2025 (Xe.com, 2025)

<sup>17</sup>A TD or Teachta Dála (plural TDanna in Irish, TDs in English), is a member of Dáil Éireann, which is the lower house of the Oireachtas (the Irish Parliament).

regulations or gain favourable policy and planning decisions for the energy sector (Baker, 2022; Hugo, 2022). During the consultation process for development of the South African carbon tax, the Department of National Treasury faced government opposition from the Department of Trade and Industry (DTI) and Economic Development Department (EDD) (Baker, 2022). Groups opposed to the carbon tax in South Africa have argued that a carbon tax will damage business competitiveness, threaten the already struggling economy and contribute to already high levels of unemployment in the country (Maswanganye, 2022). In addition, as a result of low levels of trust in government stemming from years of state capture, the introduction of any tax in South Africa is viewed with suspicion by individuals and groups citing a lack of transparency in how tax revenues will be spent (Marcos et al., 2022; Pillay et al., 2023).

#### *3.3.1.4 International emissions reduction commitments*

Both Ireland and South Africa have made international commitments to reduce their carbon emissions. Ireland has committed under the Paris Agreement to limit global warming to well below 2 degrees Celsius above pre-industrial levels (UNFCCC, 2020). Additionally, in line with the EU climate targets to reduce GHGs by at least 55% by 2030, compared to 1990 levels, Ireland has binding emissions reductions targets under the EU's Effort Sharing Regulation to reduce its emissions by 42% by 2030, compared to 2005 levels (EPA, 2023a). South Africa voluntarily committed (at COP 15 in 2009) to curb GHG emissions by 34% by 2020 and 42% by 2025, (Hemraj, 2019) and updated its commitments under the Paris Agreement in 2021, aiming for annual GHG emissions of 350–420 tCO<sub>2</sub> in 2030 (equivalent to 19%–32% below 2010 by 2030 excluding LULUCF) (Climate Action Tracker, 2023). Neither Ireland nor South Africa are currently on target to meet their emissions reduction goals (Climate Action Tracker, 2023; EPA, 2023a).

#### *3.3.1.5 The Irish carbon tax*

The Irish carbon tax was first implemented in 2010 (World Bank, 2024). The main objective of the carbon tax when it was introduced was to raise revenues used to reduce public debt incurred during the recession (Government of Ireland, 2010). In 2017, a citizens' assembly was convened to address the issue of climate change. One of the recommendations from this assembly was that the existing carbon tax should be raised to help meet Ireland's emissions reduction targets (Citizens' Assembly, 2018). Since 2019, the carbon tax has been used primarily as a tool for emissions reductions (DPER, 2019).

During the tax increase period of October 2023–May 2024, the tax increased from an overall rate of €48.50/tCO<sub>2</sub> to €56/tCO<sub>2</sub>, with legislation in place to raise the carbon tax to €100/tCO<sub>2</sub> by 2030 (DPER, 2024). The tax applies to emissions from residential, commercial and road transport sectors (World Bank, 2024). The impact of the October 2023–May 2024 tax increase on different fuel types is reported in Table 3.1 below:

Fuel Type	Typical Fuel Bundle	2023 (€48.50)	2024 (€56.00)	Impact of + €7.50
Petrol	60 litre fill	8.28	9.56	+1.28
Auto Diesel	69 litre fill	9.58	11.06	+1.48
Kerosene	900 litre tank	125.47	144.87	+19.40
Peat	12.5kg bale	1.26	1.46	+0.20
Coal	40 kg bag	5.80	6.70	+0.90
Gas	11,000 kWh	109.49	126.47	+16.98

Table 3.1: Impact of carbon tax increase October 2023–May 2024 (Source: Budget 2024)

The Irish government has recognised that its decision to increase the carbon tax rate may increase households’ vulnerability to energy poverty due to the increase in fossil fuel prices (Barrett et al., 2022; DECC, 2021; O’Malley et al., 2020). The rate of energy poverty in Ireland (as measured in 2022) is around 29% (Barrett et al., 2022). Several key demographic and socioeconomic factors put certain groups at greater risk of poverty or energy poverty due to the rising carbon tax rate. Households most at risk of energy poverty in Ireland as a result of the rising carbon tax have been identified as low-income households, single parents, households with children, older persons, and rural households (Lawlor & Visser, 2022).

Recognising the impacts of the tax on the identified groups, the Irish government agreed to hypothecate revenues from the increased carbon tax level, estimated to generate €9.5bn in additional government spending from 2021–2030 (DPER, 2022). The revenues are hypothecated towards: 1) targeted social welfare payments to mitigate regressive impacts of the tax (€3 billion from 2021–2030); 2) funding of a socially progressive national retrofitting programme (€5 billion from 2021–2030); and 3) funding programmes for farmers to improve the sustainability of farming practices (€1.5 billion from 2021–2030) (DPER, 2022).

### 3.3.1.6 The South African carbon tax

South Africa is the first African country to implement a carbon price (IMF, Africa Department, 2023). Although South Africa has implemented environmental taxes in the past with the primary goal of supporting the fiscus, the carbon tax was the first measure

implemented explicitly as a non-voluntary emissions reductions measure (IMF, Africa Department, 2023). The carbon tax was subjected to extensive public debate prior to its being officially passed as a bill, with the first document on the tax issued for public comment published in 2010 (National Treasury, 2010). The South African carbon tax came into effect in 2019, and covers large businesses across industry, power, and transport sectors (World Bank, 2024). Household emissions are not currently covered under the carbon tax (World

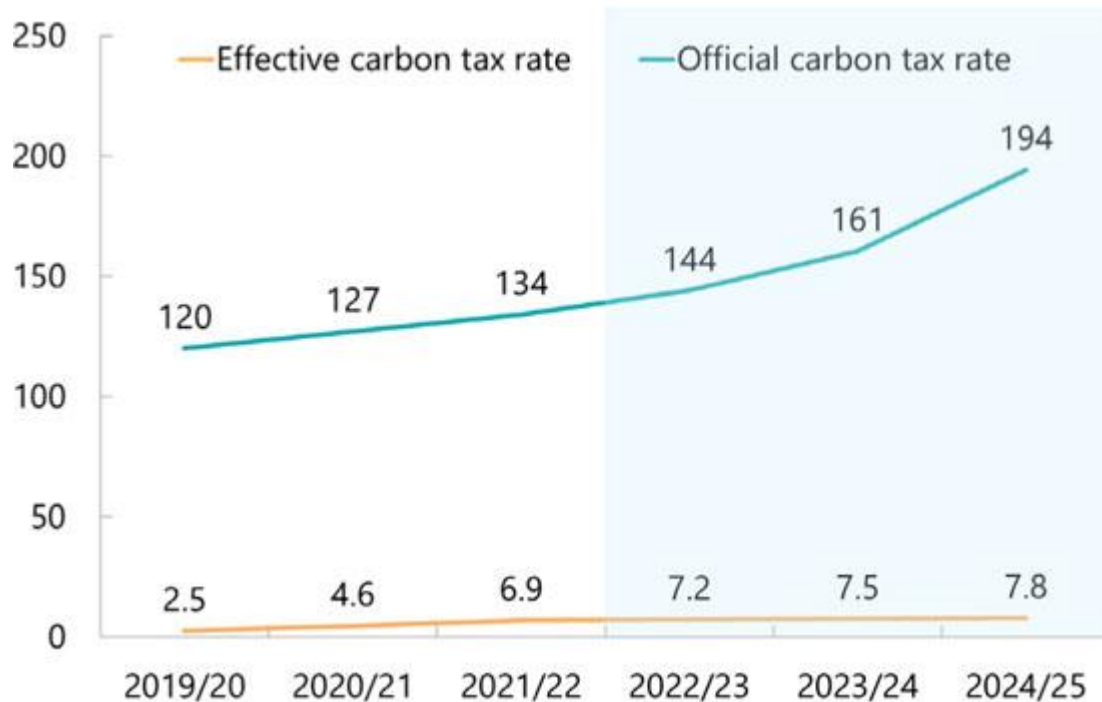


Figure 3.1: South African Carbon Tax Rate (in R/tCO<sub>2</sub>)

Citation: IMF Staff Country Reports 2023, 195; [10.5089/9798400245350.002.A003](https://doi.org/10.5089/9798400245350.002.A003)

Bank, 2024). In its current phase, covered firms are exempted from 60%–95% of their liability for the tax and are able to offset 10% of their tax liability using domestic carbon credit projects (World Bank, 2024). The carbon tax as of 2023/24 was set at ZAR159/tCO<sub>2</sub>, (equivalent to €8/tCO<sub>2</sub>), but the current level of exemptions under the tax means the effective tax rate is closer to ZAR7/tCO<sub>2</sub> (approximately €0.35/tCO<sub>2</sub>) (see Figure 3.1) (IMF, Africa Department, 2023; World Bank, 2024). The phasing out of exemptions under the tax was initially set to begin in 2022, but due to economic shocks during COVID-19, the exemptions allowed under the first phase were extended to 2026 (National Treasury, 2023).

### 3.3.2 Existing literature – the Irish and South African carbon tax

While there are existing studies of the Irish and South Africa carbon tax, the case studies developed for this thesis differ from existing studies along several dimensions. In the case of the Irish carbon tax, studies have been undertaken on the welfare impacts of the carbon tax

(Beausang, 2009; De Bruin & Yakut, 2018; De Bruin & Yakut, 2024; Farrell, 2017; Tovar Reaños & Lynch, 2023; Tovar Reaños & Lynch, 2019). These existing studies of the Irish carbon tax utilise primarily CGE modelling and analysis of household budget data to determine which groups are most impacted by the tax and what revenue options can be utilised to reduce negative impacts of the tax. My case study contributes a qualitative study of the Irish carbon tax from an ethical perspective, and is based on interview data. While this study does confirm the existing econometric study findings regarding some groups who are impacted by regressiveness, the study further enables me to explore households who may be missing from the design of the carbon tax, particularly those whose vulnerabilities are not revealed through econometric studies. In addition, while existing studies of welfare impacts have implications for distributive justice under a carbon tax, this case study has a broader focus, considering ethical implications beyond distributive justice.

In the case of the South African carbon tax, a number of studies have also been undertaken to examine the welfare impacts of the tax and potential uses of tax revenue to protect vulnerable groups (Alton et al., 2014; Bohlmann et al., 2022; Okonkwo, 2021; van Heerden et al., 2006, 2016; Vorster et al., 2011; Winkler, Jooste, et al., 2010; Winkler, 2017). Like the studies of the Irish case cited above, these are primarily quantitative studies using econometric data, which are limited in scope to distributive impacts of the tax, and only those impacts which are statistically disclosive. An additional study by Steenkamp (2021) develops a framework for equitable revenue distribution that is not quantitative in nature. The study developed here differs from Steenkamp (2021) in that it analyses empirical data and has a broader scope, extending beyond welfare impacts from revenue use and focussing on ethical implications beyond distributive justice. Two further studies use qualitative data to consider ethical dimensions of the South African carbon tax (Baker, 2022; Nemavhidi & Jegede, 2023). Nemavhidi & Jegede (2023) consider the carbon tax from a human rights perspective and conclude that the carbon tax could be considered a tool to aid human rights protections in South Africa if revenues are used in a way which protects the rights of vulnerable groups. The Nemavhidi & Jegede study differs from this one in that its scope is focussed on revenue use. Baker (2022) considers how the extractives industry has created systemic inequalities in South Africa, the political difficulty of implementing a carbon tax given the lobbying strength of the extractives industry, and how the welfare of workers and mining towns could be negatively impacted by the introduction of a carbon tax. The Baker (2022) study differs from this one in scope in that it is focussed primarily on the welfare of workers and communities in mining towns, and the analysis uses a political economy lens rather than an ethical lens.

By comparing a broader scope of ethical implications in both countries, this study identifies common challenges in designing equitable carbon pricing instruments which can be used to conduct a normative analysis for a selection of stakeholders in chapter 6. While the following case studies do confirm some of the findings on vulnerability in previous case studies of the Irish and South African carbon taxes, these studies further contribute to the literature by addressing ethical dimensions that have been underexplored.

### **3.4 Data collection**

The two case studies were developed using a combination of semi-structured interviews with key informants and corroborating secondary data. Given the technical nature of carbon pricing instruments, this study is limited to interviews with key informants who are proficient in the design implications of carbon pricing in Ireland and South Africa. Key informants were recruited for this study from government departments, consultancy groups, think tanks, labour unions, businesses or business interest groups, nongovernmental organisations (NGOs), and academics contributing to policy development in their national contexts.

Interviewees were selected for their knowledge of the carbon tax or knowledge of interest groups impacted by the tax. Initial candidates were identified through online research, with outreach emails sent to relevant government departments and groups that made submissions or public statements about the carbon tax. Authors of reports, studies, and conference proceedings on national carbon taxes or national climate policy in each case were also contacted. Additional participants were recruited through snowball sampling, with interviewees referring others. To corroborate the information provided by these interviewees, secondary data was collected, including national policy documents or policy evaluations on each national carbon tax, policy documents about each country's wider climate change policy, NGO and business reports on climate or energy policy, news coverage of the carbon tax consultation and design process, and any recorded minutes of public debates about each country's carbon tax. Initial data was collected from online searches prior to the interviews and interviewees provided supplementary materials and recommendations for further reading. In addition, I attended the 25<sup>th</sup> Global Conference on Environmental Taxation (GCET25), which took place in South Africa from 18–20 September 2024. This conference was a helpful source of information because of its focus on themes of just transition using market-based mechanisms and included participants from key informant groups identified above. As such, comments made in keynote panels and views expressed by conference participants as they relate to this study have been included in the data analysis for the South African case study.

### ***3.4.1 Semi-structured interviews***

A total of 42 key informant interviews were conducted for these two studies. Wherever possible, mid- to senior-level representatives from each key informant group were selected. Interviews were conducted online via Zoom to access study participants in different regional and national locations. Each interview lasted on average 45–60 minutes. For a list of indicative questions used for the interviews, refer to Appendix G: Interview Questions.

Since the key informant interviews are referenced frequently in the results of each case study, each key informant is assigned a letter and number designation. Irish interview participants are assigned C1–C23 and South African interview participants are assigned D1–19. The affiliations of the interview participants and job profiles of the participants are identified in the figures below. The interviews for this study were conducted anonymously and all data discussed in the results of each study are unattributed. The sample size for each case study is relatively small given the technical nature of the carbon pricing instruments being discussed, and as a result it may be possible to identify individual participants based on the organisation they work for and their job titles. To ensure that the identities of the participants remain anonymous, the specific government departments and organisations each participant is affiliated with are withheld in this study. In addition, where job titles can be traced back to individual participants, these job titles have been anonymised in the figures below.<sup>18</sup> However, the job titles remain identifiable to the extent that they can indicate the level of seniority of the individuals interviewed.

### ***3.4.2 Data collection for the Irish case study***

Twenty semi-structured interviews were conducted for the Irish case study involving twenty-three participants from the above identified interview groups. The balance of interview groups involved is as follows:<sup>19</sup>

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<sup>18</sup> For instance, when the department that a specific respondent is the manager of will likely indicate the organisation they work for, the title of that department is not shared.

<sup>19</sup> Some interview respondents have more than one affiliation. For instance, an academic affiliated with a university may also act as a consultant affiliated with a think tank. The respondents are described here by the affiliation with which they have been involved in the design or implementation of the Irish carbon tax or EU ETS.

### Interviewees by affiliation: Irish case study

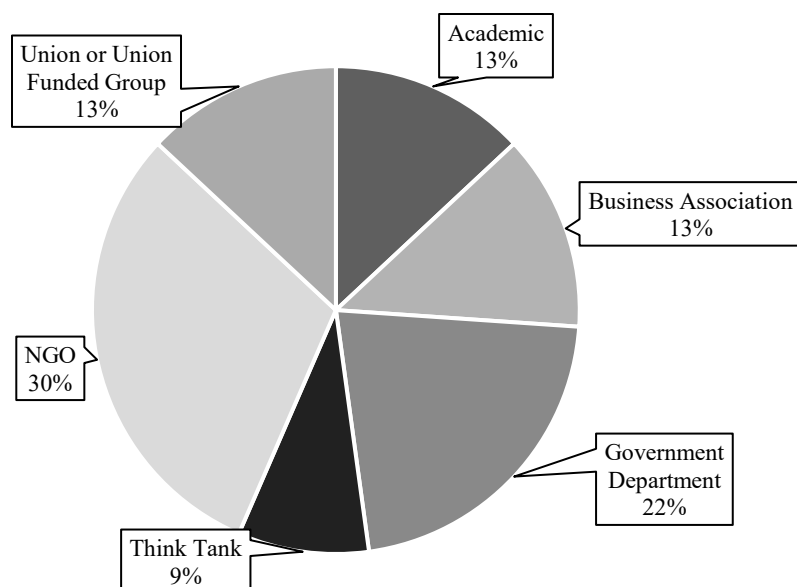


Figure 3.2: Affiliation of interview respondents, Ireland

The areas of expertise of individuals interviewed can be viewed in Table 3.2 below:

Case	Job title	Affiliation	Sector
C1	General Secretary	Business Association	Agriculture
C2	Senior Executive	Business Association	Energy and Climate Policy
C3	Senior Executive	Business Association	Energy and Climate Policy
C4	Officer	Government Department	Tax Policy
C5	Officer	Government Department	Tax Policy
C6	Scientific Officer	Government Department	Climate and Environmental Policy
C7	Policy Officer	NGO	Travellers' Rights
C8	Head of Policy	NGO	Climate and Environmental Policy
C9	Policy Researcher	Union	Social and Labour Policy
C10	Department Manager	NGO	Climate Policy and Law
C11	Associate Professor	Academia	Climate and Environmental Policy

C12	Assistant Professor	Academia	Climate Policy
C13	Research Affiliate	Think Tank	Economics
C14	Research Assistant	Academia	Climate Science
C15	Research Officer	Think Tank	Economics
C16	Economist	Union	Labour and Economics
C17	Policy Officer	NGO	Agriculture
C18	Campaigns Coordinator	Union	Social and Labour Policy
C19	Principal Officer	Government Department	Tax Policy
C20	Assistant Principal Officer	Government Department	Tax Policy
C21	Senior Policy Analyst	NGO	Social Policy
C22	Policy Advocacy Manager	NGO	Social Policy
C23	Research and Policy Officer	NGO	Social Policy

*Table 3.2: Job titles of participants in the Irish case study*

### ***3.4.3 Data collection for the South African case study***

Nineteen semi-structured interviews were conducted for the South Africa case study involving nineteen participants from the above identified interview groups. The balance of interview groups involved is as follows:

### Interviewees by affiliation: South African case study

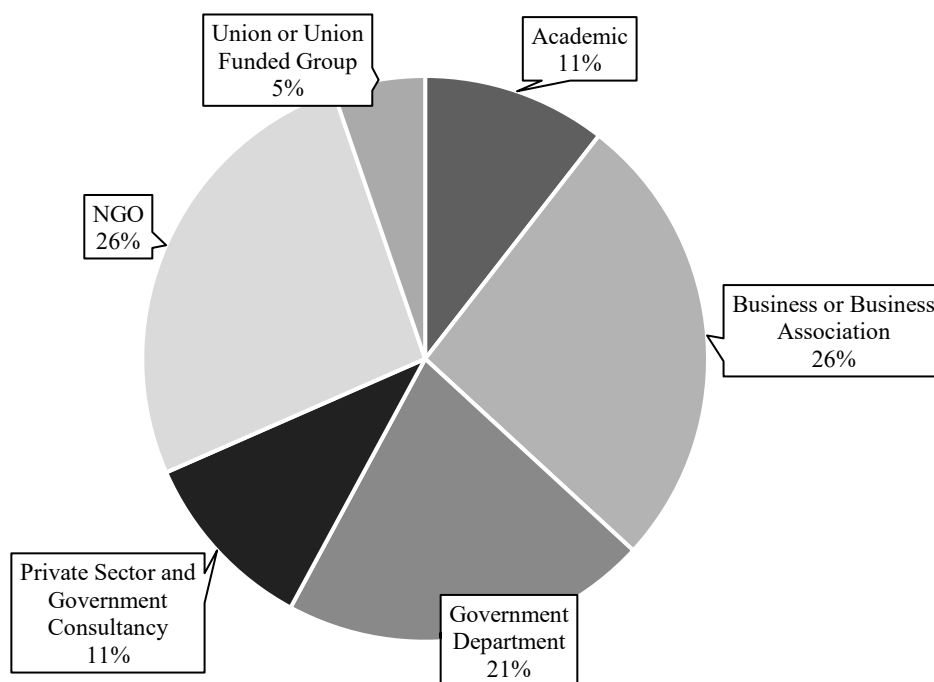


Figure 3.3: Affiliation of interview respondents

The areas of expertise of individuals interviewed can be viewed in Table 3.3 below:

Case	Job title	Affiliation	Sector
D1	Director	Government Department	Tax Policy
D2	Head of Department	Business Association	Energy
D3	Executive Director	Business Association	Transportation
D4	Deputy Director (retired)	Government Department	Energy
D5	Manager	Business Association	Energy
D6	Development Executive	Business Association	Industry Development
D7	Full Professor	Academia	Climate and Energy
D8	Senior Manager	NGO	Climate and Environmental Policy
D9	Programme Director	NGO	Social and Environmental Sustainability
D10	Director	Consultancy	Law
D11	Senior Researcher	Academia	Energy

D12	Co-Founder and Partner	Consultancy	Energy and Carbon
D13	Global Coordinator	NGO	Social and Environmental Sustainability
D14	Deputy Director	Government Department	Energy
D15	National Coordinator	NGO	Climate and Environmental Policy
D16	Director	Government Department	Climate and Environmental Policy
D17	Programme Manager	NGO	Climate Policy
D18	Parliamentary Coordinator	Union	Social and Labour Policy
D19	Chief Engineer	Business	Renewable Energy

*Table 3.3: Job titles of participants in the South African case study*

### **3.5 Thematic analysis**

The data collected for these case studies were examined using thematic analysis. Thematic analysis is a method for identifying, analysing, and reporting patterns, or themes within text and is widely used in the social sciences (Ignatow & Mihalcea, 2017). Themes identified through reading and coding of the text are understood to reflect key insights related to the research question (Ignatow & Mihalcea, 2017). Thematic analysis is not a linear process but a recursive one, where the researcher continually moves between reading, coding, and analysis (Ignatow & Mihalcea, 2017). While the process is iterative rather than rigidly sequential, the data were subjected to several rounds of coding. Initial themes were identified top-down from the literature and coded deductively, while other themes were identified inductively from the data. For instance, data were coded deductively for impacts on low-income households as pre-identified from the literature, while other codes such as impacts on Irish Travellers were identified inductively during the coding process.

After an initial round of coding in which themes were identified both inductively and deductively, the themes were then reviewed and refined into categorising themes within each case study, after which themes were reviewed across case studies to identify key similarities and differences which addressed the research questions. These themes are presented in the results of these case studies, and the discussion of these results analyses how the themes

relate to the development of ethical frameworks for the development of carbon pricing policies.

### **3.6 Methodological constraints and limitations**

There are several limitations to the data I was able to collect for these case studies. For instance, only interviewees with some technical knowledge of carbon pricing instruments were able to respond to questions about policy design. In addition, not all targeted interview respondents were able to be interviewed. Some respondents cited time constraints, such that their regular job duties limited their time to participate in the study. Others declined to participate because negotiations and debate about carbon pricing instruments in their country are ongoing, and they were reluctant to make statements about ongoing discussions. As such, representatives from some key informant groups were not interviewed. For instance, it would have been helpful to interview the members of Irish political parties who have opposed increases to the carbon tax (Sinn Fein and the Rural Independent TDs), and it would have been helpful to interview representatives from South Africa's largest single point emitter, Sasol, but I was unable to interview these groups. Nonetheless, I did obtain a significant amount of data from available interview respondents, and the interviews I was not able to schedule did not become a barrier to addressing the research questions.

An additional limitation to the study was in examining the veracity of statements from different organisations with different agendas. The process for policy development and implementation, particularly in the case of climate policy, is heavily politicised, and some participants cited a lack of alignment between government departments and between different union groups or labour organisations as to their stance on carbon pricing instruments. To reduce bias from either the participants or the researcher on these views, I used secondary sources and documents to cross-check claims and check data for any inconsistencies.

Finally, given the relative newness of each of these carbon pricing instruments, I was not able to obtain as much data as I would have preferred on the impacts of the different carbon pricing instruments. While the Irish carbon tax has been in use since 2010, the hypothecation of carbon tax revenues was not done until 2019, and due to COVID-19 constraints some of the programmes funded by carbon tax revenues were delayed. As a result, impact evaluations for carbon tax-funded programmes such as the Just Transition Fund and ACRES Fund in Ireland have not yet been completed or published. In addition, the EU ETS has historically given many allowances freely to Irish businesses, and since the phase-out of free allowances is not set to begin until 2026, the impacts of the EU ETS in Ireland have been

limited to date. In the South African case study, the first phase of the tax allows 60–95% exemptions for liability of the tax to businesses, and household emissions are not currently covered under Phase 1. Phase 1 of the tax has been extended from its initially planned dates due to COVID-19 economic shocks, and as a result, the impacts of the official price level have not yet been realised due to the extent of available exemptions. Nonetheless, enough data was collected in this study to address the research questions.

## Chapter 4 – A case study of the carbon tax and EU ETS in Ireland

### 4.1 Introduction

In addressing the research questions outlined in the previous chapter,<sup>20</sup> I confirm the conclusions of the literature review that justice considerations take precedence over other ethical principles through which carbon pricing instruments may be considered. In this case, the interviewees primarily discussed the principles of distributive, procedural and recognition justice. Considering the second question, respondents mostly discuss how the costs of reducing emissions will accrue to households and the ways in which revenues are used to reduce these costs. Respondents also discuss the consultation process for the tax, its effectiveness, the fairness of the price level, how the impacts of the tax are evaluated and the availability of substitution goods. When considering the third question, respondents are broadly supportive of current recycling of carbon tax revenues to mitigate regressiveness but are concerned that the way in which revenues are recycled leaves some vulnerable households less protected than others.

This chapter proceeds as follows, with sections 4.2, 4.3 and 4.4 outlining the results of the study. Section 4.2 addresses the question of which ethical principles are considered in the development of national carbon pricing policies. Section 4.3 addresses the question of which elements of a carbon tax are perceived to have an ethical dimension. Section 4.4 addresses the question of how experts involved in design and implementation of Ireland's carbon tax and ETS consider the interests of different stakeholders. Section 4.5 discusses the results of this study and section 4.6 concludes the chapter.

### 4.2 What ethical principles are considered in the development of national carbon pricing policies?

Three ethical principles were raised by interview respondents discussing the Irish carbon tax and EU ETS. The respondents discussing these principles were either expressing the opinion that the principles have been incorporated into the policy design or making the argument that the principles should be incorporated into the policy design to a greater extent. In order of

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<sup>20</sup> 1) What ethical principles are considered in the development of national carbon pricing policies? 2) Which elements of a carbon tax are considered to have an ethical dimension, as perceived by interviewees in their national contexts? 3) How are the rights and interests of stakeholders considered by experts who are involved in the design and implementation of carbon pricing policies? Which stakeholder groups are discussed?

frequency of appearance in interviews, these principles are distributive justice, procedural justice, and recognition justice, as shown in Table 4.1.

<b>Ethical Principles discussed by interviewees</b>	<b>Respondents discussing these views</b>	<b>% Respondents discussing these views</b>
Distributive justice	C2, C4, C5, C7, C8, C9, C10, C11, C12, C13, C15, C16, C17, C18, C19, C20, C21, C22, C23	83%
Procedural justice	C1, C2, C3, C4, C5, C7, C8, C9, C10, C11, C12, C16, C18, C19, C20, C21, C22, C23	78%
Recognition justice	C7, C8, C10, C14, C16, C18, C22	30%

*Table 4.1: Distribution of ethical principles expressed by interviewees*

A more detailed explanation of these justice principles is outlined in the systematic literature review. The ethical principles which were discussed by respondents arose in the context of specific elements of the carbon tax design, as follows:

Distributive justice was discussed by 83% of respondents. Interview respondents discussing distributive justice were most often discussing issues of regressiveness or negative impacts on households, although some respondents were also considering negative impacts on jobs and businesses. Respondents also considered equitable sector coverage of the carbon tax and the availability of substitution goods to be a distributive justice issue. These issues are discussed in Section 4.3. Moreover, respondents considered how the harms and benefits of the carbon tax are distributed to different stakeholder groups, and whether these harms and benefits are distributed evenly among these groups. These stakeholder groups are discussed in section 4.4.

Procedural justice was discussed by 78% of interview respondents. Interview respondents considering procedural justice under the carbon tax discussed the fairness, transparency, and inclusiveness of decision-making about the design of the carbon tax. Procedural justice was considered an important principle in the consultation process for the design of the carbon tax, the transparency of price increases, and the accessibility and inclusiveness of monitoring and evaluation of impacts of the tax. These issues are further discussed in section 4.3. In addition, respondents discussed how and to what extent procedural justice is fulfilled for different stakeholders, regarding their access and capacity to

participate in the carbon tax design process. The extent to which respondents perceived procedural justice to be achieved for specific stakeholder groups is discussed in section 4.4.

30% of interview respondents discussed recognition justice. Discussions of recognition justice arose in issues of regressiveness, revenue use and mitigation of negative impacts of the tax. Perceptions of recognition justice differed from perceptions of procedural or distributive justice on the same issues in that respondents were considering how systemic inequality influences different groups' relative level of GHG emissions and capacity to adapt to rising fuel prices. Recognition justice principles further arose when respondents considered how historical and current inequities in Ireland may be perpetuated or exacerbated without careful design of the carbon tax. These issues are discussed in section 4.3. In addition, recognition justice arose in discussions of how different stakeholder interests are prioritised under the design of the carbon tax or EU ETS. These stakeholders are discussed in section 4.4.

#### **4.3 Which elements of a carbon tax are considered to have an ethical dimension, as perceived by interviewees in their national context?**

Only one of the respondents interviewed (4%) opposed the use of a carbon tax or ETS in Ireland, though many respondents suggested certain changes to the tax or distribution of revenues. In elaborating on their support for different elements of the tax and ETS, seven main issues arose which interviewees perceived to have an ethical dimension. These included addressing regressiveness, the consultation process for tax design, equitable sector coverage of the tax and ETS, carbon lock-in or lack of substitution goods, setting the price level, effectiveness of the tax and ETS and monitoring and evaluation of policy impacts.

<b>Issues discussed by interviewees</b>	<b>Respondents discussing the issues</b>	<b>% Respondents discussing the issue</b>
Addressing regressiveness through revenue recycling	C4, C5, C7, C8, C9, C10, C11, C12, C13, C15, C16, C17, C18, C19, C20, C21, C22, C23	78%
Consultation process for carbon tax design	C2, C4, C5, C7, C8, C9, C10, C11, C12, C16, C21, C22	52%
Effectiveness of the tax and ETS	C2, C3, C4, C8, C9, C10, C13, C14, C15, C16	43%

Setting the price level	C2, C3, C4, C6, C8, C9, C11, C13, C16, C18	43%
Equitable sector coverage	C3, C7, C8, C9, C10, C13, C16, C18	35%
Monitoring and evaluation of impacts	C1, C6, C8, C13, C15, C18, C19, C20	35%
Carbon lock-in or lack of substitution goods	C3, C4, C8, C10, C15, C16, C18, C23	35%

Table 4.2: Distribution of ethical issues mentioned by respondents in interviews

### 4.3.1 Addressing regressiveness through revenue recycling

As one respondent remarked, the Irish government has been commissioning reports on the economic impacts of a carbon tax for thirty years, and the consistent result of these analyses is that the tax is regressive (C13). Rising fuel costs have a disproportionate impact on low-income households because a larger proportion of their income is spent on energy costs, and low-income households have fewer resources to avoid rising energy costs by retrofitting their homes, purchasing electric vehicles, or switching to more sustainable energy sources (Beausang, 2009; De Bruin & Yakut, 2018; Tovar Reaños & Lynch, 2023; Tovar Reaños & Lynch, 2019).

There was universal consensus amongst respondents who did not oppose a carbon price that the carbon tax should at least ensure that households, businesses and workers are not worse off due to rising fuel prices. Several policy documents on carbon tax revenue use demonstrate the government’s commitment to achieve distributive justice during the transition to low-carbon energy sources. The 2019 report on how the revenues from the carbon tax increase will be spent includes a commitment to “protect those most exposed to higher fuel and energy costs, to support a just transition<sup>21</sup> for displaced workers and to invest in new climate action” (DPER, 2019, p. 1). The report acknowledges the regressive nature of the tax and commits to spending a portion of revenues on social welfare measures to ensure that low-income households are not negatively impacted by the tax (DPER, 2019). It further acknowledges that the carbon tax and other climate policy measures will cause:

<sup>21</sup> Several respondents in the case studies and accompanying documentation refer to the just transition. The just transition is defined in the literature as a shift toward a low-carbon economy that includes all stakeholders and seeks to avoid reinforcing existing environmental and social inequalities (Heffron & Heffron, 2021; Wang & Lo, 2021). Originating in the 1970s labour environmentalism movement (Abram et al., 2022), the concept has expanded beyond worker concerns to include broader vulnerabilities such as energy poverty and the need for inclusive, supportive policies during the transition (Abram et al., 2022; Newell & Mulvaney, 2013; Sovacool et al., 2019; Wang & Lo, 2021; Williams & Doyon, 2019).

*“disruption in the short term and it is the Government’s duty to ensure that no one cohort of citizens, workers, communities or enterprises is disproportionately impacted by this...this involves creating new schemes which can target interventions at areas of the country that are at risk of disruption and job losses as a result of a changing economy”* (DPER, 2019, p. 3).

Recognising the regressive impacts of a carbon tax, the Irish government agreed to hypothecate revenues from the increased carbon tax rate, estimated to generate €9.5bn in additional government spending from 2021–2030 (DPER, 2022). The revenues are hypothecated towards: 1) targeted social welfare payments to mitigate regressive impacts of the tax (€3 billion from 2021–2030); 2) funding of a socially progressive national retrofitting programme (€5 billion from 2021–2030); and 3) funding programmes for farmers to improve the sustainability of farming practices (€1.5 billion from 2021–2030) (DPER, 2022). A detailed breakdown of revenue allocations is published annually as part of the government budget report. Table 4.3 illustrates the allocations as of the 2024 budget.

<b>Measures Funded</b>	<b>2024 Allocation (€ in million)</b>
Fuel Allowance	21
Energy Poverty Efficiency Upgrades	13
Aggregated Housing Upgrade Scheme <sup>22</sup>	0
Just Transition	6
Peatlands Rehabilitation	5
Greenways/ Urban Cycling	9
Providing Grants for EVs	8
EV charging infrastructure	3
ODA – Green Climate Fund	2
Green Agricultural Pilots	3
<b>Total</b>	<b>70</b>

Table 4.3: Carbon tax revenue investments 2020 – 2024 (Source: Budget 2024)

In addition to the revenue expenditures to reduce costs to households, two government respondents indicated that the Irish government delays all increases to the carbon tax on the costs of home heating over the winter months (C4–C5). The increase on transport fuels is effective from the October following publication of the government budget, while the increase on home heating fuels does not take place until the following May, after the winter heating season.

Despite measures put in place to address regressiveness, increases to the carbon tax were objected to in Oireachtas debates by government opposition parties, including Sinn Fein and the rural independent group of TDs on the grounds that the tax will negatively impact

<sup>22</sup> This was a once-off pilot scheme. On its conclusion, the funding provided for the scheme was re-prioritised.

low-income households and those living in rural areas (Oireachtas, 2022b, 2022c, 2022d). Increases to the carbon tax are particularly objected to on the grounds that the 2022 Russian invasion of Ukraine led to an unexpected spike in the cost of energy in Ireland (Oireachtas, 2022b) (C4–C5, C7, C13). However, the *2023 Budget Report on the Use of Carbon Tax Funds* acknowledged the increased risk of energy poverty in Ireland because of the 2022 Russian invasion of Ukraine and referred to findings from the ESRI that cutting indirect taxes such as the carbon tax would result in aggregate gains to the highest-income 40% of Irish households (DPER, 2023).

Meanwhile, households in the bottom five income deciles are better off as a result of the increased spending on social protection made possible by the increases to the carbon tax (DPER, 2023). As such, the ongoing debate about regressivity appears to be caused at least in part by a lack of understanding of the mechanisms of the tax, and lack of understanding of the impact of the tax on fuel poverty, compared to separate economic shocks. There are further arguments as to whether revenues allocated to support vulnerable households are as targeted and impactful as they are intended to be, but these are discussed in section 4.4 below.

Moreover, there are a few respondents who subscribed to the view that, in addition to preventing negative impacts of the tax accruing to vulnerable households, any policy aimed at a just transition should make vulnerable groups better off than they were before the transition: One NGO respondent believed that climate policy decisions should be made with the aim of achieving the United Nations Sustainable Development Goals (SDGs) (C8) while two other respondents from a think tank and a union group stated that they would like to see the just transition actively improve the lives of vulnerable groups (C15–C16). The union respondent went on to say that “you can see the green transition as a big plank to transition to something that looks a good deal more progressive, and I would say, desirable” (C16). Moreover, an NGO respondent observed that, given the scale of revenues available from the carbon tax and the way they are distributed, the goals of the tax are already intended to leave vulnerable groups better off: “if revenues were only about preventing adverse impact, it would be a relatively simpler exercise in terms of returning those revenues in some way shape or form to those who are impacted” (C8). These respondents emphasised that carbon tax revenues should not only mitigate the negative effects on vulnerable groups but also be strategically used to improve pathways to sustainable development for these groups.

However, three other respondents pointed out that if the intention of Ireland’s climate policy were to assist vulnerable groups in developing out of poverty, a carbon tax is not the most efficient or effective way to redistribute wealth. One academic respondent remarked

that “I’m just not convinced that the carbon tax can do all of that heavy lifting” (C11), while two others from academia and a think tank noted that other policy instruments are more appropriate to redistribute wealth if that is the intention of the policy (C12–C13). The think tank respondent pointed out that indirect taxes are a poor instrument to redistribute wealth, and redistribution is more effectively achieved through the income tax system (C13).

#### ***4.3.2 Consultation process for tax design***

Respondents described the decision-making process to increase Ireland’s existing carbon tax to become an emissions reductions measure and further described the consultation process for hypothecating tax revenues. Respondents discussed both positive elements of the process from a procedural justice perspective and elements where the consultation process could have been made more inclusive and accessible to certain groups.

Three respondents stated that the decision of the government to raise the carbon tax to €100/tCO<sub>2</sub> by 2030 was made in consultation with the citizens’ assembly (C5, C11–C12). One academic respondent observed that citizens’ assemblies provide the opportunity for stakeholders from a representative socioeconomic and demographic balance to participate in the decision-making process (C12). The respondent describes the citizens’ assembly as taking the role of the maximally informed observer in Ideal Observer Theory; here the population as a whole, who are not experts on the implications of climate change policy, may trust in the recommendations of a representative group who is better-informed to represent public interests (C12).

In addition to the citizens’ assembly, there was a separate consultation process to decide how revenues from the carbon tax would be hypothecated (C4–C5). As described by respondents from a government department, a public consultation was launched, inviting submission of public views on the options for the use of additional revenues raised from increases of the carbon tax (C4–C5). The willingness of the government to invite consultation on revenue use is significant, because as it is stated in the call for consultations “hypothecation is not a feature of the Irish tax system in general” (DFIN, 2019, p. 8). According to a government respondent, the consultation was conducted online and via post, resulting in 66 responses (C5). The government received submissions from individuals, NGOs, business associations, academic bodies and public sector bodies (C5). Based on the submissions received during consultation, the Department of Public Expenditure and Reform (DPER) published a policy document outlining how the additional revenues were to be hypothecated (DPER, 2019). Subsequently, each publication of the national budget includes a

section on how revenues have been allocated in the previous year and how they will be allocated in the coming year (DPER, 2020, 2021, 2022, 2023). In this way, information about revenue use under the carbon tax is transparent to the public.

In addition, a 2023 report on the drivers of energy poverty in Ireland observed that the voice of social advocacy groups is relatively robust in government consultation processes. The report states:

*“There is a well-established system of consultation between the NGO community and government departments... NGOs do get to meet ministers, with officials sitting in on their discussions. Stakeholder forums are considered to work reasonably well (e.g. CRU, Social Inclusion Forum), but there is scope for more”* (O’Connor et al., 2023, p. 24).

The report goes on to state that, while NGOs “do not feel that they are without influence”, these groups are considered comparatively more influential in other European countries such as Germany and Austria and the issues NGOs advocate for are reinforced in other European countries by stronger local authorities (O’Connor et al., 2023, p. 25). Overall, the level of NGO influence on the policy design process is considered positively, although it might be improved.

While the interview respondents described an open and consultative policy design process, several respondents have advocated for policy improvements to ensure that certain groups have more of a voice in the decision-making process, and to ensure that policies do not miss certain groups. One NGO respondent suggested that the process for allocation of revenues should include more dialogue and debate on how revenues are spent (C8). This respondent looked positively on ongoing discussions on government supports mitigating rising fuel costs which take place during the annual national economic dialogue and submissions to the national budget, but he believed the lack of more detailed consultation on the carbon tax revenue was limiting from a social welfare perspective (C8). The respondent described the advantages from a justice perspective of creating a more inclusive and dialogical process for allocating carbon tax revenues:

*“The reality is that certain parts of society are much better able and have much better capacity and resources to engage government... where revenues are spent in a particular way it’s absolutely vital to speak to those in the first instance who are most impacted and to get their testimony and input directly... ultimately so that the carbon taxation process and use of revenues can be not only as equal as possible but also as effective as possible”* (C8).

Other respondents noted that existing consultation processes related to the design and implementation of the carbon tax are restrictive for groups with lower technical acumen. One union respondent observed that, since a carbon tax is an economic instrument, there is a bias

in the consultation process to more heavily consider the comments of stakeholders who are conversant in “economic-ese” (C16), while an NGO respondent stated that carbon tax discussions are often on highly specialised issues, which presume a current level of knowledge by stakeholders (C10). Further, an academic respondent commented that it can be difficult to track how inputs from different stakeholders are considered, and that it is a common criticism of government consultation processes that they are considered a ‘box-ticking exercise’ (C11). The respondent further highlighted the importance of improving government communications about how inputs received through public consultation are taken into account (C11).

Moreover, several respondents described an imbalance of power in the consultation process related to the influence and resources available to different groups. One respondent cited the concern that business associations or lobbies for large industries have more capacity and resources to actively advocate for their interests (C8). The differences in how respondents describe their involvement in different consultation processes is enlightening in this area. Two NGO respondents described their organisations as being responsible for covering a large number of social issues with limited staffing resources (C7, C22), one commenting that:

*“For the most part we weren’t directly involved in workshops or anything like that for feedback... we would make submissions as much as we can, but we are a very small team. There’s only four of us, so we’re a little bit restricted in what we can do” (C7).*

A union respondent similarly commented that union groups collaborate with NGOs on climate policy issues rather than making their own submissions due to resourcing limitations, remarking “this morning I’ve already worked on childcare and housing policy, so you can see, God knows what I’ll be doing in the afternoon” (C9). Another NGO respondent acknowledged that while the consultation process for carbon tax revenues was “not the worst”, it can be particularly difficult for anti-poverty groups or impacted communities to be sufficiently resourced and organised in a way that makes their engagement in consultations meaningful or impactful (C8).

Based on these perceptions of the consultation process around the design of the carbon tax and expenditure of tax revenues, some of these respondents called for changes to the consultation process to make it more accessible to different groups, and for more transparency from government as to how inputs from consultation processes are included in the final policy design (C8, C10, C16). One respondent suggested a matrix be developed for

use in public consultations to make it clear how the needs of different groups have been considered in the policy design process (C10).

While respondents in the Irish case were broadly supportive of having had a consultation process for the hypothecation of revenues, some considered that constraints in the capacity and resources of NGOs and union groups limited the extent to which impacted households and workers in high-emitting sectors could meaningfully engage in carbon tax policy design.

#### ***4.3.3 Effectiveness of the tax***

The effectiveness of the Irish carbon tax has an ethical dimension because an instrument that does not meet its stated goal could be considered questionable or even unethical, and a climate policy which fails to mitigate emissions will have negative distributive impacts on groups who are more vulnerable to climate change. 43% of respondents discussed the effectiveness of the tax. One academic respondent who was definitively opposed to carbon pricing viewed the carbon tax and EU ETS as ineffective measures to reduce emissions, because emissions in Ireland have continued to rise since the implementation of both measures and because Ireland is currently projected to overshoot its carbon budget to remain below the 1.5-degree target (C14).

Meanwhile, one respondent from a business association noted that the certainty provided by the government through planned carbon tax increases has been effective in signalling businesses to invest in research and development for cleaner technologies (C2). Similarly, a union respondent observed that investment in oil refinery capacity has declined in Europe because investors no longer see oil refineries as a long-term investment given the projected tightening of the EU ETS cap (C9). Additionally, an NGO respondent had a positive view of carbon tax revenues being spent on areas like retrofitting, renovations and energy efficiency because “it does without a doubt mean less of a reliance of fossil fuels, so it definitely does mean reduced emissions” (C8).

Two respondents cited economics literature as indicating that the carbon tax and EU ETS are considered the most efficient means of reducing emissions compared to command-and-control measures (C13, C16). Another respondent from a think tank noted that empirical studies on the effectiveness of carbon pricing measures are relatively recent but are demonstrating a positive impact compared to a business-as-usual scenario (C15).

However, there was a consensus from the interviewees that a carbon tax or ETS by itself is not sufficient for reducing emissions to the 1.5-degree target. Respondents across

multiple interview groups, including business associations, NGOs and unions all advocated for more direct intervention from the government in addition to the carbon tax because Ireland is not on track to meet its emissions reduction targets (C2–C3, C9–C10, C16). According to projections by Ireland’s Environmental Protection Agency (EPA), emissions reductions policies currently implemented in Ireland (including the carbon tax) will achieve a reduction of 10% of emissions on 2005 levels by 2030 (against a target of 42%) (EPA, 2023c). Meanwhile, a projection of emissions reductions including current policies and future policies being planned by the government will result in a reduction of 30% by 2030, which is still short of the 42% target (EPA, 2023c).

Some respondents argued that the use of a carbon tax or ETS, while a helpful tool, is in some ways taking place of the more direct intervention by the government which is required to make sustainable development pathways possible (C3, C9–C10, C16). One NGO respondent argued that the carbon tax and current complementary policies which are in place do not achieve the “radical and unprecedented changes across all sectors and society” which have been called for by the Intergovernmental Panel on Climate Change (IPCC) (C10). Two union respondents described the carbon tax as reflective of the government's reluctance to take decisive public intervention or actively input into reforming the national energy infrastructure (C9, C16). One union respondent observed that direct intervention is a form of state capacity the Irish government is not used to exercising, while the other remarked that direct state intervention is not in the government’s “ideological framework, or institutional framework” (C9, C16). One union respondent further described the potential for the Irish government to more directly intervene on the supply side, observing that COVID was a “different experience for Ireland”, wherein the government was willing to directly intervene in the way society and businesses function (C16). Moreover, a respondent from a business association argued that businesses need greater clarity on the implications of different policy measures, and that the government should supply “long term horizons about how the market will work and what people are expected to do”, particularly with respect to Ireland’s involvement in the EU ETS, since it is less predictable than the carbon tax (C3).

While the respondents noted that complementary measures will be necessary to meet emissions reductions targets using a carbon price, there was not a comprehensive sense of what additional measures *would* result in a meaningful reduction in emissions in Ireland. There was rather a broad sense by respondents that the carbon tax is a necessary but not sufficient measure:

*“Insofar as the government can point to [the tax] as something it’s doing on the climate side, and therefore justify its standoffish position, it might be that it benefits the status quo. In that way it’s sort of a business-as-usual measure. But at the same time, for me at least, that’s not enough to justify its being entirely overturned or something. If it justified not doing more, then I think that could be a bit of a problem”* (C16).

In sum, respondents viewed the carbon tax and EU ETS as potentially effective measures to mitigate the impacts of climate change which should be combined with other emissions mitigation measures to better meet Ireland’s emissions reductions goals.

#### ***4.3.4 Setting the price level of the tax***

43% of respondents discussed the price level of the carbon tax or ETS as a fairness issue. Several respondents from government, unions and NGOs recalled that objections to the carbon tax in public debates generally come from Sinn Fein and the rural independent TDs, who want to reduce the rate of increase between now and 2030 to protect vulnerable households from the impacts of rising fuel costs (C4, C11, C13). Three respondents in government and academia described political debates in which groups such as environmental NGOs and the Green Party argued that the carbon tax and ETS should be higher (C4, C6, C11).

Two additional respondents from a think tank and union group concluded that for the carbon tax or ETS to be effective, prices should currently be higher than they are (C13, C16). The think tank researcher cited research from University College Cork (UCC) estimating that, to work on its own, the carbon tax level should be €500–€2000/tCO<sub>2</sub>, which implies either that the carbon tax must be much higher or that additional resources for investment into decarbonisation are needed (Balyk et al., 2022; Yue, 2019) (C13). The union respondent speculated that while the current schedule for the Irish carbon tax is to reach €100/tCO<sub>2</sub> by 2030, “for it to work on its own you would probably have to multiply that by ten” (C16). Similarly, respondents from business associations, NGOs and think tanks questioned whether most businesses or households even notice the carbon tax and ETS at their current rate (C3, C8, C13), and two cited energy cost increases from post-COVID inflation and the Ukraine conflict as being a more noticeable deterrent to fossil fuel use than the carbon tax or ETS at their current levels (C3, C13). Despite some arguments in favour of raising the carbon price, there was acknowledgement from four respondents that adhering to the current trajectory for tax increases is important for the transparency of the tax design and to give certainty to businesses making investments in new technologies and processes (C2–C3, C9, C13).

Furthermore, two respondents argued that a flat tax rate for all emitters fails to recognise the relative responsibility of different groups for GHG emissions. One union respondent observed that “emissions are very classed”, in that higher-income households are responsible for the highest proportion of GHG emissions while low-income households are most negatively impacted by market-based-measures such as a carbon tax (C16). This respondent proposed that introduction of a luxury tax on emissions would be fairer in achieving recognition of the differing levels of responsibility for GHG emissions, because:

*“There are normative arguments to say that carbon emissions associated with lighting your stove are different from you operating your private jet. One seems to me to be more justifiable than the other”* (C16).

Similarly, another union respondent was sceptical that a flat tax such as the carbon tax will reduce emissions “through the aggregation of individual action” when it is the “top 10% income earners, or top 1%, who are responsible for so much of the emissions” (C18). The respondent argued that individuals driving luxury SUVs or flying private jets would be relatively price inelastic, such that they will continue to engage in irresponsible high-emitting behaviours at a very high price, even if there are substitution goods available (C18). In this case, the respondent suggested that direct regulations such as bans on private jets and high-consumption vehicles are necessary to prevent wealthy high-emitters from engaging in “anti-environmental behaviour” (C18).

In sum, while there was some contention on the issue of whether the carbon tax rate should be higher to better meet Ireland’s emissions reduction goals or lower to protect income households, the transparency of the carbon tax trajectory was considered a positive feature of the tax. In addition, a few respondents viewed the flat tax rate as problematic in recognition of the relative levels of responsibility for GHG emissions, such that a differential tax rate or additional measures are necessary to discourage luxury emissions.

#### ***4.3.5 Equitable Sector Coverage***

35% of respondents raised the issue of equitable coverage of the carbon price between sectors. Emissions from electricity generation and transportation are covered by the carbon tax, while industrial emissions and intra-EU aviation emissions are covered by the EU ETS (World Bank, 2024). Historically, the ETS price has been much lower than the Irish carbon tax, and competitiveness measures such as grandfathering and free allowances have resulted in industries incurring little to no cost for their emissions (Kevany, 2019; Moloney, 2022). This difference in effective price level between household and industry emissions resulted in

fairness objections from the several respondents (C3, C8, C10, C15–C16). One respondent from a business association noted that, historically, the use of grandfathering and free allowances in the EU ETS “ended up with companies in a CO<sub>2</sub> market that didn’t have to pay anything. So, you’ve ended up with a pointless thing, basically,” until free allowances are phased out (C3). While this was perceived by respondents as a fairness problem, there have been recent developments in the ETS design, wherein free allowances are being phased out by 2026, resulting in a system where industries who previously were not accountable for their carbon emissions will now be made to pay a carbon price (ICAP, 2023).

However, even with the scheduled phase-out of free allowances under the EU ETS and tightening of the emissions cap, other respondents observed that differences between the ETS price and carbon tax price create distortions in the market for emitting goods and services. In particular, one union respondent referred to a report from the Department of Public Expenditure and Reform (DPER), which shows that the ETS price is consistently projected to be lower than the carbon tax price; this would effectively create a higher carbon price for household emissions than for industry emissions (Kevany, 2019) (C16). One NGO respondent objected to the lower effective carbon price for industries under the EU ETS because she argued that households (particularly poorer households) are shouldering the burden of paying the carbon tax, while high-emitting industries are not being held to the same level of accountability for their emissions as households (C10).

Similarly, an NGO respondent referred to a report by the Commission on Taxation and Welfare, which shows that the carbon tax does not reflect carbon emissions from all fuels and that its effects are often distorted by different rates of excise, duty and VAT (Moloney, 2022) (C8). The distortions in the carbon price across the Irish economy were perceived to be a fairness issue, since different producers and consumers are paying different prices for their emissions. The NGO respondent further commented that:

*“If the argument for the carbon tax and carbon pricing is to impose a uniform price on carbon so that you get the emission reduction where it is least costly, if you have a different price between areas covered by the ETS and areas covered by the carbon tax, that undermines that somewhat. I think that is an issue that isn’t really discussed enough, that there should be a stronger link between the ETS and carbon [tax] price”* (C8).

Furthermore, there are some high-emitting sectors in Ireland which are not covered by the carbon price or the EU ETS. One NGO respondent objected to the exclusion of international aviation and shipping from either the carbon tax or EU ETS on the grounds that this is unfair to those paying higher fuel prices on other goods (C10). It should be noted that

at the time of writing, EU aviation is covered by the EU ETS while the International Civil Aviation Organisation (ICAO) has developed a Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) (ICAO, 2022). However, the CORSIA scheme is currently voluntary and based on offsetting (ICAO, 2022). In the meantime, one nonprofit report cited ESRI research on the implications of an Irish aviation tax, and called for the introduction of a luxury aviation tax (O'Connor et al., 2023). The report indicates that there is scope for luxury aviation tax because Ireland “has over 6,000 movements of luxury jets a year”, but that “the government [has] cited unconvincing reasons for not doing so, such as the need for more data” (O'Connor et al., 2023, p. 22). However, even with the introduction of new policies to cover previously exempted sectors, there will continue to be distortions in the price across these different sectors because they are covered by different pricing mechanisms.

Additionally, other sectors within Ireland remain outside the remit of the carbon tax and ETS as they are covered by different policies, and these policies have not been revisited as the Irish carbon tax continues to be increased. One respondent from a think tank gave the example that a significant amount of methane emissions from Ireland comes from landfills, and that the landfill levy is administered separately from the carbon tax or ETS (C15). To make carbon price coverage more equitable across Ireland, the respondent remarked that it is worthwhile for the government to review the levies, excise taxes and regulations across different sectors to develop a carbon price across the country that is as uniform as possible (C15).

Finally, several respondents noted that in practice it is quite tricky to develop a carbon price that is fully uniform under the circumstances. On the one hand, one government respondent noted that placing any additional taxes on the sectors covered by the ETS to ensure uniformity between the carbon tax and ETS would be opposed because it would be considered a “double taxation” on industries (C4). Another respondent from a think tank described several ways in which the Irish carbon tax could be better linked to the EU ETS so that the carbon tax would mirror the ETS price, but this would eliminate the certainty that is provided by the current schedule for carbon tax increases (C15). In addition, another respondent from a business association noted that even if the carbon price was uniform across Ireland, it would not necessarily represent an equitable price across the economy due to differences in pressure points: “for example, a cement plant will find life very difficult at €100/tCO<sub>2</sub>, whereas a person selling natural gas to domestic people won't care at all” (C3). In sum, while respondents considered equitable sector coverage of a carbon price to be

significant from a fairness perspective, interview respondents acknowledged practical constraints to developing a truly equitable carbon price across all sectors in Ireland.

#### ***4.3.6 Monitoring and evaluation of impacts***

35% of interview respondents considered it important to carefully monitor the economic impacts of the carbon tax on different groups. The evaluation of the economic impacts of the carbon tax can be calculated using several measures. The Economic and Social Research Institute (ESRI) conducts reviews for the government on an ad hoc basis, looking at the economic impacts of carbon taxation across different groups, with most reports using household budget survey data (Beausang, 2009; De Bruin & Yakut, 2018; Tovar Reaños & Lynch, 2023; Tovar Reaños & Lynch, 2019). In addition, the ESRI has recently developed the Ireland Environment, Energy and Economy (I3E) model, which is able to measure the distributional impacts of different energy policies on the Irish economy (De Bruin & Yakut, 2019). Using computable general equilibrium (CGE) modelling, I3E can measure macroeconomic and microeconomic impacts, is able to simulate the impacts of specific energy policies (like the carbon tax) and is useful to determine both direct and indirect economic impacts of energy policies (De Bruin & Yakut, 2019). Regarding the sufficiency of these different types of analyses to understand the economic impacts of the carbon tax, one respondent from a think tank argued that:

*“The answer has been the same in the last thirty years, it’s been looked at umpteen times. And it comes up with the same answer. People on low incomes tend to spend more on energy. It has been monitored more than pretty well anything else in the last thirty years. We understand what the distributional implications are, and the government on budget day publish a statement of where the 30% or so of revenue is going to be used in order to insulate those on low incomes” (C13).*

In terms of what this type of analysis might be missing, another respondent from a think tank noted that the household budget data is limited in terms of the size of the demographic being examined, because if a demographic is too small, data analysed for that group cannot be considered statistically disclosive (C15). The respondent observed that demographics which are commonly included in regressiveness estimates of the carbon tax (beyond income level) include lone parents, households with a disability, and different age groups (C15). One demographic which the respondent noted to be too small to be analysed from household budget survey data are the Irish Travellers, although they are understood through advocacy channels to experience high rates of energy poverty (C15).

One NGO respondent advocated for the evaluation of carbon tax impacts to include direct consultation with individuals and stakeholders on the ground, to improve government understanding of policy problems and to give the most vulnerable a greater voice in the process (C8). In particular, the respondent argued for further consultation on the use of carbon tax revenues to ensure that they are reaching the groups they are meant to be targeting, and that the activities taking place under the revenue schemes are fit-for-purpose (C8). The respondent indicated that some activities funded under carbon tax revenue schemes are agreed to simply because they are sustainability projects, but there is a question as to how impactful the activities are and whether they actively support vulnerable groups (C8). Two respondents discussing the use of carbon tax revenues in the agricultural sector or in the Midlands voiced similar concerns that the allocation of carbon tax revenues in these areas should be done with greater consultation on the ground and should include more robust and transparent evaluations of the activities being funded (C1, C18). It was the opinion of one of these respondents that a lot of the funds being spent in the Midlands are currently wasted because they are not fit-for-purpose (C18).

While greater consultation could improve the level of impact achieved by carbon tax revenues, this idea should be put in perspective. One government respondent observed that conducting a new consultation on the expenditure of carbon tax revenues annually is impractical because the use of hypothecated carbon tax revenues has already “been set down and agreed” (C19), and many of the programmes or measures funded by the tax have been granted multi-year funding (DPER, 2019, 2020, 2021, 2022, 2023). In addition, the comments made by critics of the carbon tax revenue expenditures must also be placed in the context of the relative newness of these measures. The revenues from the carbon tax were initially hypothecated in 2019, with the intention of some programmes to begin in 2020–2021 (DPER, 2019). Given the combination of programme delays due to COVID and the fact that several years of data are needed to fully evaluate multi-year funding streams, impact reports on programmes funded by the carbon tax such as the Just Transition Fund and the ACRES programme are to be published later than intended.

As hypothecated carbon tax revenues are being measured for their impact on different stakeholder groups, respondents suggested improvements that could be made to the evaluation process and to the communication of policy impacts. Two government respondents observed that the way hypothecated funds are allocated to different government departments makes it difficult to track the impact of carbon tax allocations specifically (C19–C20). Responsibility for expenditure of allocated funds sits with each individual department

that has been allocated funding, so each department decides on its own metrics to report, and the types of metrics used are not necessarily shared between departments (C19–C20). Additionally, while government departments receive their budgets every year, the part of that budget that has been earmarked from the carbon tax revenues is not necessarily indicated, so the departments themselves might not be aware of where they are spending hypothecated revenues from the carbon tax (C19–C20). Similarly, while departments conduct performance reporting, the items they are reporting on are not necessarily tied back to the carbon tax allocations (C19–C20). One government respondent stated that “sometimes trying to disentangle the impact of a programme or a funding stream that’s contained within a larger subhead is difficult” (C19). A briefing on climate related spending in Ireland from the Parliamentary Budget Office similarly states that:

*"It is complex...to easily understand and track carbon tax expenditures over the period. In particular, as carbon tax spending will continue to grow, the new simplified structure may result in a lack of clarity as to... where this money is ultimately allocated (where more than one subhead is concerned the current structure simply states 'various' subheads are funded)"* (Parliamentary Budget Office, 2023, p. 10).

This report further states that it is not possible to know whether the measures currently funded from carbon tax revenues would be funded to a greater or lesser extent in the absence of hypothecation from the carbon tax, adding further complexity to estimations of impact (Parliamentary Budget Office, 2023). As the funding streams from hypothecated revenues are evaluated, greater clarity is needed on methods of reporting where money has been earmarked and spent, to better track the impact of allocated revenues.

Once it is easier to track which programmes and measures are being funded by the carbon tax at the department level, there is further difficulty in introducing equity measures into the performance reporting framework. A government respondent described the efforts of the Irish government to improve the use of equality metrics in government performance reporting (C19). The respondent observed that the government has been working to develop an Equality Data Strategy which can pinpoint how different subgroups in the overall population are impacted by different government services or programmes (C19). Speaking to current government capacity, the respondent stated that “it’s not that nobody is interested in it or that they don’t want to share, it’s just that data is not collected at that level, or they are unable to get that kind of subgroup breakdown” (C19). The Irish Equality Data Strategy aims to refine subgroup impact analysis, with a consultation on voluntary reporting planned for 2025 following reports from the Central Statistics Office (Oireachtas, 2024). Once more

government departments become proficient in using equality metrics, they will be better able to evaluate the impacts of government policies on specific subgroups, such as those who have been identified in this study.

#### ***4.3.7 Carbon lock-in or lack of substitution goods***

35% respondents discussed the issue of carbon lock-in or the lack of available substitution goods for home heating, transportation and energy generation for industrial processes. Respondents argued that due to a lack of available substitutes for polluting goods and services, the carbon tax and EU ETS represent a “stick with no carrot” because businesses and consumers have no way of avoiding the carbon tax or ETS (C3, C8, C16, C18). One union respondent clarified that the issue of carbon lock-in is “not an argument against carbon tax, because carbon tax works best when you have those substitution goods in place” (C9). Where substitution goods are not available, respondents described the carbon tax as a punitive measure rather than one which incentivises behavioural change (C3, C8–C9, C16, C18).

In addition, the lack of readily available substitution goods was perceived to be unfair to lower income populations because where substitution goods are available, they are primarily accessible to higher-income groups or groups living in urban areas (C7, C9–C10, C23). For a carbon tax to be considered fair, there should be “free or genuinely affordable alternatives that are actually accessible to people” (C10). In particular, the availability of sustainable transportation alternatives for rural households or households with a disability (see section 4.4) and the availability of home heating or residential electricity alternatives to low-income households or those living in homes with poor insulation (see section 4) were discussed by interviewees (C7–C11, C23).

Several respondents made suggestions as to how access to sustainable transportation alternatives could be made fairer to impacted populations. One union respondent suggested that worker reskilling and development of public transportation in conjunction with union groups would address both the issue of public transportation and the provision of secure, quality jobs for workers in high-emissions industries (C9). Meanwhile, an NGO respondent believed that if the capacity of local authorities is improved, local authorities will be better able to address the availability of public transportation (C10). In addition, a respondent from a think tank suggested that the structure of the fuel tax system could be improved to benefit those without access to viable transportation alternatives:

*“They should be taxing congestion rather than driving... because [rural households] now are facing, I would argue, too high of a tax on each mile that they drive. Whereas those in the city who do have alternatives are undertaxed because they don’t face a tax in terms of the congestion that they impose on others” (C15).*

In addition, several respondents suggested additional measures to ensure that home energy alternatives are made more readily available to vulnerable groups. Two NGO respondents described the carbon tax as a useful measure as part of Ireland’s climate policy but suggested that additional investment or subsidisation of retrofitting is necessary to make sustainable energy alternatives more accessible to low-income groups (C8, C10). Another respondent from a think tank suggested that government and local authority capacity should be improved to support the implementation of retrofits to government-owned social housing at a faster rate (C13). Finally, an NGO respondent advocated for mobile homes to be made eligible for retrofitting grants “because it is someone’s home, they do own it, they have had to pay for it, so it just seems a little bit unfair that they’re locked out of those things when there is such a reliance on solid fuels” (C7). Overall, some respondents viewed additional investment into public transportation and household retrofitting as necessary to address some households’ vulnerability to rising fuel prices under the carbon tax.

**4.4 How are the rights and interests of stakeholders considered by experts who are involved in the design and implementation of carbon pricing policies? Which stakeholder groups are discussed?**

The majority of interview respondents were concerned with the interests of low-income households who may be negatively impacted by the carbon tax, with some differentiation in focus on sub-groups of low-income households. Several respondents were also concerned with the impacts of the carbon tax or EU ETS on workers and businesses in high-emitting sectors. A few respondents discussed the interests of developing countries or future generations in the design of the carbon tax or ETS. For a breakdown of the number of respondents discussing the interests of different stakeholder groups, see Table 4.4 below:

<b>Stakeholder groups discussed by interviewees</b>	<b>Respondents discussing these groups</b>	<b>% Respondents discussing these views</b>
Low-income rural households	C1, C3, C4, C5, C8, C9, C10, C11, C15, C16, C18, C23	52%

Low-income older persons	C7, C9, C10, C15, C17 C21, C22, C23	35%
Workers in high-emitting sectors	C1, C2, C3, C9, C15, C16, C17, C18	35%
Businesses in high-emitting sectors	C1, C2, C3, C9, C16, C17, C18	30%
Low-income renters	C7, C10, C22, C23	17%
Developing Countries	C2, C12, C14, C18	17%
Low-income people with disabilities or long-term illnesses	C21, C22, C23	13%
Low-income Irish Travellers <sup>23</sup>	C7, C10, C15	13%
Women	C6, C9, C16	13%
Future Generations	C12, C13, C16	13%

Table 4.4: Stakeholder groups discussed by interviewees

#### **4.4.1 Limitations in monitoring the interests of stakeholders under a carbon tax**

In acknowledgement of the interests of low-income households who are negatively impacted by the carbon tax, the Irish government has recycled revenues back to these households; research shows that the recycling of 35% of tax revenues on social welfare measures has made Irish households in the bottom five income deciles better off than they were without the carbon tax (DPER, 2023). The targeting of tax revenues is based in part on analyses of distributive impacts conducted by the ESRI (C3–C5, C15, C19, C20) (Beausang, 2009; DPER, 2023; O’Malley et al., 2020; Tovar Reaños & Lynch, 2023; Tovar Reaños & Lynch, 2019). Using a mix of ESRI analyses and consultation submissions from academics, NGOs, business associations and concerned citizens during the policy design process, the carbon tax has been designed to recycle revenues to protect low-income households from rising energy costs and to protect rural regions and communities surrounding high-emitting sectors who are negatively impacted by the low-carbon transition (C4–C5) (DPER, 2019, 2023; Mulvey, 2020). While econometric data are helpful in identifying vulnerable groups under a carbon tax, three respondents noted its limitations. They stated that some groups are too small to be statistically disclosive, and that certain patterns of vulnerability cannot be fully captured through economic modelling or household survey data (C8, C15, C21).

<sup>23</sup> The Irish Travellers are an ethnic minority in Ireland who were formally recognised by the Irish government in March 2017. A set of distinct cultural values makes Travellers an ethnic minority, with nomadism being an important cultural factor distinguishing them from the settled population. There are an estimated 31,000 Travellers in Ireland, approximately 1% of the Irish population (*Irish Travellers*, 2022).

#### ***4.4.2 Dimensions reported to be missing from the policy design***

Evidence from interview responses and policy reports suggests that the current revenue recycling strategy fails to adequately support certain vulnerable groups at risk of energy poverty. One overarching issue with existing fuel allowances and retrofits funded under the carbon tax is that they are primarily based on financial eligibility.<sup>24</sup> This approach results in payment rates which do not account for intersecting inequalities. Several respondents argued that recycling revenues in this way creates a gap for groups on the margins of welfare eligibility, or who face additional risks of falling into energy poverty due to factors such as living in older or more poorly insulated homes, differences in lifestyle, dependency on solid fuels, or vulnerability to health issues that increase their home heating needs (Age Action Ireland, 2022; O'Connor, 2022; Society of St. Vincent de Paul, 2021; Stamp & Kearns, 2019).

In the results below, several sub-groups of low-income households have been identified which (at least one of) the interviewees have indicated as not being adequately addressed by the current design of carbon tax revenue recycling (see Table 4.4). Some of these stakeholders, such as rural households, are explicitly identified in government targeting of revenues, but some interview respondents indicated that existing revenue measures did not meet the needs of these groups. The remaining groups reviewed below do not appear in the final policy design but are discussed to various extents in the policy discourse.

The interviewees discussed below perceived the carbon tax to have a relatively small impact on businesses and workers compared to other climate policies in Ireland, such as direct regulation on high-emitting sectors, the shutdown of peat-fired energy plants and the EU ETS. Regarding the perceived effectiveness of revenue measures to support businesses and workers in high-emitting sectors such as peat-fired power generation or agriculture, this funding is provided partly through funding stream three of the carbon tax revenues as identified in Table 4.3, and partly through additional grants provided at the EU level, some of which is funded by revenues from the EU ETS (see below). However, some respondents felt that the recycled carbon tax funding provided for agriculture and communities where peat-

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<sup>24</sup> Households qualifying for the fuel allowance or for free retrofit grants must satisfy a means test, whereby the applicant and household members may have a combined assessable income of up to €200 per week or must already be receiving a qualifying social welfare payment which has already passed a means test (such as jobseeker's allowance, state pension, and widow/widower's pension) (Department of Social Protection, 2020). Households who do not qualify under the means test can apply for grants covering 50% of the retrofit costs. For households eligible for free retrofits, there was, as of 2023, an approximate backlog of 9,000 applicants, with a waiting list of 27 months, while households who cover 50% of the costs experienced much shorter waiting times (O'Connor et al., 2023; Oireachtas, 2022a).

fired power plants have been closed has not been fit-for-purpose. These issues are discussed in more detail below.

#### *4.4.2.1 Rural households*

A key issue for low-income rural households is that they are more likely to be dependent on solid fuels, which tend to be more GHG intensive than fuels used in urban households. An academic interviewee pointed out that rural households are less likely to be covered by the national gas grid, making them more likely to be dependent on oil, coal and peat for home heating and cooking (C11). Census data from 2022 shows that 68,000 households have a high dependence on peat for home heating (Central Statistics Office, 2023b). Moreover, an NGO representative noted that for low-income households dependent on oil, which requires upfront payment to top up the oil tank, the monthly fuel allowance may be insufficient to cover their required payment rate (C23).

Since the fuel allowances funded by the carbon tax revenues are based on household income rather than patterns of fuel use, two NGO officials argued that rural households are more vulnerable due to their dependence on solid fuels, which emit more GHGs per unit of energy produced than other fuels (C7, C10). As such, due to the lack of substitution goods available to rural households, these households pay more to consume energy, but do not receive a higher rate of revenues to meet the same level of energy needs (C7, C10). In addition to limited access to alternative fuel sources, people in rural areas are more likely to be living in older housing stock, or in households that were constructed without proper insulation, particularly in the Midlands and in the north-east of Ireland (Curtis et al., 2014). Because eligibility for free retrofits does not consider the issue of *discretionary* income, households who are not eligible for the free retrofits based on their income but who are still reliant on solid fuels and lack the capital to invest in partially funded retrofits are missing from retrofit grants (Sweeney & Storrie, 2022).

In addition, several respondents from NGOs, academia and think tanks agreed that rural households have limited access to both the public transportation network and to the available infrastructure for electric vehicles (i.e., charging points) (C10–C11, C15). Similarly, funding for greenways is of limited use to long-distance commuters (C10–C11, C15). One NGO official argues that the rate of development of public transportation in rural areas is insufficient to meet the rising cost of fuel prices (C10). Without further development of affordable alternative transportation options and renewable energy infrastructure for rural

areas, the carbon tax will likely exacerbate existing social inequalities between geographic areas.

#### *4.4.2.2 Older persons*

Respondents from NGOs, unions and think tanks agreed that older persons are acutely vulnerable to rising energy costs due to higher energy needs (C7,C9–C10, C15, C21) (M. Tovar Reaños & Lynch, 2019). Several studies of energy use patterns in Europe indicate that aging households increase their electricity usage due to medical needs or more time spent at home (C21) (Bardazzi & Pazienza, 2017; Belaïd et al., 2022). One NGO respondent acknowledged the recent actions of the government in increasing the Living Alone Allowance and using carbon tax revenues to expand the fuel allowance for households over 70, describing the existing fuel allowance for older persons as “quite generous” (C21) (Citizens’ Information, 2025b; Department of Social Protection, 2023; DPER, 2022, 2023). Nonetheless, the respondent contended that there are older persons who are not being reached by existing fuel allowances, or that these allowances do not meet the energy needs of some older households (C21). For instance, as of 2022 it was estimated that around 86,200 additional elderly households were at a high risk of energy poverty due to their high energy needs but did not meet the eligibility requirements for the fuel allowance (Age Action Ireland, 2022).

Although older individuals are more likely to be living in energy-inefficient homes, several barriers limit their access to retrofit grants. The process for applying for household retrofits is largely online, yet only 1 in 4 persons aged 65 to 74 in the EU have basic digital skills, and 41% of those over 75 in Ireland have never used the internet (C21) (Central Statistics Office, 2024; European Union Agency for Fundamental Rights, 2023). An NGO respondent further observed that there is a higher rate of illiteracy and innumeracy among older people, making retrofit grant applications more difficult for this group (C21) (Central Statistics Office, 2023a). Additional costs associated with retrofitting, such as the cost of movers if older individuals are physically unable to move and store furniture during the retrofitting process, are also cited as a barrier to older persons given their limited incomes (C21). Moreover, the respondent cited risk and uncertainty as an obstacle for older persons applying for partial retrofit grants. As older persons are often on a fixed income which is not renewable, many are reserving their savings for anticipated costs, such as funerals, nursing homes, homecare, or medical expenses (C21).

Many older adults face barriers to accessing fuel allowances or fully funded home retrofits, making them more vulnerable to energy poverty than other households with similar financial resources. Given their specific energy needs, it is crucial to design revenue distribution systems that account for the challenges faced by older individuals. This approach will help prevent the transition to a low-carbon economy from exacerbating existing inequalities.

#### *4.4.2.3 Workers in high-emitting sectors*

Respondents discussing workers in high-emitting sectors (such as peat-fired power generation or farming) report that workers are burdened by impacts from some forms of climate policy; however, most respondents do not report high impacts from the carbon tax (C1–C3, C9, C16–C18). Workers in high-emitting industries are currently subject to some impacts from the EU ETS, but as allowances are phased out and more businesses become liable for the emissions cap, workers may experience greater threats to their jobs due to rising fuel prices (C2–C3, C15). Although current climate policy impacts experienced by workers in Ireland are more a result of direct regulation by the government rather than carbon pricing (such as bans on peat harvesting and emissions reductions targets in agriculture), the government has recognised in the budget design for carbon tax revenues that the transition to a low-carbon economy will result in short-term disruption to certain enterprises, workers and communities, and have allocated a portion of the carbon tax budget to ensure a just transition in “areas of the country that are at risk of disruption and job losses as a result of a changing economy”, particularly job losses taking place due to reductions in peat harvesting (DPER, 2019, p. 3).

The carbon tax revenues allocated to the just transition for farmers and workers in the peat industry were initially hypothecated in 2019 and have been adjusted to 2024 as follows:

- New Aggregated Housing Upgrade Scheme, €20 million (funding reprioritised)
- Peatlands Rehabilitation, €5 million (ongoing)
- Just Transition Fund,<sup>25</sup> €6 million (ongoing)
- Green Agricultural Pilots, €3 million (funding deferred towards Common Agricultural Policy)
- Common Agricultural Policy, €81 million (ongoing, includes funding additional to carbon tax revenues) (DPER, 2024; Parliamentary Budget Office, 2018)

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<sup>25</sup> To note, there is also a European Just Transition Fund which Ireland has provided matching funds for, resulting in €169 million earmarked for the just transition in Ireland. The national Just Transition Fund discussed in this chapter and the European Just Transition fund are two separate funding mechanisms.

Three union respondents provided feedback on hypothecated revenues to support workers in transition and are sceptical of its benefits (C9, C16, C18). One respondent argued that “the government will put in programmes that seem substantial on a surface reading but really are not. Basically, they just look to the market to correct itself” (C9). Another respondent contended that “a lot of money is being dumped into a small region, and we know it’s not efficient or effective. A lot is wasted” (C18).

These respondents argued that the funding is not resulting in high-quality, skilled job replacement, but that it is disproportionately being directed towards hospitality, tourism and heritage work which is low-skilled, low paying and seasonal (C9, C16, C18). To facilitate a just transition, one respondent argued that funds need to be directed towards social welfare payments to ensure close to 100% income replacement of workers in high-emissions industries until high-quality jobs can be created in the region (C9). He further contends that local authorities should be supported and empowered to create hubs of activities in the Midlands under a coordinated regional strategy (C9). Existing carbon tax revenues which have been allocated to the Midlands were described as insufficient and spread too thinly to help the region in practical terms. One respondent noted that once the funding is spread out over years to a very large region where “over 40–50% of people still live in rural areas in Ireland,” the impact of funding provided is greatly reduced (C9).

Another union respondent provided feedback specifically on activities funded under the national Just Transition Fund and argued that the money is not fit-for-purpose (C18). This union respondent described the money as being provided in grants that are more appropriate for NGOs or groups experienced in grant writing rather than for the more comprehensive economic shifts which are needed in effected regions (C18). The respondent comments, “I would love to see an evaluation of that project because it could not have had a meaningful impact for the region” (C18). A further union respondent similarly described worker reskilling projects as “more of a tick-box exercise” and as more beneficial for consultants hired to conduct the reskilling workshops than for workers in the Midlands (C9).

In addition, two interviews were conducted with respondents with expertise on the agricultural transition in Ireland, one from a business association and the other from an NGO (C1, C17). The two respondents discussed tax revenues which have been allocated to protect agricultural regions as part of the just transition. One respondent described grants funded for agricultural projects and contended that they are not generally accessible to farmers (C17). He gives the example of some grants which were geared towards projects resulting in published research rather than towards investments in sustainable farming practice (C17).

Another respondent describes the Agri-Climate Rural Environment Scheme (ACRES) funded by the carbon tax as being inappropriate for many farmers, because he argues that many measures available under the ACRES scheme are more suitable for smaller-scale or less-intensive farmers (C1).

In sum, while many of the impacts of the energy transition on workers in high-emitting sectors are not reported to be directly connected to carbon pricing, the recycled revenues from the carbon tax are not reported to be effective or fit-for-purpose in supporting workers.

#### *4.4.2.4 Businesses in high-emitting sectors*

Two respondents described businesses as broadly supportive of carbon prices, recognising the need to shift to sustainable energy (C2–C3). One respondent noted that the structure of carbon tax increases is a positive feature of the tax, because it gives businesses certainty as to the market signal and allows them to plan investments and shifts in their business practices (C3). However, businesses do have several concerns about the tax and ETS, including competitiveness and leakage concerns, the lack of sustainable, affordable energy alternatives and the level of government investment into sustainable business infrastructure.

Competitiveness and leakage were cited as a concern by three interviewees from business associations (C1–C3). One respondent further remarked that while the EU has seen a significant reduction in emissions regionally, it is suspected that much of this reduction is driven by a shift in manufacturing to developing countries (C2). Another respondent has similarly stated that because of emission reductions from the carbon prices and other measures in the agricultural sector “we [farmers] are going to be best in class within the country, but we’re effectively exporting our problem, to be honest with you” (C1).

Two respondents remarked that in response to competitiveness concerns, emissions allowances under the ETS have historically been allocated for free (C2–C3). In phases one and two of the ETS, 90% or more of emissions allowances were allocated for free (European Commission, 2020), which one business respondent described as “pointless” (C3). Recently, however, the EU has adopted reforms to the ETS, including the gradual phase-out of free allowances from 2026 to 2034, in conjunction with the introduction of a carbon border adjustment mechanism (CBAM) (ICAP, 2023). Beginning in 2026, importers from uncovered jurisdictions in sectors covered by the ETS (cement, aluminium, fertilisers, electricity, hydrogen, iron and steel) will be required to purchase CBAM certificates which

place an equivalent cost on the imported products (ICAP, 2023). It is expected that introduction of these measures will mitigate competitiveness and leakage concerns for Irish businesses.

In addition to competitiveness and leakage objections, businesses are concerned about the lack of available substitutes for fossil fuel energy and the uncertainty they face in investing in sustainable alternatives. Two business respondents observed that many businesses have limited options for alternatives to fossil fuels to run their businesses (C2–C3). For instance, one respondent reported that he receives “a good bit” of negative feedback from businesses about increased costs, with some businesses reporting to be under “immense pressure” to keep up with rising costs (C2). Some businesses view the carbon price as merely punitive or just another cost of doing business, due to a lack of available or affordable energy alternatives (C2–C3). One of the issues described in adopting sustainable technologies is the high cost of investing in sustainable technologies, which must be paid in addition to the carbon price (C2–C3). A business respondent described that for a sector like steel or cement

*“to make the investments to reduce their emissions, they would need a carbon price of €100-€150 per tonne of CO<sub>2</sub>. But by the point that they are halfway to paying that price, they will be out of business”* (C3).

As a result of limited availability of substitution goods, respondents from business associations called for greater supports from the government to help meet the cost of developing and implementing sustainable energy infrastructure. As one respondent argued, individual businesses did not build the nation’s electricity grid, so it is unrealistic to suppose that businesses can develop a new energy infrastructure without more direct government supports (C3). Two respondents from business associations called for increased decision-making and guidance from the government to help de-risk investments into energy alternatives (C2–C3). One respondent described transport fleets facing choices between electric and hydrogen vehicles and the proliferation of experimental energy options for businesses (i.e., decarbonised or renewable gas, compressed natural gas, or bio-LPG) (C2). The respondent noted that reluctance to commit to the wrong technology option is a factor impacting businesses’ adoption of sustainable energy (C2). Another respondent similarly noted that his business association has been “very strong in our advocacy for increased support, guidance and help to businesses” (C3).

Finally, some businesses are objecting to the fact that, while they are paying the cost of the carbon tax and the EU ETS, much of the revenues from these measures are not being reinvested into businesses. As the discussion of carbon tax revenues above demonstrates,

most of the revenues from the carbon tax are being allocated to social welfare measures and to workers in high-emitting sectors. The revenues from the ETS, which primarily impacts businesses, are also not recycled to invest in sustainable alternatives for businesses (C3). First of all, the process for allocating revenues from the EU ETS has not been subject to a public consultation as has the process for allocating revenues from the carbon tax; there is a directive from the EU that 50% of ETS revenues should be spent on climate-and-energy-related purposes, and under the new Fit-for-55 package, 100% of revenues should be spent on climate-and-energy-related purposes (European Union, 2023c). The funding from Ireland's ETS revenues is allocated by its Department of Environment, Conservation and Communications (DECC). According to three reports filed with the European Union on the expenditure of Ireland's ETS revenues dated 2021–2023, 75% of the revenues were spent on a school bus scheme<sup>26</sup> and associated administrative costs, with the remaining 25% given to developing countries for their own climate change activities (European Union, 2023a). The funding for the school bus fleet reduces the need for private cars in school transportation and contributes to the need for more school buses in rural areas within the 3.2km limit of transportation coverage (Ní Aodha, 2022a, 2022b). The aviation sector in particular has criticised this use of revenues, citing the need for ETS expenditures to be paid back to businesses to invest in decarbonisation (Ní Aodha, 2022a, 2022b). Given the way revenues from the two carbon prices are distributed, some businesses feel that they are not being effectively supported in the just transition.

Although businesses are not significantly compensated from the carbon tax or national ETS revenues, this objection should be put into perspective. There are a number of government supports from both Ireland and the EU which help businesses shift to sustainable energy. The revenues from 450 million ETS allowances (to be expanded to 530 million under the Fit-for-55 package) are invested in the EU's Innovation Fund, which invests in low-carbon technologies intended to help businesses make the transition (European Union, 2023b). Interview respondents gave several examples of supports which are currently available to Irish businesses (C3–C4, C17). For instance, the EU's Recovery and Resilience Facility provides funding to a Green Transition Fund for Irish businesses which includes The Climate Planning Fund for Business and The Enterprise Emissions Reduction Investment Fund (Enterprise Ireland, 2022, 2023). Further funding for businesses is provided by the Sustainable Energy Authority Ireland (SEAI), including the Support Scheme for Renewable

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<sup>26</sup> The school transport scheme provides public transport for the needs of almost 120,000 students in Ireland, including 16,000 students with special education needs.

Heat and the Exceed Programme (SEAI, 2023). However, one respondent argued that despite the funding currently in place, some investments remain too expensive for many businesses, leading some business associations to call for scaling up of supports under the Irish budget, particularly for the cost of renewable heat pumps (Ibec, 2022, 2023) (C3).

In sum, while the revenues from the carbon tax and some of the revenues from the EU ETS are not being reinvested back to businesses, other climate finance options are available at the national and EU level. The other main issue for businesses which does not seem to have been addressed by government policy is the need for greater government involvement and guidance to de-risk investments in renewable energy infrastructure.

#### *4.4.2.5 Renters*

Low-income renters are particularly vulnerable to rising energy costs and lack the agency to choose more sustainable energy options. The Central Statistics Office calculates that the at-risk-of-poverty rate is highest for households who are renting, and higher for households currently receiving housing assistance payments (HAP) (Central Statistics Office, 2022). To compound the risks of energy poverty, over half of privately rented households in Ireland have a low energy efficiency rating (building energy rating of D or lower) (Irish Green Building Council & SEAI, 2019). One NGO respondent described the experience of low-income renters, many of whom can only afford lower-quality homes with poorly sealed windows and doors, low-quality storage heaters, or malfunctioning boilers, all of which lead to higher heating costs (C23). While low-income renters who qualify for the means test do receive the fuel allowance, this allowance does not account for the energy efficiency or energy needs of the household, meaning that the payments are unlikely to meet these households' energy requirements. The respondent also observed that fuel allowances do not take into consideration the purchasing power of households receiving both the HAP and the fuel allowance (C23). According to a 2019 survey, 48% of households receiving the HAP paid additional "top-ups" directly to their landlord—an informal agreement where tenants pay extra money to landlords when the HAP does not cover the full rent, or when the rent has been raised beyond the HAP level (Society of St. Vincent de Paul & Threshold, 2021). The survey further showed that, for those willing to disclose the amount of their top-ups, 20% of respondents paid more than 30% of their net income on rent and 10% spent over 40% of their net income on rent (Society of St. Vincent de Paul & Threshold, 2021). The respondent concluded that for some households receiving both the HAP and the fuel allowance, these

payments do not reflect the actual purchasing power of households paying top-ups, leaving them unable to pay or experiencing financial difficulty in paying their energy bills (C23).

Even as low-income renters face the double-burden of lower incomes and higher energy costs for heating their homes, two NGO respondents raised the issue of split incentives between renters and landlords on the issue of retrofitting (C10, C23) (O'Connor, 2022; O'Connor et al., 2023; Society of St. Vincent de Paul, 2021; Society of St. Vincent de Paul & Threshold, 2021). The problem of split incentives arises when costs of heating an inefficient home accrue to renters, while retrofits must be undertaken by landlords who have little incentive to pay for retrofits (C10) (O'Connor, 2022; O'Connor et al., 2023). An NGO respondent described low-income renters as lacking the financial means to make even minor adjustments or updates to appliances in rented accommodation, or the security of tenure to be willing to invest in updates (C23). In addition, tenants may be reluctant to raise issues such as renovations, efficiency updates or repairs with landlords due to the precarity of their tenancy and the limited availability of alternative housing options (C23). In cases where landlords are willing to retrofit rented accommodation, some tenants are subject to 'renovictions', where improvements lead to prohibitive increases in rental prices (C23) (Society of St. Vincent de Paul & Threshold, 2021). As retrofits and energy efficiency improvements become more widespread, there is a risk of gentrification, forcing low-income households into a smaller pool of affordable properties with lower energy efficiency ratings (Bouzarovski et al., 2018). Moreover, an NGO respondent stated that even when landlords are willing to undertake retrofits in consultation with the tenant, in some cases the tenant cannot afford to vacate the property while deep retrofits take place (C23).

Further, because low-income renters lack the agency to shift to more sustainable energy alternatives, they will remain dependent on fuel allowances and social welfare payments (Curtis et al., 2014; Lawlor & Visser, 2022). This dependency poses two problems. Firstly, since provision of fuel allowances does not differentiate for the energy efficiency of the household, renters living in energy inefficient households are receiving the same rate of payment as low-income households with lower electricity costs, and may be at a higher risk of energy poverty. Secondly, continuing to make welfare payments to offset rising energy costs resolves the immediate problem of regressiveness but does not achieve the policy goal of shifting households to more sustainable energy usage, leaving some households perpetually dependent on welfare payments for energy (Society of St. Vincent de Paul, 2021). One NGO respondent argued that government plans to update private and council rental

accommodation are not comprehensive enough and lack sufficient funding to bring Ireland's rental stock to an adequate level of energy efficiency (C23). To achieve a just transition, respondents asserted that the state should provide households with equitable access to sustainable energy alternatives, which goes beyond merely mitigating the rise in fossil-fuel energy costs (C10, C23).

#### *4.4.2.6 Developing countries*

Four respondents discussed the implications of the carbon tax and EU ETS on the welfare of developing countries. One academic respondent speculated that Ireland, as a country with a temperate climate, may not be the primary beneficiary of its own carbon tax policy (C12). The respondent suggested that countries at the greatest risk of losses and damages from climactic impacts, such as small island developing countries, would be beneficiaries of the Irish carbon tax or ETS because the policy reduces global emissions (C12). Meanwhile, another academic respondent argued that the current price level of the carbon tax and current level of ambition of Ireland's complementary policies represents an injustice to developing countries (C14). This respondent argues that the price level and trajectory of the Irish carbon tax does not leave enough remaining of the global carbon budget to be fair to developing countries, who have historically used fewer emissions (C14).

Two other respondents raised the issue that the Irish carbon tax and EU ETS may not be resulting in a reduction in global GHG emissions, but rather pushing responsibility for these emissions to other countries who continue to produce high-emissions products (C2, C18). A union respondent similarly asserted that as the cost of doing business rises in Ireland because of the carbon tax, the market will respond by importing cheaper goods from countries with less robust climate legislation, "so we're exporting our climate problem" (C18). However, the EU has recently agreed to implement the CBAM, which is intended to mitigate the leakage of carbon emissions between countries and, in theory, prevent emissions reduced in Europe from being shifted to other countries (ICAP, 2023).

In addition, developing countries may potentially be impacted by Ireland's use of its carbon tax and ETS revenues. A portion of revenues from the carbon tax have been paid as Official Development Assistance (ODA) to developing countries since 2020, with €2 million having been allocated as part of the 2023 budget for carbon tax revenues (DPER, 2023). These revenues are allocated through the Green Climate Fund to ensure that the ODA spending is earmarked for climate finance (DPER, 2023). In addition, roughly 25% of

Ireland's revenues from the EU ETS have been allocated as ODA from 2020–2022 (European Union, 2023a). As such, while developing countries may be pressured to reduce their own emissions under the EU CBAM, they are also being supported by some climate finance from Ireland's carbon tax and ETS revenues.

#### *4.4.2.7 People with disabilities or long-term illnesses*

People with disabilities or long-term illnesses are more likely to incur higher heating costs due to their medical conditions and the fact that they spend more time at home because of mobility difficulties (C21, C23) (Curtis et al., 2014; Society of St. Vincent de Paul, 2023). Ivanova & Middlemiss (2021) estimated in 2021 that, in Europe, 24% of disabled households were in energy poverty, and 17% were at risk of energy poverty compared to 16% and 12% rates for economically inactive households without a disability. This discrepancy arises from the needs for higher household temperatures or the use of electricity-powered medical devices (Ivanova & Middlemiss, 2021). In Ireland, however, it has been estimated that only approximately 50% of individuals eligible for a disability allowance are also receiving the fuel allowance, despite many of the remaining 50% having lower incomes and spending at least 10% more on energy costs, putting them at greater risk for energy poverty (C22) (Indecon, 2021; Society of St. Vincent de Paul, 2022). In addition, an NGO respondent highlighted barriers for households with a disability in accessing retrofit grants. For those eligible for free retrofits, it is often difficult or expensive to vacate the premises for a deep retrofit if the occupier requires a fully accessible housing alternative (C22). The respondent also describes instances where retrofits have occurred without consulting the occupier and without considering universal design (C22). Without proper consideration for universal design, a reduction in turning space for individuals in wheelchairs can create new challenges for the person(s) living in the house (C22).

Further, investments in renewable transportation, such as greenways and EV infrastructure, may be of limited use to disabled persons. Households with a disability are more likely to rely on private transportation, as some are unable to use public transport (C22). In many cases, greenways are not a viable alternative for people with physical disabilities (C22). Advocacy groups have also raised concerns about the suitability of EV charging points in Ireland for disabled persons. Even when space to fit a wheelchair is provided, other factors, such as lack of cover from the elements, the weight of the charger, and height of the screen and the payment touchpad can create accessibility barriers (Hoare, 2021).

In conclusion, while some disabled persons do not qualify for fuel allowances or have access to fully funded retrofits, their energy needs put them at a higher risk of energy poverty compared to households of similar means who are not disabled.

#### 4.4.2.8 The Irish Travellers

Travellers are both more likely to be living in energy poverty and more likely to be dependent on solid fuels due to their propensity to live in mobile homes (C7, C10) (Ehimen et al., 2022). Nonetheless, a think tank official stated that ESRI analyses of impacts of the carbon tax are unlikely to include Traveller households because they are too small a sample size to measure with statistical precision (C15). While Travellers' vulnerability to energy poverty and unique style of living have been reported to policymakers through advocacy channels (C7), existing government policy documents on the use of carbon tax revenues make no mention of the unique situation of Travellers (DPER, 2021, 2022, 2023), and the way in which revenues are distributed have, *de facto*, largely excluded the Traveller community.

Neither free retrofits nor partial grants for retrofits are extended to mobile homes (C7). In addition, most mobile homes available for purchase in Ireland do not meet residential standards of appropriate insulation for year-round living (Stamp & Kearns, 2019). An NGO respondent asserted that due to energy cost increases, individuals and families residing in mobile homes often struggle to meet these costs and have no way to avoid rising costs, since their homes do not hold heat, and they do not have access to available retrofitting supports (C7). While it is possible to acquire residential standard mobile homes, install insulation into mobile homes below a residential standard or install solar panels at halting sites, these activities were not subsidised or funded by the government as of 2023 when this interview took place (C7) (Ehimen et al., 2022).

Moreover, Travellers' difficulty in communicating with the local and national government has caused them to be excluded from energy credits (C7). In the case of electricity credits provided to households, these are distributed to a unique meter point reference number (MPRN).<sup>27</sup> Culturally, many members of the Traveller community reside in group accommodation on halting sites throughout Ireland (C7).<sup>28</sup> Each halting bay has its

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<sup>27</sup> The provision of electricity credits is not directly funded by carbon tax revenues, but is a budget measure from the Irish government to address rising energy prices, which may be a result of a diversity of factors including the increasing carbon tax rate (Citizens Information, 2023).

<sup>28</sup> A halting site is a residential area which has been designated by a local authority on which members of the Traveller community can park mobile homes. These sites allow Travellers to express the values of their cultural identity, including the practice of residing together with large extended families and the practice of residing without permanent accommodation.

own unique MPRN number, but commonly multiple families are using the same halting bay, either to maintain family ties or because some family members cannot afford to rent a separate halting bay (C7). Since electricity credits are provided at a fixed rate per household, multiple families living in the same halting bay may be splitting an energy bill which reflects the cost of electricity for multiple households, even though the credits available only reflect credits entitled to one household (C7).

An NGO official described how her organisation raised this issue with the office of the Minister for Environment, Climate and Communications, who referred their organisation to the Residential Tenancy Board, who do not have remit over Traveller issues and referred them to the local authorities, who referred them to the Sustainable Energy Authority (SEAI) (C7). As the respondent says:

*“You were kind of going from pillar to post and no one wanted to deal with the problem. It was kind of like ‘Oh god, people don’t live in houses and have an ESB bill’, like it was brand new information to them. The Government has been aware, it’s not a new phenomenon”* (C7).

While NGOs are in conversations with government departments to determine how to better reach Travellers who have been excluded from electricity credits or retrofit grants, no firm policy has yet materialised, and as of 2023 when these interviews took place, some households on halting sites still had not received their electricity credits. Ensuring that Travellers have access to sustainable resources during the transition will likely require more consideration for their cultural living practices.

#### 4.4.2.9 Women

A limited amount of data was available in this study on the gendered impacts of carbon pricing in Ireland, with one officer of a government body noting that there is not a lot of research on women or gendered issues in climate policy in Ireland (C6). Two union respondents were able to speculate on the gendered impacts of the carbon tax or other climate policies on workers in high emissions industries (C9, C16). They described high-emissions industries in Ireland such as peat production to be male-dominated (C9, C16). One noted that insofar as there are policies to support worker reskilling in these areas, it would largely benefit male workers (C16). According to one union respondent, whether worker reskilling initiatives should aspire to bring women into greener industry initiatives:

*“Might feed into that broader point of what you see transition as. Is it a vehicle towards greater equity or is it about distributional impacts here and there and targeted*

*payments towards those who lose out in the dispensation of things and trying to do business as usual?” (C16).*

The other union respondent speculating on gendered impacts for workers noted that because high-emissions industries tend to be male dominated, men would be more likely to experience short term impacts, such as job losses, while women would be impacted as “collateral damage” in the medium-term (C9). Women would be impacted either when whole communities dependent on a stationary plant suffer from the loss of income, or when layoffs from high-emitting industries result in higher competition for jobs in sectors like hospitality, which tends to be female dominated (C9).

As a whole, the interview responses above suggest that 1) there is not enough gender disaggregated data on the impacts of the carbon tax to determine all the ways in which low-income men and women are differently impacted by the carbon tax and 2) where there is some data on gendered impacts of the low-carbon transition in communities largely employed in peat-fired plants, men are more likely to be negatively impacted in the short term, while whether or not women should be incorporated into labour reskilling programmes is an matter of debate.

#### *4.4.2.10 Future generations*

Three respondents discussed the implications of carbon pricing for future generations. Two respondents noted that the primary beneficiary of the carbon tax or ETS is or should be future generations (C12–C13). One respondent remarked that a main reason for implementing a carbon tax is out of concern for climate impacts on future generations rather than for concerns for present generations (C12). Three respondents from academia, a think tank and a union observed that in order for the carbon tax to be considered fair to future generations, it should be higher, since the present price level supports postponing responsibility for reducing emissions by imposing a higher price in the future (C12–C13, C16).

## **4.5 Discussion**

### ***4.5.1 Intersectional and non-income targeting of carbon tax revenues for households***

The study above indicates that the Irish government has made efforts to design a socially progressive carbon tax policy, as ESRI research shows that the recycling of 35% of tax revenues on social welfare measures has made Irish households in the bottom five income deciles better off than they were without the carbon tax (DPER, 2023). Further, the policy has

accounted for non-income elements of disadvantage to some extent, as policy documents acknowledge differences between urban and rural areas, and reports commissioned by the government on the impacts of the carbon tax have observed that single-parent households and older persons are vulnerable to regressive impacts. However, there are groups that this study identifies as at risk of energy poverty who are missing from either projections on carbon tax impacts or the policy plans for revenue use.

For instance, the differences in lifestyle and patterns of energy use for women, renters, Travellers and people with disabilities or long-term illnesses as compared to low-income households who are not from these groups are not discussed in the policy documents on the tax design or shown in econometric models of the carbon tax impacts; however, their unique differences are understood by some advocacy groups who state that policymakers have been made aware of these issues (C7–C8, C21–C23). NGOs have advocated for policies that benefit these groups. Nonetheless, economic projections on carbon tax impacts or in the final design of the carbon tax do not recognise some groups. While these groups may receive support through the low-income targeted fuel allowances, the *de facto* exclusion of some households from retrofit grants and the inadequacy of fuel allowances in addressing their specific energy needs and dependence on solid fuels means that the supports fall short of compensating for the added burden of increasing fuel prices, thereby exacerbating their income precarity.

Finally, for the vulnerable groups who are recognised in the policy documents, such as rural households and older persons, the question that arises is, whether the carbon tax revenues benefit them? Overall, low-income households are better off due to revenue recycling, however, there is a sense from some respondents that programmes being funded are not sufficient for certain groups. That home heating costs are addressed through electricity credits based on household meters and that lowering of home energy costs is being done through retrofitting programmes does suggest that many revenues are being targeted towards homeowners-in-residence. This gives some merit to the criticism that current retrofit plans and energy credits are not best suited to those in energy poverty or at risk of energy poverty. In addition, while a fuel allowance is helpful to mitigate regressiveness under the carbon tax, it falls short of incentivising the energy transition because many households who remain dependent on the fuel allowance still do not have access to or cannot afford sustainable energy alternatives.

#### ***4.5.2 The Irish carbon tax and recognition for developing countries***

The views of several respondents on the Irish carbon tax with respect to developing countries have been described above, as has Ireland's earmarking of both carbon tax and ETS funds for climate finance in developing countries. While respondents have commented on whether the Irish carbon tax is high enough to sufficiently benefit developing countries, none have commented on how climate finance is being allocated.

€2 million has been allocated from the carbon tax budget for developing countries from 2019 – 2023. This revenue is earmarked as “ODA – Green Climate Fund” in the budget (DPER, 2019, 2020, 2021, 2022, 2023). Two things about this bear further scrutiny. Firstly, the Green Climate Fund has come under criticism from developing and least-developed countries for making it difficult to access finance for those who need it most and for being an institution that is largely reflective of the same power imbalances that occur on the international stage (Bertilsson & Thörn, 2021; Bracking, 2015). While the Green Climate Fund has been reforming over the years and offering “readiness” financing to help countries access funding, questions remain as to whether climate finance can be equitably accessed under the fund and whether there are more equitable ways to allocate climate finance for developing countries (Bertilsson & Thörn, 2021).

Secondly, the funding provided under the carbon tax is marked as Official Development Assistance (ODA) funding. The United Nations has given a target for developed countries to commit 0.7% of their Gross National Income (GNI) to ODA funding (OECD, 2022b), against which Ireland currently commits 0.64% (Irish Aid, 2023). The funding allocated from the carbon tax and ETS revenues is beneficial for developing countries insofar as money is being allocated for climate finance in these countries. However, these revenues are not additional to Ireland's existing ODA obligations; it is more likely they make up part of the existing ODA budgets but have been earmarked from the carbon tax instead of the general budget. This is significant because whether climate finance should be a separate and additional commitment to ODA is a contentious issue (Overseas Development Institute, 2010). As the need for climate finance in developing countries increases, using funds from the UN's 0.7% funding target to meet these needs diverts funding from other critical development aid issues like global health or education (Overseas Development Institute, 2010). Some countries have been criticised for allocating climate finance in this way, as it is considered a “recycling” of existing aid funds (Overseas Development Institute, 2010). Further to this point, developing countries have been advocating for greater climate

finance from developed countries in the form of a “loss and damage fund”; this is important because loss and damage funding acknowledges that developed countries have caused harm to developing countries through their historical emissions and are compensating them with money needed to fix climate change damages rather than engaging in an act of charity (Kuhl et al., 2023; UNEP, 2022; Volcovici, 2023). Climate finance for developing countries, where it comes from and how it is dispersed remains a matter of contention on the international stage. Within this context, Ireland must consider the extent to which its use of carbon tax and ETS revenues as ODA represents a genuine commitment to recognition justice for developing countries.

That the revenues from the Irish carbon tax would cater primarily to Irish stakeholders and that the EU ETS revenues would cater primarily to EU stakeholders is a normal outcome of the political process. However, if one pursues justice for developing countries who have historically been marginalised and are now being denied the opportunity to develop along the same trajectory as developed countries, then the current level of climate finance provided from carbon pricing instruments and complementary policies falls short of meeting the needs of developing countries.

In addition, questions remain regarding the extent to which Ireland, given its relatively small emissions profile compared to larger developed countries, bears a moral obligation to provide climate finance to developing nations. Scholars such as Page (2008) and Shue (2014) argue that climate justice obligations cannot be assessed solely on the basis of historical and current emissions, but must also consider states’ capacity to assist or the extent to which they benefit from climate change. Even using these parameters, it is difficult to assess precisely what Ireland’s obligations may be, given it is a relatively smaller developed country with fewer resources than other wealthier developed countries. In addition, if Ireland were to increase its level of climate finance there is a question of which developing countries should receive it. Existing scholarship offers possibilities to improve the current climate finance regime through assessment frameworks, legislation or norm changes which increase accountability for countries providing climate finance and which better target the funding towards vulnerable countries and communities (Pauw et al., 2022; Schalatek, 2012; Vanderheiden, 2015; Weikmans & Roberts, 2019). As obligations under the international climate finance regime continue to be defined, Ireland has the capacity to improve its provision of climate finance, but the extent to which it should increase its pledges and which countries the money should go to remains unclear.

#### ***4.5.3 The EU ETS and perceptions of fairness in Ireland***

As noted above, some respondents have criticised market distortions between the EU ETS price (which is often lower than the carbon tax price) and the carbon tax, which create an effectively higher carbon price for households than for businesses. In this way, the EU ETS compromises the perceived fairness of Ireland's carbon pricing regime overall because businesses and households pay a different price.

In addition, the current revenues from the EU ETS are allocated in adherence to the EU directive that revenues should go towards climate-related spending, but there has been no consultation or discussion at the national level on how ETS revenues should be spent. This will become a more serious issue as free allowances are phased out of the ETS regime in 2026 and Ireland's budget from ETS revenues becomes larger (ICAP, 2023). The current design of the EU ETS is problematic from a national procedural justice perspective because it was developed with less public input than the carbon tax and the revenues are being spent without public consultation. Comparatively, the carbon tax is fairer because the level of price increase is more transparent and also because the Irish public has more input on how revenues are being spent.

The problem of perceptions of fairness in Ireland under the ETS will become even more relevant with the introduction of the proposed 'ETS II' which is meant to be introduced in 2027 and to cover emissions from transport and buildings (European Commission, 2023d). Ireland currently has a derogation from the ETS II until 2030 as long as the carbon tax remains higher than the ETS price (DFIN, 2023). Decisions have not been made beyond 2030, but it is possible, even probable, that the ETS II will replace the carbon tax. I argue that this is problematic for several reasons. Firstly, the level of carbon tax increases in Ireland are currently held favourably because 1) the price level is completely transparent from now until 2030 and 2) the rate of increase was suggested as part of the citizens' assembly. The ETS II would be less transparent than the Irish carbon tax and would not have the procedural legitimacy endowed by a representative public consultation process. Secondly, the public consultation on the use of the carbon tax revenues and ongoing submissions to the National Economic Dialogue on how revenues should be spent to support businesses and households gives procedural legitimacy to the tax, ensures revenue expenditures reflect Irish public interests, and contributes to public acceptance of the tax (Muth, 2024). There is no guarantee that this would be the case with the ETS II revenues, particularly considering that the EU has its own directives on how ETS revenues should be spent (i.e. that they be focussed on climate

spending when it might be more contextually appropriate to spend them on social welfare measures).

One could argue that Ireland joining ETS II would reduce market distortions on the price of emissions between businesses in households (assuming the separate but parallel ETS II is designed to keep the prices aligned), making the ETS and ETS II fairer than the Ireland's current tax and ETS regime. However, I would argue that a national carbon tax that covers all the same sectors as the ETS and ETS II at an equivalent or higher price than the ETS would result in higher perceived fairness and public acceptance in Ireland. Although criticisms can be made that certain aspects of the carbon tax are unfair, it certainly reflects the interests of Irish stakeholders with greater legitimacy than would the ETS. It is difficult to imagine how the differing priorities and interests of Irish stakeholders as outlined above would be better reflected in a policy addressing the EU, which represents a larger region of heterogeneous and competing interests.

#### ***4.5.4 Carbon pricing as a 'cornerstone' of Irish emissions policy***

The interview respondents in favour of the carbon tax consistently view the tax as one of a mix of policies the government should be implementing to meet its emissions abatement goals. The tax is not viewed by the respondents with supremacy compared to other climate policy measures, nor is it described this way in the government policy documents.

Meanwhile, the landing page for the EU ETS on the European Commission's website describes the ETS as "a cornerstone of the EU's policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively". (European Commission, 2022).

As noted in the systematic literature review, the idea of a carbon price as a country's only or primary emissions reduction policy is considered by some to be outdated in the climate policy debate. Some authors argue that a carbon price is more effective as part of a package of multiple policies which are each effective in their own way (Green & Denniss, 2018; Huwe & Frick, 2022; Kaswan, 2009; Klinsky, 2015; Stern, 2022).

The results of the above case study give credence to the scepticism that a carbon price, be it tax or ETS, can do enough of the heavy lifting to be considered a cornerstone policy on emissions abatement or climate justice. While respondents above were optimistic about the effectiveness of the carbon tax and ETS, they emphasised the need to implement a carbon price in combination with a package of other policies. These respondents had no definitive vision of what that policy package would look like, but some research has been done on effective climate policy mixes which I will now draw upon:

Grubb (2014) has developed a framework of three pillars necessary to achieve deep decarbonisation and argued that equal emphasis must be placed on each pillar. The three pillars of this framework are energy efficiency (including information-based tools, regulatory standards and financial incentives like preferential loans and subsidies), market prices (carbon tax or cap-and-trade) and strategic investment in innovation and infrastructure (including public and private intervention and investment) (Grubb, 2014). The Irish government already deploys many of the policies outlined in this monograph, including efficiency standards, product labelling, information campaigns, carbon tax, ETS and direct investment in green technologies. However, what is emphasised by Grubb (2014) is the *connectivity* of these policies, such that the unique barriers characterised in each pillar are recognised, understood and connected. Grubb (2014) argues that countries who have seen sustained improvements in decarbonisation have taken consistent policy action across the three pillars. In this sense, the Irish carbon tax would be more effective as one leg of a three-legged stool than as a cornerstone, and it would greatly benefit from greater connectivity with other emissions abatement policies within the country. Further research is needed to map out Ireland's existing climate policies against this framework to better understand how the individual policies could be improved, how the combination of policies could be better connected and what policies may need to be added.

#### ***4.5.5 Value of qualitative studies in tax design and evaluation***

The study highlights how qualitative data can help to identify the impacts of climate change mitigation policies. These data better inform the policy design to protect households from rising energy costs and accurately reflect their energy needs. In particular, qualitative data can be a helpful complement to quantitative analyses to identify vulnerabilities that, for statistical reasons or lack of data, are difficult to capture in an econometric study.

In assessments of the distributive impacts of the carbon tax using CGE modelling or household survey data, economists in Ireland have measured impacts based on age, education level, regional location, size of household, properties of the dwelling<sup>29</sup> and some patterns of fuel usage (appliances in household, water or space heating, cooking methods, etc.) (De Bruin & Yakut, 2018; Tovar Reaños & Lynch, 2019). Members of think tanks who have conducted such studies have highlighted some non-income vulnerabilities such as older households, rural households and single parent households (C13, C15). However, measures

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<sup>29</sup> Apartment, attached house, semi-detached house, etc.

such as racial and ethnic identity are either not tracked or considered too small to be statistically significant.

The need for qualitative research to support the design and ex-post evaluation of emissions reduction policies will vary across policy contexts. For instance, some countries collect relatively granular data on different ethnic and racial groups, while others tend to collect less of these data. In addition, in contexts where data is available, impacts on some groups may not appear in an econometric study, if the group is too small compared to the population considered. Even in contexts where data are available and groups studied are sufficiently large, qualitative studies can provide insights on problems encountered by specific segments of the population, and insights on how these may be addressed through policy design or complementary measures.

#### **4.6 Conclusion**

This study contributes a qualitative study of the Irish carbon tax and EU ETS in Ireland which examines the justice principles considered in the design and implementation of a carbon price. In considering which ethical principles are considered in the development of national carbon pricing policies, this study is consistent with the findings of the literature review in that respondents are concerned with the principles distributive justice, procedural justice, and recognition justice under a carbon tax. When considering which elements of the tax have an ethical dimension and which stakeholders are considered, respondents in the Irish case were concerned with addressing regressiveness through revenue recycling, the consultation process for tax design, equitable sector coverage of the tax and ETS, setting the price level, carbon lock-in or lack of substitution goods, effectiveness of the tax and ETS and monitoring and evaluation of policy impacts. In addressing the question of which stakeholders are considered under the Irish carbon tax, this study confirms some existing findings in the Irish case regarding negative impacts on elderly and rural households (De Bruin & Yakut, 2018; De Bruin & Yakut, 2024; Farrell, 2017). The study further enables the exploration of what is missing from the design of the Irish carbon tax, particularly for households whose vulnerabilities are not revealed through econometric studies.

While the findings from this study are useful to consider which ethical principles are considered in the development of national carbon pricing policies in practice, it is noted in the previous chapter that case study research is context-specific and the results of case studies are often not generalisable (Flyvbjerg, 2006; Yin, 2009). As such, the next chapter proceeds with

a case study of the South African carbon tax to get a better understanding of the ethical implications of a carbon tax in a developing country context. By studying multiple cases, one can, to a limited extent, identify patterns, differences, and similarities, providing more generalisable insights that can be explored in different contexts (Flyvbjerg, 2006; Yin, 2009). By focusing on cases that differ in terms of distributive impacts, institutional capacity to implement climate policies, levels of public trust, etc., these case studies highlight elements that may consistently contribute to perceptions of justice or fairness under a carbon tax, making it easier to identify factors that are robust across different environments.

## Chapter 5– A case study of the carbon tax in South Africa

### 5.1 Introduction

In addressing the research questions outlined in chapter 3,<sup>30</sup> responses from interviews align with the findings of the literature review in that the principles of procedural, distributive and recognition justice are considered significant in the development of a national carbon tax. When considering the second question, the results show that in the case of the South African carbon tax, development of the tax is made more complicated by the number of existing justice issues in the country. Concerns about high levels of inequality, unemployment, affordability of the country's energy structure and South Africa's status as a developing country with a colonial history make the justice concerns arising in design of the carbon tax more difficult to navigate. As such, the level of the official and effective tax rate is an issue of contention amongst interview respondents from different justice perspectives, while international pressures to raise the tax rate and the lack of climate finance available from developed countries are perceived as an injustice. In addition, transparency, coherence and certainty around the timeline for introduction of a higher effective tax rate is perceived to be a procedural justice issue by some respondents, while potential uses of the carbon tax revenues are considered from a distributive justice perspective. Also, the acceptability of offsetting to reduce companies' liability under the carbon tax is an ethically divisive issue amongst interview respondents. In considering the third question, the findings illustrate that the design of the South African carbon tax disproportionately benefits businesses in high-emitting sectors, while questions remain as to how workers and low-income households will be protected from rising energy costs as exemptions to the tax are phased out.

This chapter proceeds as follows, with sections 5.2, 5.3 and 5.4 outlining the results of the study. Section 5.2 addresses the question of which ethical principles are considered in the development of national carbon pricing policies. Section 5.3 addresses the question of which elements of a carbon tax are perceived to have an ethical dimension. Section 5.4 addresses the question of how experts involved in design and implementation of South Africa's carbon

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<sup>30</sup> 1) What ethical principles are considered in the development of national carbon pricing policies? 2) Which elements of a carbon tax are considered to have an ethical dimension, as perceived by interviewees in their national contexts? 3) How are the rights and interests of stakeholders considered by experts who are involved in the design and implementation of carbon pricing policies? Which stakeholder groups are discussed?

tax consider the interests of different stakeholders. Section 5.5 discusses the results of this study and section 5.6 concludes the chapter.

## 5.2 What ethical principles are considered in the development of national carbon pricing policies?

Three ethical principles were raised by interview respondents discussing the ethics of the South African carbon tax. The respondents discussing these principles were either expressing the opinion that the principles have been incorporated into the policy design or making the argument that the principles should be incorporated into the policy design to a greater extent. In order of frequency of appearance in interviews, these principles are procedural justice, distributive justice and recognition justice, as shown in Table 5.1.<sup>31</sup>

<b>Ethical Principles discussed by interviewees</b>	<b>Respondents discussing these views</b>	<b>% Respondents discussing these views</b>
Procedural justice	D1, D3, D5, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18	79%
Distributive justice	D1, D4, D5, D7, D8, D9, D10, D11, D12, D13, D15, D17	63%
Recognition justice	D2, D3, D5, D6, D8, D9, D11, D15, D17, D18, D19	58%

Table 5.1: Distribution of ethical principles expressed by interviewees

A more detailed explanation of these justice principles is outlined in the literature review in chapter two of this dissertation. The ethical principles which are discussed by respondents arise in the context of specific elements of the carbon tax design, as follows:

Procedural justice was discussed by 79% of interview respondents. Interview respondents considering the procedural justice under the carbon tax discussed the fairness, transparency, and inclusiveness of decision-making about the design of the carbon tax. Respondents perceived procedural justice to be significant along several elements of the carbon tax and when considering specific stakeholder groups. Respondents cited in Figure 5.1 considered procedural justice to be an important principle in the consultation process for the design of the carbon tax, the influence of lobbying groups over the consultation process, the transparency of the tax design and changes made to the tax, and the coherence of carbon tax policy design as it relates to other emissions reductions measures being considered by the

<sup>31</sup> One respondent has used the terms restorative justice and retributive justice. These are two types of corrective justice, the former focussed on compensation for victims of injustice and the second focussed on punitive measures for perpetrators of injustice. For the coding done in this chapter, these terms have been included under recognition justice. For a further explanation of the similarities between corrective and recognition justice, refer to the literature review in Chapter 2.

government. The ethical assumption underlying issues of lobbying during the consultation process and issues of transparency and coherence of policy design is that fair procedures are crucial for ensuring just outcomes, enhancing legitimacy, and fostering trust among those affected by the decisions. These issues are further discussed in section 5.3. In addition, respondents discussed how and to what extent procedural justice is fulfilled for different stakeholders, regarding their access to and capacity to participate in the carbon tax design process. The extent to which respondents perceived procedural justice to be achieved for specific stakeholder groups is discussed in section 5.4.

Distributive justice was discussed by 63% of respondents. Interview respondents discussing distributive justice were most often discussing issues of negative impacts on businesses, potential job losses or economic development although regressiveness or negative impacts on households were also considered from a distributive justice perspective. These issues are discussed in Section 5.3. Moreover, respondents considered to which groups harms and benefits of the carbon tax are distributed, and whether these harms and benefits are distributed evenly among these groups. These stakeholder groups are discussed in section 5.5.

58% of interview respondents discussed recognition justice. Discussions of recognition justice arise in issues of setting the effective tax rate, regressiveness, revenue use and mitigation of negative impacts of the tax. Perceptions of recognition justice differ from perceptions of procedural or distributive justice on the same issues where respondents are considering historical and systemic inequalities in South Africa, and how historical and current injustices may be perpetuated or exacerbated without careful design of the carbon tax. Recognition justice was considered an issue by respondents in setting the official and effective tax rate and when considering the neocolonial influence of developed countries when setting that tax rate. Some respondents cited in Table 5.1 perceived this to be an issue of recognition justice because the legacy of colonialism and Apartheid in South Africa has prevented the country from industrialising and developing economically in the way developed countries have done. Some respondents argued or described the argument that in recognition for South Africa's historical disadvantage and rights to social and economic development, South Africa should be entitled to international exemptions or to a higher rate of support in the form of technology and climate finance from developed countries. These issues are discussed in section 5.3.2.3 and section 5.3.6. Discussions of recognition justice further arose in the question of how and to what extent different stakeholder groups are considered in the policy design. The extent to which a carbon tax interacts with systemic or historical injustices for specific stakeholder groups is discussed in Section 5.5.

### 5.3 Which elements of a carbon tax are considered to have an ethical dimension, as perceived by interviewees in their national context?

Although the introduction of the carbon tax in South Africa is contentious for the reasons discussed below, none of the respondents interviewed stated explicitly that they were against the use of the carbon tax. One respondent stated that he was initially against the use of the carbon tax on the grounds that he considered businesses and industries to be less likely to manipulate their way out of command-and-control measures, but gradually came to accept the tax as no other mitigation measures were successfully introduced in South Africa (D17).

When discussing the ethical issues arising in the design and implementation of the carbon tax, several main topics arose, as shown in Table 5.2. In decreasing order of respondents who mention the issues, these are the consultation process for the tax design, the setting of the official tax rate and effective tax rate, transparency and coherence of the tax policy and its incorporation with wider measures, the issue of regressiveness under the tax, and offsetting and climate finance.

<b>Design elements which interviewees perceived to have an ethical dimension</b>	<b>Respondents discussing the issues</b>	<b>% Respondents discussing the issue</b>
Consultation process for carbon tax design	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D14, D15, D16, D17, D18	89%
Setting the official tax rate and effective tax rate	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D15, D16, D17, D18	84%
Transparency under the carbon tax	D1, D2, D6, D7, D8, D10, D12, D13, D15, D16, D18, D19	63%
Addressing regressiveness	D1, D4, D5, D7, D8, D10, D11, D12, D15, D16, D17, D19	63%
Offsetting and climate finance	D3, D4, D6, D8, D12, D13, D14, D15, D18, D19	53%

Table 5.1: Distribution of ethical issues mentioned by respondents in interviews

#### 5.3.1 Consultation process for carbon tax design

Overall, the process for consultation was reported to include business associations,

businesses, labour unions, civil society and academics (D1, D3–D4, D7, D15–D16, D18). One respondent from an academic institution and another from a union organisation noted that many union groups were not very active because they would be more aware of “shop floor”<sup>32</sup> issues and would have a limited awareness of tax policies (D7, D18). One government respondent noted that union groups were consulted but not to as great an extent as other groups (D16), and one respondent from a business association recalls that various union groups were directly consulted by the Treasury during the tax design process (D5). Community groups and members of the public were reportedly not greatly involved, largely due to the technical nature of the tax being a barrier (D15, D17), but these groups were more directly engaged in the consultation process for developing offset crediting projects allowed under the tax (D4, D14). Community groups and members of the public were part of the offset credit consultation process largely as an informational exercise so that more groups could benefit from the projects funded by carbon credits (D4, D14). In addition, two respondents pointed out that there is a limited level of knowledge and understanding of climate change by South African citizens, which limits their awareness and participation in policy discussions, although this is noted to be improving (D7, D17). A lack of public awareness of climate change and associated policies was also discussed on several panels during the 25<sup>th</sup> Global Conference on Environmental Taxation in South Africa (GCET25).

#### *5.3.1.1 Respondent perceptions on the overall fairness of the consultation process*

Interview respondents discussed both positive and negative elements of the consultation process to design the carbon tax. Seven respondents expressed satisfaction with the consultation process, observing that it was widely consultative, including both in-person workshops and written submissions (D1, D3, D5, D10, D12, D14, D16). One respondent from a business association stated, “I must say we are actually very appreciative of our government’s approach” (D3). One NGO respondent and another from a legal consultancy noted the thoroughness of the process, as it took place over ten years (D8, D10), and three respondents commented on the fact that the consultative process was very data driven, including detailed analysis of potential impacts of the tax (D1, D10, D16). Two NGO respondents observed that the policy process was not always inclusive, but that it improved over the course of the consultation process to make policy communications less technical and

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<sup>32</sup> ‘Shop floor’ issues refer to day-to-day workplace concerns that directly affect workers and are typically addressed by labour unions at the operational level. These issues often involve working conditions, wages, safety, and job security, among other practical matters that impact employees' daily lives.

make consultation processes more accessible to different groups (D8, D17).

Meanwhile, respondents noted limitations to the inclusion of procedural justice principles in the consultation process. Two respondents cited criticisms that the consultation process in South Africa was a “tick-box exercise” (D7, D9). Another respondent noted that while the consultation process was broad for the initial tax design, the consultation process for the 2021 revisions of the tax policy were not well publicised, which led to a much greater proportion of submissions by businesses than by civil society (D8). There were also comments that the technical nature of the tax made it difficult for some groups to engage with the consultation process, particularly civil society and grassroots or community groups (D5, D7, D9, D15, D17). Given the lack of involvement at the community level, some respondents were concerned that the mix of stakeholders involved in the consultation process did not truly represent the needs and interests of communities (D7, D9, D11, D15). One academic respondent observed that while there are many consultative processes in South Africa, the interests of communities are often represented by NGOs who are focussed only on environmental or climate issues (with less emphasis on social or economic issues within communities), or that international NGOs are speaking on communities’ behalf (D7). Another NGO respondent argued that the discussions that take place around the carbon tax and development of further emissions mitigation policies do not focus enough on the economic impacts that these policies may have on communities and how these impacts will be addressed during policy implementation (D9). The respondent was positive about the use of consultation processes but described the “build-back into communities” in the final policy design to be “very minimal” (D9).

Furthermore, one respondent from academia observed that it is very difficult to ensure a procedurally just consultation process in South Africa because the interests of different groups are so divergent and the implementation of many different policy processes in the country has been stalled:

*“Procedural justice is very tricky. Because if people fundamentally disagree about something, they’ll just say always that there is not enough engagement or discussion. On the other hand, there’s constant ongoing national and regional workshops, discussions, engagement that don’t seem to move forward very much. I mean, what is procedural justice if there’s no implementation afterwards?”* (D11).

In sum, while the consultation process was perceived by respondents overall to have been open and data-driven, some had perceptions that the process could have been improved to incorporate greater participation of groups with fewer resources and less technical acumen.

### 5.3.1.2 Respondent perceptions of business lobbying during the consultation process

The divisiveness of carbon pricing in South Africa cannot be well understood outside of the context of the country's minerals-energy-complex (MEC). An historically key feature of the South African economy, the minerals-energy-complex refers to a system whereby cheaply acquired coal and labour supports mining-and-minerals-intensive and export-oriented industries (Baker et al., 2015). These energy-intensive industries currently contribute significantly to local and foreign investment and to exports from South Africa (Winkler et al., 2010). Approximately 50–60% of South Africa's emissions came from power and heat generation in 2016 (Prater, 2018) and approximately 40% of electricity in the country is consumed by industrial users rather than households (Baker et al., 2015). While the share of the South African economy which is dependent on the minerals energy complex is on the decline (Baker et al., 2015), 83% of respondents interviewed cited business concerns as the most frequently discussed issue during the design of the carbon tax, while three respondents referred to the minerals-energy-complex by name when discussing the design of the tax (D5, D8, D17).

While most respondents acknowledged the difficulty of transitioning South Africa away from coal-intensive and energy-intensive industries given its current economic structure and economic difficulties, several respondents from NGOs and academia argued that businesses had greater influence over the policymaking process because they had superior resources to spend on the consultation process and a very influential lobby (D7–D8, D15, D17). Two respondents described the “dramatic” objections made on the sides of both industry lobbies and environmental lobbies during the carbon tax design process, wherein the industry lobby insisted that a carbon tax would lead to catastrophic job losses and economic collapse and the environmental lobby insisted that not implementing a binding climate policy instrument in South Africa will lead to the “end of life as we know it” (D11, D18). A respondent from a consulting organisation described the way in which the passing of the Carbon Tax Act into legislation was delayed for several years during the consultation process as characteristic of the industry lobby, and similar to another, older policy process to introduce environmental protections in South Africa:

*“When a conversation has been happening with government for a decade, more than a decade... in successive years, when a new development of the conversation happens industry goes, ‘Oh, but we’ve never heard about this before, this is so unusual to us, we don’t know what you’re talking about’”* (D10).

An NGO respondent similarly commented that businesses:

*“Find interesting ways to dress themselves as being pro-climate action but against a tax that is going to hurt them... when Treasury wanted to increase the price of carbon, the position on balance from business was, ‘oh yes we’re going to have to do this eventually but it’s premature at this stage’”* (D17).

As a result of strong industry lobbying as described by these respondents, the original carbon tax which was designed to be administratively simple became much more complicated through the calculation of available exemptions. One business respondent argued against the current design of the tax on the grounds that the way the actual tax rate is calculated after exemptions is far too complicated (D2). Another respondent from a consulting organisation commented that it was businesses lobbying for exemptions which resulted in a complicated calculation for the effective tax rate (D10). The respondent recalled a government comment during the consultation process that the carbon tax rate “is complicated because you [industry] asked it to be complicated. When we introduced the carbon tax, it was very simple” (D10).

Several interview respondents also described a situation where industrial lobbies play different government departments off one another to further delay the implementation of higher carbon tax rates and additional emissions mitigation measures by insisting on alignment between the carbon tax and other climate policies (D1, D9–D10, D12, D17). For instance, the Department of Forestry, Fisheries and the Environment (DFFE) is responsible for South Africa’s carbon budget policy (still voluntary as of spring 2025), while the Department of National Treasury is responsible for the carbon tax. The director of one government department described business lobbying to weaken these instruments:

*“There was very strong lobbying around, you either have one instrument or the other, you do away with the tax instrument, and you go the route of a carbon budget. And then they were at the same time lobbying in the department of environment [now DFFE] to say, we want budgets that are business-as-usual”* (D1).

In addition, business lobbies objected to the use of both a carbon tax and carbon budgets on the grounds that they constitute double taxation or “double jeopardy”, arguing that it would be unfair for businesses to invest capital into meeting the carbon budgets and also be accountable to pay a carbon tax (D6, D9). Two respondents indicated that they find the double jeopardy objection disingenuous, with one NGO respondent referring to a legal consultation from their organisation which confirmed that the use of both measures would not constitute double taxation (D9, D12).

### *5.3.2 Setting the official and effective tax rate*

The current design of the carbon tax includes 60–95% exemptions for payment of the carbon tax, ostensibly to provide a transitional phase for businesses to adjust to the implementation of the tax (World Bank, 2024). According to interview respondents cited in the debate below, the process for designing the tax and deciding on an acceptable level of exemptions was contentious. The official tax rate is the base rate set by the government, while the effective tax rate is what emitters pay after exemptions and offset allowances are factored into the tax rate. Some respondents perceived the issue of setting the tax rate to have ethical dimensions from a distributive justice perspective, since different groups are impacted differently by the rate of tax. In addition, some respondents perceived the issue of setting the tax rate to have an ethical dimension pertaining to recognition for South Africa's historical emissions and current level of development needs.

#### *5.3.2.1 Arguments for setting a lower tax rate*

Several respondents discussed the issue of potential economic losses associated with the South African carbon tax. These respondents were either concerned, or described the concern expressed by others, that rising costs will place a significant financial burden on businesses which have knock-on effects on jobs, economic growth and critical infrastructure. Industries argued during the consultation process for the tax that its introduction would increase operating expenses too much for businesses and would force them to cut jobs, worsening the country's high unemployment rate (D1–D4, D6–D12, D18). The Minerals Council estimated that due to the multiplying effect of lost mining jobs, direct and indirect job losses from the carbon tax could amount to 6,000 jobs lost per year (Baker, 2022). To put this objection into context, the World Bank has estimated that, when considering eleven of the most affected industries in the country, an energy transition in South Africa would cost the economy approximately 300,000 jobs up to 2050, but would result in the creation of 815,000 new jobs over the same period (World Bank Group, 2022). Although the transition should provide new jobs in theory, several participants in GCET25 cited the concern that the timing, location, and skills requirements of new jobs, will not result in wage replacement for those workers whose jobs are at risk. One respondent cites the concern that jobs in the renewable energy sector are not going to South Africans, they are going to foreign contractors of companies who own the patents on the renewable technology (D19).

Several respondents described objections made by large industries in South Africa that they should not be liable for the carbon tax because they represent a critical resource to both the country's economic development and investment of industry resources into low carbon development. As described by two respondents, industries argue that if they are left untaxed, they will be able to invest industry resources into green technologies and economic development (D8–D9). In a public statement, Sasol and the Minerals Council have warned that the carbon tax will destroy the ability of businesses to invest in “the greening of our industries in South Africa” (Hugo, 2022, p. 15). In addition, one respondent from a business association cited industry concerns about knock-on effects on critical infrastructure, such that increases in transportation costs from the carbon tax may increase the costs of medical supplies being transported to hospitals (D3).

One government respondent recalled of the consultation process that while high-emitting businesses, business associations and members of government sensitive to business interests were initially opposed to the carbon tax, they eventually agreed to the need for a carbon tax and instead advocated for a low tax to provide businesses with the time they need to transition towards greener alternatives (D16). Literature on the design of a carbon tax policy in South Africa acknowledges the pressure that will be placed on businesses in energy-intensive sectors and emphasises the need for complementary measures to support businesses in vulnerable sectors and reduce GHG emissions with minimal disruptions to the economy (Arndt et al., 2014; Winkler, Jooste, et al., 2010; Winkler, Marquard, et al., 2010).

In sum, some respondents, supported by accompanying literature, were concerned that setting a higher tax rate will have negative distributive impacts due to existing rates of unemployment, economic dependence on extractives and the need for greater economic development to support critical infrastructure and provision of basic services.

#### *5.3.2.2 Arguments for setting a higher tax rate*

Several interview respondents shared the written submissions of NGOs on the design of the carbon tax, five of which oppose the current tax rate for being too low and level of exemptions provided as being too high and too preferential to business interests (Abdinor, 2022; Greenpeace Africa, 2022; groundWork, 2018; Hugo, 2022; Reeler, 2022). The nonprofit organisation Just Share argued that the world's largest energy companies made approximately €100 billion in profit in the first quarter of 2022 alone, and that providing tax exemptions for businesses will effectively “externalise the costs of their emissions onto the

rest of society” (Hugo, 2022, p. 4). Similarly, in Greenpeace Africa’s submission on South Africa’s tax amendment bill, the organisation supported the use of a carbon tax as an emissions reduction policy but appealed for a significant increase in the tax rate and reduction in exemptions allowed under the tax (Greenpeace Africa, 2022). The organisation argued that the level of exemptions provided for under the tax is unfair for allowing fossil fuel companies to claim tax incentives when their tax liability is already so low (Greenpeace Africa, 2022). One NGO respondent observed that under the current level of exemptions, Sasol, the world’s largest single-point emitter of GHGs, is only liable for a carbon tax rate of just over 1% of its annual operating profit (D8). The respondent argued that this level of liability is ‘just meaningless’ and that Sasol has access to Fischer-Tropsch technologies and other opportunities to decarbonise, which it would take greater advantage of if the company had a greater cost incentive to do so (D8). Secondary literature further describes Sasol as having a long history of using its influence as a large corporate taxpayer and employer to lobby against environmental regulations (Baker, 2022). Another NGO respondent argued that the current level of exemptions does not reflect fairness concerns across sectors covered by the carbon tax but rather disproportionately reflects the interests of businesses (D15). In sum, these respondents believed that some of the claims by industry about distributive impacts are exaggerated and that large emitters do, despite their protestations, have the financial resources to commit to reducing their emissions.

Moreover, one respondent objected to the current level of exemptions offered to Eskom, South Africa’s electricity supplier (D9). Eskom is described to have significant influence over planning and decisions made in the power and energy sector in spite of recent national scandals on state capture and corruption involving Eskom<sup>33</sup> (Baker, 2022). Eskom currently pays an electricity levy but is totally exempt from the official carbon tax rate, while it receives large transfers from the government budget to continue electricity production (see Figure 5.1) (IMF, Africa Department, 2023). Currently, Eskom receives more money from

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<sup>33</sup> State capture refers to a form of systemic corruption wherein specific interest groups seize control of the institutions and public processes responsible for shaping public policy. In doing so, they divert the direction of public policy away from public goods and towards their own agendas (Dávid-Barrett, 2023). A period of state capture took place in South Africa under the presidency of Jakob Zuma, in which the Gupta family used their influence within the Zuma administration to further their personal interests in the mining, energy, transportation and telecommunications industries (Pillay et al., 2023).

the fiscus than it is liable to pay in carbon taxes and electricity levies (see Figure 5.1) (IMF, Africa Department, 2023). A respondent argued that this process of exempting Eskom from the carbon tax while subsidising Eskom’s electricity costs shifts government revenues which

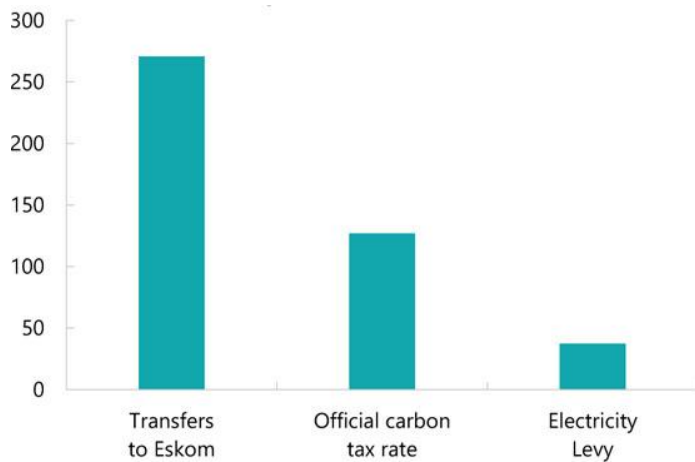


Figure 5.1: Transfers, Carbon Tax, and Electricity Levy, FY2020/21  
 Citation: IMF Staff Country Reports 2023, 195;  
 10.5089/9798400245350.002.A003

should be spent in support of a just transition back to Eskom to continue emitting (D9). The respondent argued that this is an injustice because the carbon tax should be collecting revenues to strategically accelerate the just transition and to “build back into the hands of the economy, households and communities” (D9). All told, some respondents perceived the level of

exemptions provided to businesses compared to the level of support provided to households to invest in renewable technologies to be unfair from a distributive justice perspective.

### 5.3.2.3 Perceptions of international pressures when setting the tax rate

There is tension highlighted in the interview discourse between South Africa’s responsibilities as a high emitter and recognition for the country’s historical emissions, history of colonisation which has prevented much of the population from benefitting from their own mineral resources, and rights to develop along the same trajectory as developed countries. South Africa is a developing country with marginal historical emissions and comparatively low current emissions when considered against some developed countries (OECD, 2023). During the design of the carbon tax, presentations were made to the Davis Tax Committee<sup>34</sup> by the Chamber of Mines, AngloGold Ashanti and the Chemical and Allied Industries Association (CAIA) that South Africa is a “minor player” on the global stage, that its emissions are tiny on a global scale and that the country should be allowed the emissions required to grow and develop (Baker et al., 2015, p.47). The issue of South Africa’s level of responsibility for climate change was cited by respondents as a matter of contention for

<sup>34</sup> The Davis Tax Committee (DTC) in South Africa is an independent advisory committee established by the Minister of Finance in 2013. The DTC’s mandate includes reviewing existing tax policy and legislation, identifying areas for reform, addressing issues of tax administration and compliance, and promoting fairness and efficiency within the tax system (*The Davis Tax Committee*, 2013).

businesses during the design of the carbon tax; some actors described by respondents from the debate believed South Africa should not be liable for a carbon tax due to the country's relative level of development and low historical emissions (D1, D3, D5, D7, D11–D12). One government respondent recalled arguments from businesses during the tax design process that that climate change is a “developed country problem” (D1). Some actors in the debate opposing a higher carbon tax perceived ambitious action by South Africa to reduce its emissions as violating principles of recognition justice due to South Africa's colonial history and historically low level of emissions.

Others in the debate found these recognition justice objections to be exaggerated. South Africa is the world's 14<sup>th</sup> largest emitter of GHGs, around 70% of its emissions come from coal, and it is home to the single largest point-source of GHG emissions in the world (Sasol) (Prater, 2018). As such, some have pointed out that South Africa has a responsibility for its own GHG emissions regardless of what other countries are doing to mitigate or make amends for historical emissions (D1, D7–D9, D12, D15, D17). As one respondent observed, “in South Africa it is quite normal to perceive ourselves as a victim ... but maybe in this case we are not so much on that side of the equation” (D12). The NGO groundWork similarly asserted in a submission on the tax design that, while developed countries have an obligation under the principle of common but differentiated responsibilities to provide financial and technological support, at the same time, “if the North owes the South a climate debt, South Africa also owes Africa a climate debt” (groundWork, 2018, p. 2).

One NGO respondent who did advocate for a higher tax nonetheless described the balance of setting the price level for the carbon tax, especially when compared to international recommendations for carbon price levels (D15). The respondent observes that while the recommended price level for a carbon tax ranges from €30–50/tCO<sub>2</sub>, if considered under local currency, even €9/tCO<sub>2</sub> is a very high price for South African businesses and households (D15). Another NGO respondent notes that in international negotiations around setting carbon price levels, developing countries are at a disadvantage:

*“Carbon pricing is not a new idea, but in terms of how we are formulating policy, key drivers such as the US, Europe, etc., they are more seasoned in these conversations, and really are able to broker them in a way that speaks to their economies. And unfortunately, down south, here on our end, we haven't been successful in doing so” (D9).*

Similarly, when describing the motivation for South Africa to implement a carbon tax as part of its emission mitigation efforts, several respondents cited international pressure to decarbonise as an important factor in setting the price level (D8, D12, D17–D18).

Scholarship discussing the implications of a South African carbon tax also reflects the sentiment that South Africa must implement a carbon price or similar policy due to international pressures. For instance, when considering the proposal to introduce a carbon tax in South Africa, Alton et al. (2012) argue that “pre-emptive mitigation policy, such as a carbon tax, would allow South Africa to avoid being disadvantaged in global markets” (p.1).

The upcoming implementation of Europe’s Carbon Border Adjustment Mechanism (CBAM) was discussed by 37% of interview participants, and was considered by some from the perspective of recognition justice relating to South Africa’s colonial history and unequal relationship with more developed countries. Several respondents observed that the incoming CBAM will place pressure on South Africa to raise its own carbon tax price or businesses will be forced to pay a tax to the EU at the border (D2–D3, D8, D12, D17–D19). Similarly, in its comments on the 2022 draft of the carbon tax bill, WWF stated that Europe’s incoming CBAM will price high-carbon South African products out of the market if the country does not implement a higher carbon price (Reeler, 2022). One study of South Africa’s carbon tax finds that, as other trading blocs begin to implement BCAs, South Africa may be forced to keep up with their pace of price increase (Baker 2022). Whether or not international pressures placed upon South Africa to raise its tax rate are considered an injustice is a matter of contention:

Some news coverage about the introduction of the EU CBAM argues it to be unfair to African countries on the grounds that it interferes with their rights to develop economically (London School of Economics and Political Science, 2023; Rumble & Gilder, 2023). Similarly, Malgas (2024) considers the possibility that the CBAM could harm domestic support for climate action if communities perceive climate policies, such as a higher domestic carbon tax rate, as being unjustly imposed on them by other countries. In addition, one respondent from the energy sector commenting on the CBAM argued that, while developing countries want to support the energy transition, restorative and retributive justice from developing countries should be applied considering their historical emissions, history of colonialism and the impact on various stakeholders in developing countries (D19).

Meanwhile, another respondent from an NGO observed that the Department of International Relations and Cooperative Governance took the position at COP28 that South Africa strongly resists a border tax because they see it as effectively reversing the flow of climate finance (D8). The respondent saw this as a somewhat disingenuous comment, since South Africa has the option of raising the national carbon tax to keep the flow of climate finance in-country (D8). Similarly, another NGO respondent observed that while the CBAM

is not an instrument that promotes global equity in the distribution of carbon emissions, “one doesn’t have to be an apologist for CBAM to invoke it as a rationale for doing the things that we should be doing anyway” (D17). In sum, while several respondents advocated for an increase in the South African carbon tax, some were concerned that South Africa will not be able to meet the tax rate of the EU CBAM without more substantial supports from developed countries.

#### *5.3.2.4 Effectiveness of the current tax rate*

The effectiveness of the South African carbon tax has an ethical dimension because an instrument that does not meet its stated goal could be considered questionable or even unethical. Respondents discussing the effectiveness of the carbon tax rate were most often concerned with the potential distributive impacts on groups who are vulnerable to climate change if South Africa’s mitigation policies are ineffective. The carbon tax at its current rate after exemptions was considered ineffective or only marginally effective by six respondents (D5, D8–D9, D12, D17–D18). Four respondents were concerned that the effective tax rate after exemptions is only a few cents per tonne (in euros) (D2, D7, D12, D17). Five respondents did have a positive outlook on the potential effectiveness of the tax as the rate increases and exemptions are phased out (D1, D5, D8–D9, D12). Four respondents stated that having the tax at any effective rate is more effective than a no-tax scenario (D1, D7, D10, D17), and two stated that the tax at its low rate is already incentivising emissions reducing behaviours and interest in carbon offsetting programmes and energy efficiency technologies (D1, D10). One government respondent described the government’s intention to introduce the tax at a low rate to overcome opposition and steadily increase the effective tax rate until it becomes more effective (D1). The design choice to introduce a low tax rate and slowly increase it was compared to the European Emissions Trading System (ETS) which took a similar approach to implementing a carbon price (D1, D10). In the case of the EU ETS, literature has shown that a carbon price is somewhat effective at a low price level, particularly if businesses believe that the price will increase in the future (Bayer & Aklin, 2020; Eslahi, 2022) and that the phase-in of gradually higher prices can achieve an effective emissions reduction pathway (ICAP, 2023; Zaklan et al., 2021).<sup>35</sup>

One respondent from a business association argued that any reductions or levelling out of emissions levels in South Africa cannot be directly attributed to the carbon tax and

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<sup>35</sup> The literature cited above shows that the introduction of a linear reduction factor of 4.3% from 2024-2028 and 4.4% after 2028 does result in a globally cost-effective reduction pathway.

may more likely be attributed to COVID impacts and current difficulties in the South African economy (D2). Another business respondent argued that any tax level will have a minimal impact on reducing emissions because some sectors do not have any alternative technology options but will continue emitting until they are driven out of business by rising emissions costs (D3). One union respondent observed that the current level of progress in installing renewable energy capacity in South Africa is primarily driven by off-grid installations due to the unreliability of Eskom's energy supply rather than by the carbon tax or the trajectory of the price level (D18).

Two respondents observed that the current level of inaction on emissions reductions under the current phase of the carbon tax represents an injustice because low-income and marginalised groups are often the most vulnerable to climate change shocks (D9, D17). A submission on the design of the carbon tax by the Life After Coal campaign reflects this sentiment, stating that the inadequate price level "limits a number of constitutional rights" of South African citizens such as "rights to environmental management for place and people" (Abdinor, 2022, p. 6).

Some respondents considered the effectiveness of the carbon tax in relative terms. Two respondents have noted that the carbon tax was the only legally binding climate policy instrument in South Africa at the time of implementation and speculated that this is due to limited government capacity to implement climate policy (IMF, Africa Department, 2023) (D17–D18).<sup>36</sup> Similarly, Baker (2022) observes that until the Climate Change Bill is implemented (see section 5.3.3), the carbon tax and the country's Integrated Resource Plan (DMRE, 2023) are the only legally binding mechanisms at a national level with potential to reduce carbon emissions. One of the interview respondents who acknowledged the relative effectiveness of the tax admitted that he was initially sceptical of carbon pricing, but following years of delay and inaction on climate policy in South Africa, reconsidered the carbon tax: "It's a step in the right direction" (D17).

Three respondents stated that they did not see carbon pricing as a "silver bullet" or "cornerstone" of South Africa's emissions reductions policy, but rather see it as part of "several tools in a toolbox" (D7, D12–D13). Two of these respondents discussed the carbon tax as being used in combination with carbon budgeting (currently voluntary), efficiency standards (not currently tied to emissions reductions) and other measures which may be put in

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<sup>36</sup> While South Africa does have energy efficiency measures and pollutions regulations in place, these were not introduced as emissions reductions policies, and the carbon budgeting scheme administered by the DFFE will be voluntary until at least 2026.

place in the future (D7, D12). The issue of how the carbon tax is used in combination with the other measures remains a matter of contention, as discussed in section 5.3.3.

### **5.3.3 Transparency under the carbon tax**

63% of interview respondents discussed the lack of transparency regarding the design of the carbon tax and potential complementary measures. This was perceived by some respondents as an issue with ethical dimensions in several ways. Firstly, lack of transparency speaks to concerns about procedural justice under the tax, since unclarity around the implementation of the tax and incoming complementary measures limits the capacity of actors to participate in the policy design. Secondly, a lack of transparency limits the responsibility and accountability of polluters to reduce GHG emissions. Thirdly, a lack of transparency and coherence impacts the *perceived* fairness of the tax, and therefore its perceived legitimacy and public support for the tax. There are several elements of design of the carbon tax policy which respondents considered to lack transparency. These are as follows: the timeline for the phase-out of exemptions under the tax (D6–D8, D12, D15, D18), the connection of the tax rate to carbon budgeting under South Africa’s Climate Change Bill (D6–D7, D10, D12, D15, D18) and the planned use of carbon tax revenues (D2–D3, D10, D13).

The original timeline for phasing out exemptions and increasing the effective tax rate was postponed due to economic shocks during the COVID-19 pandemic (D1). A government discussion paper for public comment was published in 2024 (after interviews were completed) on the implementation of Phase 2 of the tax which proposed a plan to address several outstanding issues under the carbon tax, including 1) reducing exemptions for industrial emitters, 2) either continuing to keep exemptions for electricity generation or replacing the existing electricity levy with the carbon tax to keep the tax revenue neutral and 3) investing in targeted supports for free basic electricity, disaster risk reduction, improvements to public services including transportation, etc., depending on fiscal constraints (National Treasury, 2024). As of the 2025 budget speech, the National Treasury was proposing to keep exemptions for industry emitters in place until 2030 and to replace the electricity levy with the carbon tax from 2026 to maintain electricity price neutrality for households (National Treasury, 2025). It is unclear when plans for implementation of a higher effective tax rate and linking of mandatory carbon budgeting will be finalised given that delays in policy design and implementation have been characteristic of both the carbon tax and the incoming Climate Change Bill.

The incoming Climate Change Bill relates to the design of the carbon tax because it has been proposed to tie mandatory carbon budgeting<sup>37</sup> to a higher rate of carbon tax on firms whose emissions exceed their carbon budgets. A government respondent observed that there was broad agreement for linking the carbon tax and mandatory carbon budgets under the new bill (D16). The legislation of the Climate Change Bill was ongoing for six years before it was signed into law in July 2024 (Rumble, 2024). As part of the Climate Change Bill, the government formally implements carbon budgets, which have thus far been voluntary, to become compulsory and legally binding under the new legislation (Rumble, 2024). In South Africa's 2022 Budget hearings, the government stated that the carbon tax will be tied to carbon budgets, such that emissions exceeding the legislated budget are subject to a higher rate of tax (ZAR640/tCO<sub>2</sub>; €30/tCO<sub>2</sub>) (National Treasury, 2023).

Whether and how a punitive rate of tax will be applied to firms exceeding their carbon budgets remains a matter of contention. In their formal submissions during design of the Bill, three nonprofit groups agreed in principle to the linking of the tax and carbon budgets as long as the base rate of the tax is higher and exceedance of the carbon budget is subject to additional penalties (Abdinor, 2022; groundWork, 2018; Hugo, 2022). In their submissions, Life After Coal and Just Share objected to the fact that the text of the Climate Change Bill under consideration did not legislate any formal punitive measures for exceeding the carbon budgets, either through penalties or the proposed increase in the tax rate (Abdinor, 2022; Hugo, 2022). In text of the bill when it was signed into law in July 2024, there was no formal penalty for exceeding the carbon budgets (Government of South Africa, 2024a). The proposed penalties in the form of a higher tax rate are expected to be formalised in an amendment by the Department of Forestry, Fisheries and Environment (DFFE) after the signing of the bill (Rentel, 2024). Although the bill has been signed into law, carbon budgets will not become mandatory until 1 January of the calendar year after legislation on the penalty for exceeding carbon budgets is finalised (Rentel, 2024).

It is not yet clear how the proposed punitive tax rate for those exceeding the carbon budget will be impacted or adjusted based on the official tax rate trajectory. The lack of clarity in how the tax trajectory will be connected to other measures, and the consistent delays and shifting of timelines impact the ethical acceptability of the tax along several dimensions: the procedural legitimacy of the carbon tax, the accountability of the government

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<sup>37</sup> A carbon budget is an assigned amount of greenhouse gas emissions or cap allocated to a covered firm or entity for direct emissions arising from the operations of that firm or entity over a defined timeline (In the case of South Africa, budgets are allocated over five years). See (Government of South Africa, 2024a).

to its stakeholders in developing the tax, and the accountability of polluters for reducing their emissions.

The lack of transparency of the tax policy and low levels of trust in government also impact the *perceived* fairness of the tax. Existing literature argues that transparency, perceived distributive fairness and trust in government play an important role in the acceptability of carbon pricing; studies have shown that trust in government and perceptions of government accountability influences public acceptability of carbon pricing and environmental taxation more broadly (Fairbrother et al., 2019; Klenert et al., 2018; Muhammad et al., 2022). One respondent from a business association observed that in general, there is opposition to the introduction of new taxes in South Africa because tax is linked to corruption and there is a lack of transparency in how tax revenues are spent (D6). One panel member at the GCET25 conference commenting on the availability of revenues to invest in climate projects described the government fiscus as a “black hole”. Another business respondent expressed open scepticism about the use of carbon tax revenues, describing the tax as a revenue raising measure for the Treasury (D2). Two business respondents stated that they would prefer to see the carbon taxes by businesses reinvested in R&D or mitigation efforts (D2–D3) and one consultant described the lack of hypothecation of carbon tax revenues as a “particularly sore point” for businesses, who were suspicious of where the tax money is going (D10). One NGO respondent questioned whether there are appropriate measures in place to ensure the revenues raised from carbon pricing mechanisms will be used to ensure a just transition in terms of “safeguards and assurances” as to whether the money will be reinvested in the green transition or be “business-as-usual” in terms of a lack of transparency, corruption and a misappropriation of funds (D13).

In sum, issues of transparency surrounding the carbon tax are perceived to have ethical implications in the areas of procedural justice, and perceptions of distributive justice.

#### ***5.3.4 Revenue use, regressiveness and negative impacts of the carbon tax on households***

While negative impacts on businesses were discussed universally by respondents, regressiveness and impacts on households were not as widely discussed. Regressiveness under a carbon tax is a well understood phenomenon in the literature, wherein low-income households spend a larger proportion of their household budget on heating, electricity and transportation, so they are more negatively impacted by increasing fossil fuel prices (Köppl & Schratzenstaller, 2023). Since regressiveness impacts some households differently than

others, this issue is considered to have a distributive justice dimension.

One respondent considered discussions about regressiveness to have been minor compared to concerns by government about the impact of climate change on businesses (D12). Another respondent considered the high level of debate around business impacts compared to issues of regressiveness to reflect the lobbying capacity of businesses compared to that of households, rather than the seriousness of the issue (D7). Three respondents recalled that studies were developed as part of the consultation process indicating that a carbon tax in South Africa is indeed regressive (D1, D7, D16). However, respondents noted that discussions about regressiveness became a non-issue because Eskom is currently exempt from the tax so that rising electricity costs are not passed on to consumers (D1, D5, D7–D8, D15).

If exemptions for Eskom are phased out of the carbon tax design, initial studies and conversations have taken place on the use of carbon tax revenues or complementary policies to ensure that low-income households are not negatively impacted by the tax. One study shows that using carbon tax revenue to expand social transfers can ensure that households in the bottom five deciles benefit from the tax (Alton et al., 2012) and another study indicates that even a relatively modest amount of carbon revenues can fund 70% of the combined cost of four energy poverty reduction programmes (electrification, extended free basic energy, scaling-up sustainable housing, and subsidising rooftop solar for poor households) (Winkler, 2017). Similarly, CGE modelling conducted by van Heerden et al. (2006) indicates that a tax on GHG emissions reduces emissions, increases GDP and reduces poverty in South Africa if the tax revenues are recycled to reduce food prices. Nemavhidi & Jegede (2023) consider the carbon tax from a human rights perspective and conclude that the carbon tax could be considered a tool to aid human rights protections in South Africa if revenues are used to transition workers from high-emitting industries to green jobs, invest in green transportation and public transportation options, improve community access to clean energy options and support vulnerable groups through social welfare measures. Several respondents have expressed similar support for the use of carbon tax revenues to fund social welfare programmes (D5, D7).

The issue of hypothecating carbon tax revenues remains contentious and the government remains firm in its stance that hypothecation of revenues limits their ability to allocate the budget where it is needed, but several respondents stated that they were amenable to policies concurrent with the tax that support vulnerable households or the “soft earmarking” of revenues for social welfare measures (D7–D8, D11, D15, D17). While there

is not yet a plan in place for how to protect low-income households from rising prices, six respondents described the South African government as being pro-poor in its policymaking, indicating that plans will not move forward to lift exemptions on the carbon tax without measures in place to protect households (D1, D4, D7, D10, D15–D16).

As such, while the matter of revenue recycling to mitigate negative impacts of the carbon tax has not yet been clarified, there is some indication that the carbon tax will not pass through to households without protective measures in place.

### ***5.3.5 Availability of climate finance and relative acceptability of offsetting***

The availability of climate finance as provided by the South African government or by more developed countries has ethical dimensions for some interview respondents. Some respondents perceived the lack of availability of climate finance for businesses in South Africa as unfair in that they are being held responsible for reducing their emissions without receipt of financial support they feel entitled to. To put this objection in context, in Ireland and the EU, businesses are provided with funding earmarked from ETS revenues to support the shift to a low carbon economy (Enterprise Ireland, 2022, 2023; European Union, 2023b). The availability of climate finance for transitioning businesses and for communities developing climate projects within South Africa not only has ethical dimensions regarding responsibilities and entitlements, but also impacts perceptions of the relative acceptability of offset credits under the carbon tax.

#### ***5.3.5.1 Availability of climate finance and technological support in South Africa***

One business respondent observed that, for the transportation sector, businesses in developing countries have less access to green technology to reduce their emissions compared to more developed countries. He argued that some of the most immediately available improvements in technology currently cannot be produced domestically in South Africa (D3).

As such, the cost for businesses in certain sectors to shift to greener technologies and reduce their emissions will be higher for those in developing countries than for those in developed countries without provision of green technology from developed countries. Another business respondent made the similar point that many South African businesses cannot afford to invest in technologies like carbon capture, whereas businesses in more developed countries have greater access to partnerships, investment capital and government grants to assist them (D6). One respondent from a union organisation was heavily critical of climate finance which has been offered to aid South Africa's Just Energy Transition

Implementation Plan (JET IP), which gives the government more climate finance with which to justify implementing a higher price and stronger complementary climate policies (Government of South Africa, 2023). As of 2024, €13.8 billion<sup>38</sup> was committed in international financing to the JET IP (Government of South Africa, 2024b), but the respondent pointed out that most of that money is offered in loans (D18). The respondent argued that these countries have a moral responsibility and can well afford to provide climate finance to South Africa without loans, and that even with favourable repayment conditions, South Africa could be greatly threatened by austerity in trying to pay back those loans given the comparative value of the South African Rand (D18). Similarly, one business respondent recalled discussions about ongoing delays in delivery of climate finance committed to the JET IP and argued that these delays constitute a “miscarriage of justice” (D19). Delays to promised climate finance for the JET IP are worsened by the official withdrawal of US contributions to the JET IP, including €49 million in grant funds and €87 million in commercial equity (European Commission Directorate-General for Climate Action, 2025).

Similarly, an NGO respondent observed that their organisation advocates strongly for better investment from developed countries, not as development aid, but as part of their historical responsibility to developing countries (D9). The respondent called for developed countries to honour their commitments to a loss and damage fund because:

*“Placing high taxes on developing countries who should be drawing on the developed world in terms of reparations is really falling short of the globe’s commitment to reducing carbon emissions”* (D9).

In sum, respondents highlighted the disparity in access to green technology and climate finance between developing and developed countries and underscored the need for developed nations to provide more equitable support, not as a favour, but as part of their historical responsibility and relatively capability for addressing global carbon emissions. In highlighting this disparity, several respondents highlighted offsetting as a potential tool to bridge the gap in available climate finance for South Africa, as discussed in section 5.3.5.2.

#### *5.3.5.2 Relative acceptability of offsetting due to low levels of climate finance*

The use of offsetting under the carbon tax regime is contentious, as some respondents indicated that offsetting fails to hold polluters responsible and accountable for their emissions

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<sup>38</sup> Currency conversions from USD to EUR are based on an exchange rate of 1.00 USD = 0.86800394 Euros as of 30<sup>th</sup> May 2025 (Xe.com, 2025)

(D8, D15), while others believed that as long as business do not receive technological or financial support for transitioning to low-carbon alternatives, they should be entitled to offset emissions (D3–D4, D13–D14). One respondent who was not opposed to offsetting acknowledged that it is unusual for offsetting to be allowed under a carbon tax regime, as this is not a common policy feature for carbon taxes (D12). Two NGO respondents objected to the use of offsetting under the carbon tax due to concerns of equivalence, additionality and permanence (D8, D15). The formal submissions of Greenpeace and the WWF on the design of the carbon tax opposed the use of offsetting to reduce the liability of businesses to the carbon tax on the grounds that they do not represent a genuine reduction in emissions and encourage business-as-usual behaviour (Greenpeace Africa, 2022; Reeler, 2022). In its submission, Greenpeace further argued that offsetting negatively impacts local and Indigenous communities and the land they live on (Greenpeace Africa, 2022).

In its draft design of the offset mechanism, the National Treasury emphasised the importance of offset credits as a flexibility mechanism that attracts investment into emissions reductions but is less costly for some businesses than investing in decarbonising their operations (National Treasury, 2014). One business respondent argued that he would prefer to use offsetting to reduce the liability of businesses to pay the carbon tax on the grounds that his industry does not have the technology options to reduce their emissions without offsetting, and that he preferred to know that the money spent to pay for pollution is going to climate friendly projects (D3). Four additional respondents were positive towards the use of offset credits in South Africa on the grounds that it attracts much needed climate finance to the country (D4, D12–D14). These respondents expressed a positive opinion towards offsetting either because they felt businesses were not receiving enough technological or financial support from domestic and international sources to shift to low-carbon alternatives, or that climate projects in South Africa were not receiving enough financial support from domestic and international sources. One NGO respondent argued:

*“I actually have a big bone to pick with a lot of the permanence and additionality questions. We should be using every tool that we have to promote emissions reductions projects and if you look at the hypersensitivity to climate integrity [in offset credit verification], it has dissuaded a number of projects from moving forward rather than being promoted”* (D13).

The respondent described coastal restoration projects which are important to local ecosystems which were not funded due to the difficulty in measuring the permanence of coastal projects. He also argued that additionality questions have essentially penalised

competent forest custodians because deforestation rates in their rainforests are not high enough to justify verifying offset credits in their region (D13). The respondent conceded that ideally offset credits should be used to redress historical emissions from businesses rather than offset ongoing emissions (D13).

In sum, while offsetting is a contentious climate policy tool, some respondents held a positive view towards offsetting because they did not feel that existing climate finance coming from domestic and international sources was sufficient to fund a transition to the low carbon economy or support necessary climate projects in the country.

#### **5.4 How are the interests of stakeholders considered by experts who are involved in the design and implementation of carbon pricing policies? Which stakeholder groups are discussed?**

The majority of interview respondents discussed the interests of businesses in high-emitting sectors under a carbon tax, even if some respondents considered the interests of businesses to be exaggerated. Many respondents were also concerned with the impacts of the carbon tax on workers in high-emitting sectors, citing the high levels of unemployment and income inequality in the country. Respondents were also concerned with the impacts of the tax on low-income households, although not enough data was collected to break low-income households into smaller sub-groups. For a breakdown of the number of respondents discussing the interests of different stakeholder groups, see Table 5.3 below:

<b>Stakeholder groups discussed by interviewees</b>	<b>Respondents discussing these groups</b>	<b>% Respondents discussing these views</b>
Businesses in high-emitting sectors	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D15, D16, D17, D18	84%
Workers in high-emitting sectors	D1, D8, D9, D5, D7, D10, D11, D12, D15 D16, D17, D18 D19	68%
Low-income households	D1, D4, D5, D7, D8, D9, D10, D11, D12, D15, D16, D17, D19	68%

*Table 5.3: Stakeholder groups discussed by interviewees*

##### **5.4.1 Businesses in high-emitting sectors**

The extent to which businesses require further support and finance to decarbonise and the

extent to which they should be held responsible for their current level of emissions remains a matter of contention between the interview respondents, as discussed in detail in Section 5.3. Since this debate is covered in the above section, I will proceed with a more detailed description of other groups' interests under the carbon tax in sections 5.4.2–5.4.3.

#### ***5.4.2 Workers in high-emitting sectors***

The extent to which the carbon tax and complementary policies reflect the interests of workers in high-emitting industries is difficult to ascertain, partly because of the mixed priorities of workers and labour unions representing them. A respondent from academia and another from a union observed a tension between interests for workers in high-emitting industries (D11, D18). On the one hand, many workers and the communities in which they live are dependent on high-emitting industries such as coal mining or coal-fired power production for their livelihoods, and in this case, they are inclined to support the business and industry position of delaying increases to the carbon tax (D11, D18). On the other hand, individuals working in high-emitting industries, particularly coal mining, are subject to adverse health impacts from their profession, as are communities built around these industries who are vulnerable to the impacts of localised pollution (D11, D18). In cases of localised pollution and health impacts on communities, workers in high-emitting industries were reported to be more vocal about the need for a just transition (D11, D17–D18). Similarly, a union respondent observed that there are contradictions in the view of organised labour depending on which industry is being represented. He described unions representing sectors such as mining, energy and construction as being very fearful about jobs even though workers in these sectors suffer the most from localised pollution, while unions in sectors such as chemicals or clothing are more supportive of environmentally sensitive practices (D18).

While there are mixed views from workers in high-emitting sectors as to whether they are more concerned with job losses or the health risks inherent in jobs associated with the coal industry, some respondents recalled that the just transition was an idea initially proposed and owned by union movements (D11, D17). One academic respondent recalled that the initial push for stronger climate policy in South Africa came largely from unions and civil society, who were advocating for a just transition (D11).

Similarly, an NGO respondent recalled that South Africa's largest confederation of unions, COSATU, produced a 2011 policy paper arguing for a strong and socially redistributive response to climate change, responding to issues of poverty, inequality and

unemployment in the country (D17) (Barrett et al., 2011). Both respondents commenting on the workers' just transition movement observed that, currently, many actors within the labour movement oppose pro-climate policies which threaten jobs in mining or coal-power production plants (D11, D17). In explanation for this shift in priorities, several respondents described the position of unions and workers as very susceptible to business lobby claims about job losses (D7, D11, D17–D18).

The government did acknowledge the concerns from the labour movement about job losses during the design process for the carbon tax. One government respondent recalled that during the consultation process, “one of the key issues that came out of that process through parliament was that we were instructed by our committee on finance to basically look at a jobs mitigation plan” (D1). The respondent described a collaboration between the Department of National Treasury, Department of Forestry, Fisheries and Environment, Department of Mineral Resources and Energy, Department of Transport, Trade, Industry and Competition, and Department of Science and Innovation to develop a set of measures and programmes to be implemented in conjunction with the tax to support green job creation (D1).

The mitigation of job losses from the carbon tax and other climate policies in South Africa is currently actualised in the Just Energy Transition Implementation Plan 2023–2027 (JET IP). Following a stakeholder consultation process from the Presidential Climate Commission, the plan is intended to incorporate “distributive, restorative, and procedural justice ... at the centre of South Africa’s transition to a low carbon economy” (Government of South Africa, 2023, p. 20). The plan outlines the steps needed to attract investment, build government capacity and reskill workers into low-carbon value chains as coal plants are retired over time (Government of South Africa, 2023). Some respondents observed that during the consultation process for the carbon tax, the labour position was that revenues from the tax should be used to fund programmes to support workers, with one respondent specifically referring to using revenues to fund the JET IP (D9, D15). In addition, several respondents commented on the extent to which the JET IP meets the needs of workers in high-emitting sectors. One respondent from a consulting organisation observed that not all stakeholders see the JET IP as sufficient to prevent employment losses, and that there is “still a bit of back and forth” about the plan (D12). A respondent from the energy sector observed that much of the money developed countries have committed to the JET IP has not yet been provided, such that plans to mitigate the impact of the carbon tax on workers have not been realised:

*“There’s this wide scale poverty and so we talk about a just energy transition but those people don’t feel the justice... I know there have been commitments from developed countries to help in terms of technology, in terms of funding, but... that funding has not been coming. So, in terms of the justice elements, I think one can argue that there has been a miscarriage of justice in this instance (D19).*

In addition, a union respondent expressed scepticism that plans to reskill and redeploy workers will be actualised, stating, “we will see politicians, governments here and across the world speaking very nice words about just transition” but workers on the ground do not see evidence of the transition happening (D18).

While respondents were not critical of the plan set out in the JET IP, some expressed scepticism that the plan will be effectively implemented to address workers’ concerns in practice. Some of the scepticism about the JET IP and the realisation of funding committed to it stems from historical distrust of the government on the part of workers. One academic respondent recalled a “long running history of workers being abandoned in the country by our government” and described a deep-seated distrust of government policy and fear of mine closures and ghost towns (D11). Similarly, a union respondent observed that “we’ve gone through a decade of corruption. So now I think people just very healthily don’t trust anything the government says” (D18). Comments from these respondents suggest that historical instances of corruption and the resulting low levels of trust in government impact the perceived fairness of policies designed to protect workers in high-emitting sectors.

In sum, the extent to which the design of the carbon tax and complementary policies reflect the rights and interests of workers in high-emitting industries is complicated by numerous factors, including: contradicting views on the just transition from different union groups, the influence of business lobbies on workers’ perceptions of job loss risks, the perceived fairness of current jobs mitigation plans, and a historical lack of trust in government.

### **5.4.3 Low-income households**

Currently, the design and implementation of the South African carbon tax mitigates impacts on communities and households by exempting Eskom from carbon tax liability so that increasing fuel prices due not pass through to consumers. Given this approach to mitigating impacts on vulnerable stakeholders, limited data was available on the impact of the tax on low-income household for non-income measures of vulnerability. In addition, plans have not been finalised for how to prevent the carbon tax from negatively impacting specific groups

when the exemptions for households are phased out. To the extent that data has been collected referring to group-specific inequalities, some respondents argued that the low carbon tax rate is negatively impacting low-income and black households who are more vulnerable to climate impacts, while other respondents considered that specific groups may need targeted supports from soft earmarking of carbon tax revenues (see 5.3.4 for discussions on soft earmarking).

Three respondents commented on South Africa's apartheid legacy and ongoing racialised energy poverty in South Africa (D7, D11, D19). One academic respondent observed that rapidly improving access to electricity in South Africa is a great success story of the post-apartheid government, with electricity access in the country now around 85% (World Bank, 2022) (D7). However, he did observe that energy affordability remains an issue (D7). Average energy consumption levels in black townships remains very low (around 100–150 kWh per month) while middle-class households consume electricity at a much higher rate (around 500–1,000 kWh per month) (Bohlmann & Inglesi-Lotz, 2021; Hughes & Larmour, 2021; Yeú & Koch, 2020) (D7). Another academic respondent commented that heavy industry accounts for most of South Africa's electricity demand, noting that residential usage is comparatively small and is concentrated in wealthy households (D11). Energy poverty continues to be concentrated along racialised lines while over 80% of Eskom's coal supply comes from major mining firms who originated in apartheid-era South Africa and made their profits based on the provision of cheap coal and cheap labour (Baker et al., 2015). Given the connection between apartheid and ongoing energy poverty and the ongoing concentration of wealth and power within the minerals-energy complex, Baker et al. (2015) have indicated that a just transition in South Africa will require restoration, reconstruction and redistributive justice (Baker et al., 2015). Additionally, a respondent from the energy sector argued that the structures of inequality created by apartheid will likely be exacerbated by the carbon tax unless greater resources are provided to assist households during the transition:

*“Very little has been done over the last thirty years to significantly improve the lives of those that have borne the brunt of apartheid policies, and now you are superimposing a new burden on these same people ... It does exacerbate certain situations that further entrench these social inequalities”* (D19).

While this respondent did not claim that the carbon tax or any one climate policy should resolve South Africa's myriad inequality problems, he did question whether South Africa's climate policies have proceeded without sufficient clarity regarding which groups

will accrue the benefits and burdens of the current policy design (D19). Moreover, several respondents argued that the current level of exemptions under carbon tax disproportionately benefits businesses, which Baker et al. (2015) has tied to South Africa's apartheid legacy; meanwhile, the respondents argued that implementing a higher carbon tax and redistributing revenues towards energy poverty measures would be of greater benefit to poor, black households (D9, D11, D17). In addition, a respondent from academia reflected that slow progress on reducing emissions is holding back the just transition, benefiting large industrial emitters and a few individuals working in these sectors while working class and poor people "ask repeatedly for the basics of service delivery to be met" (such as reliable, affordable electricity, safe and affordable public transportation, etc.) (D11).

One NGO respondent observed that to the extent that the carbon tax is not incentivising significant emissions mitigation, the subsequent climate change impacts will be more severe along racial, ethnic and gendered lines, as these groups are more likely to be living in poverty (D9). This respondent argued that the carbon tax or other climate policies should support these disenfranchised groups by "making polluters pay", wherein a high tax is levied on wealthy polluters and that wealth is redistributed back into the hands of poor and disenfranchised groups, many of whom are ethnic minorities, Indigenous peoples or women (D9) (Khalfan et al., 2023). Another NGO respondent argued that to the extent that the carbon tax contributes to a just transition, it should contribute to a social and economic transition because "there's an awful lot of money in the country but it's not going to the people who need it" (D17). In sum, while several respondents were critical of the impacts that a low carbon tax rate has on vulnerable groups insofar as it exacerbates existing inequalities, some of these respondents viewed carbon tax revenues as one tool with the potential to support low-income and vulnerable households.

While the revenues under the carbon tax are not currently hypothecated, the tax is accompanied by a plan to improve access to a free basic electricity scheme (FBE), increase the level of kWh provided under that scheme and improve access and affordability of more efficient energy appliances as outlined in the government JET IP (Government of South Africa, 2023) and the discussion paper on phase two of the carbon tax (National Treasury, 2024). These concurrent policies should improve outcomes for the largely black households living in energy poverty, however, respondents observed scepticism from some stakeholders as to how this plan will be funded (D12, D18) and recalled a lack of trust from some stakeholders that energy poverty reduction schemes would actually be funded in the absence of legislated hypothecation of revenues (D1, D7, D15, D17). Moreover, reviews of the

current effective tax rate indicate that it is not high enough to raise significant revenues towards emissions mitigation or social justice measures (IMF, Africa Department, 2023; World Bank, 2024). The timing of when poverty alleviation measures will be put in place if the funding is supposed to be raised by increasing the effective carbon tax rate was raised as a problem by one respondent (D19).

Despite scepticism as the timing and realisation of complementary policies to address the issue of energy poverty under the carbon tax, a number of respondents were amenable to the possibility of “soft earmarking”, as discussed in section 5.3.4 (D7–D8, D11, D15, D17). In speculating on the design of social welfare measures tied to the carbon tax, respondents identified several measures they considered more impactful to address impacts on low-income households. Two respondents from academia and NGOs observed that the current free basic electricity scheme does not meet all energy needs, and suggested policies to address the additional energy needs of households, such as gas for cooking (D7–D8). According to the scholarship, ensuring the provision of clean fuels for cooking would benefit women living in energy poverty, as the use of solid fuels or dirtier cooking fuels has a negative health impact on women (Palmisano et al., 2021). Further, two respondents from academia and an NGO observed that capacity building is needed for municipalities to improve accessibility to the free basic energy allocation, since it is difficult in some regions to get registered and stay registered for free basic energy (D9, D11). Another NGO respondent described the difficulty of allocating free basic electricity in informal or shanty housing, where multiple households use the same electricity connection (D8). The respondent further observed that households that do not have access to the electricity grid at all are almost exclusively rural, and that as electricity connections are improved, some rural households may only ever be served by local microgrids, meaning the free basic electricity scheme would not benefit them (D8). In addition, an NGO respondent cautioned that any policies to fund renewable energy connections must take a bottom-up approach (D9). She argued that policies such as subsidies for solar panels are still out of reach for low-income households and stated, “essentially you are subsidising rich people” (D9).

Since low-income households appear to be impacted by a number of non-income dimensions such as household energy mix, connections to the energy grid, type of dwelling and capacity to access the free basic electricity scheme, any measures funded by an increase in government budget from carbon tax revenues will not reach those who need it most unless funds are appropriately targeted towards groups with different styles of living.

Furthermore, several respondents observed reticence in policy dialogue about increasing the cost of energy under the carbon tax because, even with the distribution of tax revenues, there are so many issues with inequality, infrastructure, and access to basic services that the citizenry are cautious of any further price shocks (D11, D19). One academic respondent observed that South Africa lacks safe and reliable public transportation alternatives as the price of petrol for cars increases (D11). Another respondent discussed the immediacy of communities' needs for education, health and sanitation infrastructure, food security and improved policing, all of which contributes to scepticism as to whether carbon tax revenues can provide enough benefits to overcome citizens' perceptions that they have more immediate problems than decarbonisation or mitigation of climate change impacts (D19). This respondent explained that climate change is a hypothetical problem for the future in the eyes of many South African citizens who are being asked to "choose between having safety today or food security today verses dealing with climate change" (D19).

Responses suggest that the existing social policy issues in South Africa lead to perceptions of the carbon tax as an added burden for low-income households, even if the tax itself is not the cause of many of these problems and carbon tax revenues are not meant to resolve existing inequality problems. In addition, given the number of infrastructure and social inequality issues in South Africa, carbon tax revenues may be better directed towards infrastructure projects or social welfare measures unrelated to the energy transition.

## **5.5 Discussion**

### ***5.5.1 Carbon taxation in developing countries***

Interview respondents highlighted many challenges in implementing a carbon tax in South Africa that is perceived to be fair, including myriad demands on the fiscus, lack of trust in government, disproportionate influence of industry lobbies, and existing social welfare issues which leave the public reluctant to accept any further price shocks. Given the complex set of challenges facing South Africa in the design of its carbon tax, and ongoing delays to implementation, one may wonder whether carbon taxation is an appropriate emissions mitigation measure in this context. This is concurrent with observations by Marcos et al. (2022) that a lack of transparency and lack of trust in government is a barrier to implementation of carbon taxes in many emerging markets, since citizens do not believe benefits from the increase in tax revenues will accrue to them.

Evidence from developing countries in Latin America suggests that they have also implemented carbon tax policies while facing many of the same geopolitical challenges and

justice concerns as South Africa. Analyses of the Mexican carbon tax show that the power and influence of emissions-intensive, trade exposed (EITE) industries in these countries reduces the overall ambition of carbon taxes, at least in the short term (Marcos et al., 2022; Stevens, 2021). Additional studies of Mexico indicate that implementation of both its carbon tax and emissions trading scheme were challenged by a lack of public trust in the government's capacity to protect citizens from increases in fuel prices, and that there was a lack of public engagement in the form of grassroots advocacy for climate policy or climate justice under a carbon tax (Ghafouri et al., 2022; Pulver, 2009). In addition, Colombia has implemented a carbon tax which is subject to large exemptions for coal (which are to be reduced gradually between 2023–2027) to address concerns about welfare losses when transitioning away from coal (Thema & García, 2023; World Bank, 2024).

Despite the similar challenges experienced by developing countries implementing a carbon tax, countries in Latin America do not appear to have experienced the major delays in implementation which characterise the South African carbon tax. This is potentially due to differences in executive powers over the budget process in Latin American countries and in the way the carbon tax was portrayed. Studies conducted of Mexico, Argentina and Uruguay show that adoption of carbon taxes in these cases was framed primarily as part of a broader fiscal reform, rather than as an emissions reduction policy (Rabbia, 2023; Skovgaard & Ferrari, 2023). Skovgaard and Ferrari's (2023) analysis shows that even though the Mexican carbon tax was advocated for as an emissions reduction policy, it likely would not have been adopted if it were not for support of the tax as a fiscal policy. Rabbia's (2023) analysis shows that the causal driver for adoption of carbon taxes in Argentina and Uruguay was less to do with emissions reductions and more to do with fiscal reform in Argentina and already high implicit carbon prices in Uruguay. This suggests that in developing countries, the public may perceive a carbon tax as fairer if it is framed as a fiscal reform policy rather than as an escalation of the country's emissions mitigation ambitions. Further research is called for to examine public perceptions of fairness under carbon taxation in developing countries depending on the policy framing.

Marcos et al. (2022) further suggest that better communication about increased government budgets for development issues, decreased distortionary taxes and reduced tax evasion may be better incentives to introduce a carbon tax in developing countries than environmental incentives. I argue that tying the carbon tax to broader fiscal reform may be similarly successful in South Africa. In developing countries where climate change is perceived to be a “developed country problem”, and where high levels of inequality and lack

of access to basic services is perceived to be a more immediate problem than climate change, fiscal reform and reduction in other regressive taxes may be perceived as fairer than a policy which aims to address emissions reductions and the energy transition. I further explore the possibilities of framing the South African carbon tax as a fiscal reform policy in the following section:

### ***5.5.2 Fiscal reform under the South African carbon tax***

Given negative perceptions of government capacity to effectively protect households from job losses or rising energy costs, and ongoing delays in climate policy implementation, it may be administratively simpler for South Africa to raise the explicit carbon tax rate (after exemptions) while reducing implicit prices, a common solution proposed in environmental tax governance (Ahumada et al., 2023; Dominioni, 2022; Heine et al., 2012). If the government reduces other taxes, which are regressive, while increasing the carbon tax, consumers overall will not be worse-off because of the carbon tax. For instance, South Africa currently applies other taxes to energy which are revenue-generating taxes and are not applied to carbon emissions specifically. These taxes include:

- A fuel levy on gasoline, diesel and its biofuel equivalent, and kerosene
- A road accident fund fuel levy and the customs and excise levy that apply to gasoline and diesel and its biofuel equivalent
- A demand side management levy on gasoline
- An illuminating paraffin tracer dye levy on diesel and kerosene
- A petroleum pipelines levy on gasoline and diesel and its biofuel equivalent
- A fuel levy on the sale of aviation fuels
- An air passenger tax applied to the cost of international flight tickets
- An electricity levy to support energy efficiency, applied to electricity generated from non-renewable sources at 3.5 cents per kWh

(OECD, 2019; PwC, 2024a)

Reducing other taxes on energy while increasing the carbon tax is an option to limit the increase in costs to consumers. In addition, phasing out excise taxes in favour of carbon taxes links the cost of energy to its environmental impact rather than the cost of consumption, creating stronger incentives to reduce emissions (Dominioni, 2022; Heine et al., 2012). Creating stronger incentives to reduce emissions has a positive distributive impact on households who are vulnerable to climate change impacts. This gives credence to the

proposal made by National Treasury on the implementation of phase two of the South African carbon tax to phase out tax exemptions on household electricity generation while removing the electricity levy, making the tax revenue neutral (National Treasury, 2025).

Another possibility is to frame the carbon tax as improving distributive justice outcomes by generating revenue from improved tax compliance. South Africa has an estimated tax gap of ZAR300 billion (approximately €15 billion) and a 34% informality rate as a share of total employment in the country (ILO, 2024; PwC, 2024b). Carbon taxation is a beneficial option in countries with high rates of informality because it covers larger sections of the economy and is more difficult to avoid than other taxes, such as income taxes (Bento et al., 2018; Liu, 2013; Timilsina et al., 2024). If the government increases the explicit carbon tax rate (after exemptions) while reducing more avoidable taxes, it can reduce the country's tax gap and will have more revenues which can be directed towards social welfare measures or provision of basic services, which can address interviewees' concerns about the welfare of vulnerable groups under an increasing carbon price.

A further option is to implement van Heerden's (2006) recommendation to reduce food taxes as the carbon tax increases, which has been shown to be progressive. Van Heerden's recommendation may be preferable to reducing other kinds of taxes in South Africa due to its focus on social welfare outcomes, since raising the carbon tax rate while reducing food taxes is progressive for low-income households. Either this option or the reduction in other taxes could be more effective than soft earmarking of revenues in the South African context because it is administratively simpler, either revenue neutral or progressive, and addresses concerns that vulnerable groups will bear the brunt of upfront price increases before the generated revenue is translated into social welfare measures. Reducing other taxes also provides more certainty than the government's existing proposal to scale up investments in free basic electricity or public transportation infrastructure, because these investments are dependent on demands on the fiscus (National Treasury, 2024).

While existing literature indicates that recycling revenues increases public support for carbon taxes, particularly recycling for climate or environmental initiatives (Barrez, 2024; Mohammadzadeh Valencia et al., 2024), in the case of South Africa an administratively simpler option may be preferable. An examination of other developing countries who have implemented carbon taxes shows that Mexico and Argentina have both invested most of their carbon tax revenues into the general budget (Rabbia, 2023; Skovgaard & Ferrari, 2023). The barriers involved in recycling carbon tax revenues towards green initiatives in South Africa and the use of carbon tax revenues in Mexico and Argentina suggest that, while evidence

supports the use of revenue recycling for climate initiatives under a carbon tax to improve perceptions of fairness, this may not be the best option for developing countries with other demands on the government budget. Further research is called for to examine public support for carbon tax revenue recycling measures in developing countries.

### ***5.5.3 A recognition justice narrative in support of the carbon tax***

While concerns about the economy and job losses have been cited as reasons to slow the implementation of South Africa's carbon tax, there is evidence to suggest that economic dependence on the extractives industry is a high contributor to income and employment inequality in South Africa. Firstly, there is a strand of literature which suggests that economic dependence on mineral resources may contribute to high levels of wealth inequality in South Africa, known as a resource curse (Acheampong et al., 2023; Elbra, 2013). A study by Acheampong et al. (2023) concludes that natural resources and the need for stronger democratic institutions in a panel of 43 sub-Saharan African countries drives wealth inequality in the region, while Elbra (2013) argues that South Africa exhibits many of the symptoms of resource cursed states, including low GDP growth, inequality, persistent poverty and government corruption.

Secondly, the history of the minerals-energy-complex as an apartheid-era institution and its links to racial marginalisation, wealth and income inequality, and high unemployment rates is well-documented in the literature (Baker, 2015; Newman, 2019; Schneider, 2018; Sithole, 2024). Sithole (2024) argues that very little wealth from the extractives industry has shifted towards historically disadvantaged groups in post-apartheid South Africa while Cock (2019) argues that coal extraction in particular worsens marginalisation of poor black communities in mining towns, results in negative health impacts and displaces farmers and landowners. Newman (2019) and Schneider (2018) have connected dependence on the apartheid-era extractives industry to a concentration of investment into the financial and extractives sector at the expense of economic development in other sectors, expansion of a largely low-skilled service sector and limited labour absorption. The authors argue that the current economic structure dominated by the extractives industry has led to higher unemployment rates, increasing wealth inequality and a declining wage share (Newman, 2019; Schneider, 2018). In sum, the combination of a resource curse and the historical accumulation of mineral wealth along racialised lines has led the extractives industry to be tied to injustices based on racial identity and colonial legacies. As such, there is an argument to be made for linking energy transition policies such as the carbon tax to the realisation of

recognition justice, although it would require the linking of multiple climate policies to address the complexity of equity issues in South Africa. If the minerals-energy-complex and economic dependence on coal are more strongly tied to the high levels of inequality in the country in communications about the just transition, then the carbon tax and complementary policies could be considered viable tools to shift away from this economic model of resource extraction and labour exploitation, addressing both climate change and social inequality.

However, while this narrative has the potential to be a strong communications tool in improving public perceptions about a just transition in South Africa, the practicalities of supporting historically marginalised households and mining communities must be addressed. While mining communities are vulnerable to negative health impacts and economic insecurity as coal use declines globally, mining remains the best available employment option for many, in the absence of jobs in renewables which have been suggested but not materialised for these communities (see section 5.3.2.1 and 5.4.2). While shifting away from an extractives economy could provide new opportunities for historically marginalised groups, some respondents have indicated that South Africa is not attracting the investment needed to grow its manufacturing or services sectors (D18, D19).

#### ***5.5.4 Stakeholder rights and interests***

As noted in section 5.4.3 above, the exemption of household electricity from carbon tax liability has resulted in limited data on how rising fuel prices will impact intersectional inequalities once the tax exemptions are phased out. Empirical studies of the carbon tax in South Africa have concluded that the tax is regressive in the absence of revenue recycling measures (Bohlmann et al., 2022; Okonkwo, 2021). There is some awareness of non-income patterns of vulnerability, such that black households are disproportionately likely to struggle with electricity affordability (D7–D8), and women’s health may be impacted by the use of unclean cooking fuels if affordability of cleaner cooking fuels increases under a carbon price (Schunder & Bagchi-Sen, 2019). It is also understood that rural households are more likely not to be served by the existing electricity grid (D8). As such, while rural households may not be impacted by increasing household electricity prices as a result of the carbon tax, they will be impacted by the increasing prices of solid fuels and consumer goods under the carbon tax, and recycling revenues into services such as free basic electricity will not reach rural households.

Moreover, 1% of the South African population is made up of Indigenous peoples (International Working Group on Indigenous Affairs, 2021), and while the potential impacts

of offset projects on this group was discussed in interviews (D13–D14), the horizontal impacts of the carbon tax on this group were not discussed in interviews or supplementary literature on Indigenous groups in South Africa. Meanwhile, existing literature on carbon tax impacts on Indigenous groups in British Columbia and Australia suggests that differences in horizontal impacts for Indigenous groups are significant (Bubna-Litic & Chalifour, 2012). Since different groups are impacted by rising fuel prices in different ways, further data collection is necessary to understand whether measures to mitigate the regressive impacts of the carbon tax are targeted to reach low-income groups who are impacted by different styles of living and patterns of fuel use.

Another issue of stakeholder rights and interests in the South African case is the level of community involvement in the design and implementation of the carbon tax. Interview respondents in the South African case have observed that although individuals and community groups participated in discussions about the introduction of offset credits, community organisations were largely absent from the consultation process (See section 5.3.1). Grassroots-level NGOs with a stronger connection to the community were also reported to not be greatly involved in the consultation process. In addition, several respondents pointed out that there is a limited level of knowledge and understanding of the climate change issue by South African citizens, although this is noted to be improving (D7, D17). An increase in the level of participation of community organisations or citizens' groups on climate policy design, or citizen endorsement of carbon tax increases would improve the procedural justice and ultimately the distributive justice outcomes of the South African carbon tax.

### ***5.5.5 The acceptability of offsetting under a carbon tax***

In the systematic literature review, I demonstrated that offsetting is the least ethically defensible form of carbon pricing in the literature, despite arguments that offsetting represents a valuable source of climate finance for developing countries. I further argue in chapter 2 for developed countries to at least meet their existing commitments to provide climate finance to developing countries. These findings and conclusions from the literature review are further confirmed in this case study. As indicated in the results section, firms are permitted to offset some of their liability for the carbon tax using offset credits. This is an unusual feature for a carbon tax, and has only been implemented in two other jurisdictions, Mexico and Colombia, both of which are developing countries (World Bank, 2024). The responses from interviewees in this study show that, despite concerns about equivalence,

additionality and permanence from some NGOs, other respondents view offsetting as a viable option for the country to attract climate finance and as a flexible mechanism for firms who lack the capacity for research and development into more efficient or renewable technologies. The perceived acceptability of offsetting under the South African carbon tax compared to the perceived acceptability of offsetting in the literature once again suggests that developed countries need to provide more climate finance and technological support to developing countries to meet their emissions reductions goals.

#### ***5.5.6 Comparing justice implications across Ireland and South Africa***

In Ireland and South Africa, both countries conducted a consultation process for their national carbon tax design, but feedback from interview respondents and the ongoing delays to implementation in the South African case suggest that the Irish tax is perceived more positively by respondents in their national context from a justice perspective. Several unique features of the Irish carbon tax appear to contribute to this perception. The citizens' assembly decision to increase the rate of carbon tax is advantageous from a procedural justice perspective. Several respondents have also indicated that the transparency of tax rate increases is viewed positively by businesses when considering the fairness of the tax. Moreover, while some respondents have concerns that hypothecated revenues are not doing enough to support vulnerable households, the consultation which resulted in hypothecating revenues for social welfare measures is viewed positively by respondents discussing the design of the Irish carbon tax.

In the South African case, in contrast, citizen involvement in climate policy dialogue is described as limited and the trajectory for phasing out tax exemptions is unclear. Moreover, several respondents have claimed that distrust as to where the carbon tax revenues are being used contributes to negative perceptions of the carbon tax. In addition, while improvements to community-level education about climate change in South Africa could make a citizens' assembly on climate change more feasible, there is no guarantee that such an assembly would result in broader consensus between stakeholders about what policy directions are considered fair in South Africa. As previous studies have pointed out, South Africa has experienced a historic lack of success using consultation processes to achieve consensus between stakeholders in South Africa, particularly for contentious issues such as climate policy (Tyler & Hochstetler, 2021). Several significant barriers complicate South Africa's efforts to decarbonise without exacerbating justice issues in the country, including its heavy reliance on coal, substantial infrastructure gaps in public service provision, low levels of public trust and

high levels of socioeconomic inequality. While the carbon tax is described by respondents as South Africa's first explicit, compulsory climate policy measure, other complementary policies will be necessary to address the justice concerns arising in South Africa's transition to a greener economy, while the Presidential Climate Commission (2023) has estimated the country will need to attract additional climate finance to fill a gap of ZAR203 billion to ZAR404 billion per year (€10–€20 billion).

Moreover, in both the Irish and South African cases, power imbalances between different actors in the consultation process impacted the outcome of the policy design. In the Irish case, some NGO and union respondents reported limitations in their technical acumen and resources during the consultation process to be a barrier for implementing a more just and equitable carbon tax. Respondents in the South African case similarly report limitations in the technical acumen and resources of NGOs and unions but also observe low levels of climate change awareness in the public and observe that businesses in high-emitting sectors have a disproportionate influence on policy design, which appears to result in worse outcomes than the Irish case in terms of climate justice. Since procedural justice concerns are similar across both cases in terms of the resources and influence of different stakeholders, further analysis is called for to assess the obligations of governments towards stakeholders with less influence during the policy design process for a carbon tax. As such, an analysis of government obligations regarding stakeholder rights and interests is conducted in the following chapter.

## **5.6 Conclusion**

This chapter contributes a qualitative study of the South African carbon tax which examines the ethical principles considered in the design and implementation of the tax. The study confirms some existing findings in the South African case regarding regressiveness (Bohlmann et al., 2022; Okonkwo, 2021) and existing studies about public perceptions of fairness under a carbon tax in developing countries (Ghafouri et al., 2022; Marcos et al., 2022; Pulver, 2009). Considering the ethical principles that are considered in the development of the carbon tax, this study is consistent with the findings of the literature review, since respondents are concerned with distributive, procedural and recognition justice. The findings in this study are also consistent with the literature on the ethical implications of carbon pricing for developing countries, as debates about rights to economic development and the impacts of BCAs discussed in 2.3.6.5 were also discussed by interview respondents in the South African case study. However, this study differs from the findings of the literature

review on offsetting, as some respondents in the study had a positive view on the benefits of offsets, compared to the literature review, where offsets were criticised far more extensively than other instruments. The positive view of offsetting as a source of climate finance by respondents in a developing country context despite the numerous ethical objections in the literature reinforces the urgent need for developed countries to at least meet their climate finance pledges as discussed in section 2.4.1.

While existing studies of regressiveness demonstrate an attentiveness to distributive justice under a carbon tax, this study further highlights that procedural and recognition justice play a critical role in shaping the ethical dimensions of carbon pricing policies. Regarding recognition justice, this study finds that without careful policy design, the South African carbon tax may exacerbate historical and systemic inequalities, but that a recognition justice narrative could play a role in improving the perceived fairness of South Africa's energy transition if the carbon tax is designed carefully in combination with other energy policy measures. The findings of this study *vis a vis* procedural justice mirror some of the findings in the previous study on the Irish carbon tax which suggest that power imbalances exist in the design process for the carbon tax and that further actions by the government are required to achieve procedural justice.

In considering which elements of a carbon tax are considered to have an ethical dimension in the South African carbon tax, the fairness of the consultation process and setting of the tax rate were found to be ethically contentious issues while respondents were also concerned with the transparency of changes to the tax design, the use of revenues to mitigate negative impacts of the tax, the availability of climate finance in South Africa to assist stakeholders liable for the carbon tax, and the acceptability of offsetting under the carbon tax. In addressing the question of stakeholders considered in the tax design, respondents indicate that South Africa's carbon tax disproportionately favours businesses in high-emitting sectors, while uncertainty persists regarding how workers and low-income households will be protected from increasing energy costs as the next phase of the tax is implemented.

## Chapter 6 – Stakeholder analysis of the Irish and South African carbon tax

### 6.1 Introduction

The previous chapters have demonstrated that many of the ethical issues arising in the use of carbon pricing instruments can be addressed through careful policy design. The chapters have further demonstrated that during the policy design process, the power dynamics of different stakeholder groups influence the development of carbon pricing policies, and that the rights and interests of some groups are not always represented in policy design. This chapter seeks to address research objective 2) Conduct a normative analysis of a selection of ethical issues involved in carbon pricing and 3) Develop a set of recommendations for a selection of stakeholders.

Since previous chapters have highlighted that some groups are better able than others to advocate for their rights and interests under a national carbon price, this chapter conducts a normative analysis of the rights and interests of dependent stakeholders in the design of national carbon taxes. I use Mitchell et al.'s (1997) stakeholder theory to identify dependent stakeholder groups in the policy design process for a national carbon tax. For the normative analysis of the rights and interests of a selection of stakeholders, I focus on dependent stakeholders, as defined by Mitchell et al. (1997) as those who have little or no power in the stakeholder consultation process but whose needs are urgent and legitimate. I further make recommendations for policymakers regarding their obligations to respect the rights and further the interests of dependent stakeholders. To conduct the normative analysis, this chapter will draw from the results developed in the literature review and two case studies. As such, the selection of dependent stakeholders will focus on the Irish carbon tax and South African carbon tax. In order to identify a selection of dependent stakeholders and make recommendations for what policymakers' obligations should be towards these stakeholders based on a normative analysis, this chapter seeks to answer the following questions:

1. Who are the dependent stakeholders in the design of national carbon taxes in Ireland and South Africa?
2. What are the moral obligations of Ireland and South Africa's government towards a selection of stakeholders in the development of a carbon tax?

Question 1 will aid in the identification of a selection of stakeholders for the normative analysis. Question 2 will address the normative analysis and subsequent recommendations for the selected stakeholders.

This chapter proceeds as follows. Section 6.2 briefly introduces stakeholder theory and its usefulness as a tool for normative analysis in public policy contexts. Section 6.3 outlines the methodology for my analysis based on Mitchell et al.'s (1997) stakeholder typology and the *prima facie* obligations the principal may have regarding the rights and interests of stakeholders. Section 6.4 conducts a descriptive analysis of stakeholders discussed in the literature review and case studies in order to identify dependent stakeholders. Section 6.5 conducts a normative analysis of government obligations towards dependent stakeholders in the Irish carbon tax and South African carbon tax.

## **6.2 Stakeholder theory**

Stakeholder theory was initially posited as a business management theory to explain the obligations of firms towards groups who are not shareholders of the firm but who nonetheless affect or are affected by the behaviour of the firm (Freeman, 1984; Freeman et al., 2010b). Evan and Freeman have defined stakeholders in several ways, ranging from the broad definition of a group who “can affect or is affected by a business” to the more specific definition of those who “benefit from or are harmed by, and whose rights are violated or respected by, corporate actions” (Evan & Freeman, 1988, p. 79). Over time, the theory has evolved from a business management model to a broader framework used in public policy and social science research (Freeman et al., 2010a; Wicks et al., 2019). Stakeholder theory is considered a useful tool for analysis in policy contexts because: it includes all the affected parties, ensuring that the interests and concerns of diverse groups are considered; it highlights the moral responsibilities of policymakers towards stakeholders; and it encourages active engagement and participation of stakeholders in the policy-making process, leading to more democratic and transparent governance (Brugha & Varvasovszky, 2000; Freeman et al., 2010a; Wicks et al., 2019).

In the following section, I develop a methodology based on the framework for stakeholder theory advanced by Mitchell et al. (1997). I will use this framework to identify a selection of stakeholders in the Irish and South African carbon tax and make a normative argument that policymakers have obligations to further the interests of these stakeholders.

## 6.3 Methodology

### 6.3.1 Stakeholder typology as proposed by Mitchell et al. (1997)

Mitchell et al. (1997) develop a descriptive theory to explain how stakeholders' interests are prioritised by firms based on the attributes of power, urgency and legitimacy. Mitchell et al. (1997) argue that previous stakeholder theories are either too narrow or too broad to accurately explain how managers identify stakeholders in complex, varying and context-specific situations. As such, the authors propose a typology of three attributes that explain which stakeholders managers consider salient, as shown in Figure 6.1 (Mitchell et al., 1997).

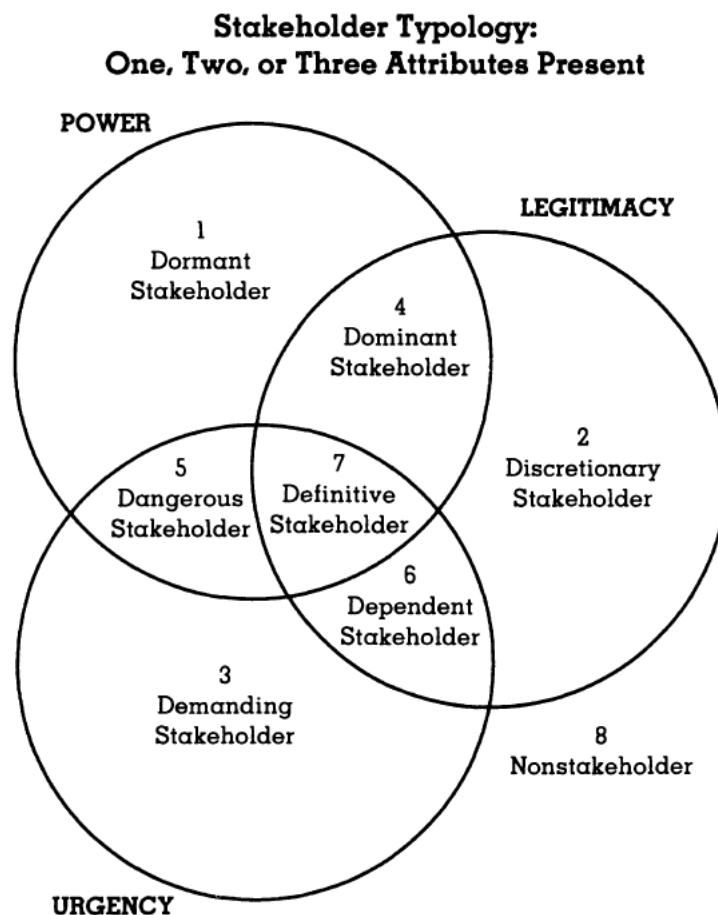


Figure 6.1: Stakeholder Typology from Mitchell et al. (1997), p 874

According to Mitchell et al., managers are more likely to perceive stakeholder interests to be salient if they possess more of the attributes shown in Figure 6.1. Using this typology stakeholder 7 would be perceived by managers to be the most important, and stakeholders 4–6 would be deemed more important than stakeholders 1–3.

The attributes of power, urgency and legitimacy are defined by the authors as follows:

a) **Power:** the ability of one actor to influence the actions or behaviours of another actor. Three types of power which Mitchell et al. draw from Etzioni (1964) are: “coercive power, based on the physical resources of force, violence, or restraint; utilitarian power, based on material or financial resources; and normative power, based on symbolic resources.”(Mitchell et al., 1997, p. 865). While normative power and how it is measured is not more accurately defined by either Etzioni (1964) or Mitchell et al. (1997), Mitchell et al. do give one example of stakeholders wielding normative power as “those who can command the attention of the news media” (p. 875).

c) **Legitimacy:** “based upon contract, exchange, legal title, legal right, moral right, at-risk status, or moral interest in the harms and benefits generated by company actions” (Mitchell et al., 1997, p. 862).

c) **Urgency:** “calling for immediate attention” under two conditions “(1) when a relationship or claim is of a time-sensitive nature and (2) when that relationship or claim is important or critical to the stakeholder.” (Mitchell et al., 1997, p. 867).

Having defined each of these attributes, the authors stipulate that the attributes are transitory rather than steady, meaning, for example, that power is something that can be gained or lost (Mitchell et al., 1997). Furthermore, the authors clarify that stakeholders may possess these attributes in different ways, such that the power of a stakeholder may range from complete to non-existent (Mitchell et al., 1997). Finally, the authors acknowledge that the principal engaging with stakeholders may incorrectly identify the attributes of the stakeholder, such that their claims may be incorrectly identified as not urgent or they may be erroneously considered to have power or not (Mitchell et al., 1997). Despite these limitations, the authors argue that stakeholder attributes can be measured reliably enough to determine the salience of different stakeholders (Mitchell et al., 1997).

While the authors make the claim that understanding these three attributes and how they interact will more accurately describe the way stakeholders are identified by firms, they make no normative claims stipulating the obligations of firms towards different stakeholder groups (Mitchell et al., 1997).

### ***6.3.2 Adjustments to Mitchell et al.’s stakeholder framework***

I propose to adjust the framework defined above and apply it to the case of the Irish carbon tax and the South African carbon tax. I will adjust this framework in the following ways:

- I will conduct a normative analysis of the principal's obligations towards dependent stakeholders, whereas Mitchell et al.'s (1997) typology remains descriptive,
- I will consider the government as the principal rather than the firm, as is the case in Mitchell et al.'s (1997) typology.

### 6.3.2.1 Normative Analysis

Mitchell et al. (1997) make no normative claims stipulating the obligations of firms towards different stakeholder groups. To make a normative argument about what obligations governments have towards dependent stakeholders, I will refer to the normative dimension of Evan and Freeman's 1998 definition of stakeholders, as discussed in Mitchell et al. (1997).

Evan and Freeman define stakeholders as those who:

*“Benefit from or are harmed by, and whose rights are violated or respected by, corporate actions”* (Evan & Freeman, 1988, p. 79; Mitchell et al., 1997, p. 858).

When considering the extent to which a stakeholder's rights or interests are impacted by the principal, there are two *prima facie* obligations the principal may have: 1) not to violate the rights and not to harm the interests of the stakeholders, and 2) to respect the rights and further the interests of the stakeholders (Ross, 2002).<sup>39</sup> The first obligation represents a minimum threshold the principal must meet, while the extent to which the principal is obligated to respect the rights and further the interests of stakeholders may be subject to debate. The responsibility of governments to fulfil the second *prima facie* obligation will be discussed further in section 6.5.

Moreover, I further define the terms “rights” and “interests”. Freeman does not explicitly clarify the difference between rights and interests in his formative work on stakeholder theory, *Strategic Management, A Stakeholder Approach* (1984), but these ideas have been expanded upon in subsequent literature by Donaldson & Preston (1995), Phillips (2003) and Freeman et al. (2010b). Rights are ethical or legal entitlements that stakeholders hold. These are often grounded in moral or legal frameworks. Phillips (2003) emphasises that respecting rights is a minimum ethical standard. Meanwhile, interests are not binding in a legal or moral sense, but they are the broader concerns, desires, or benefits that stakeholders seek. While they may not always have legal or moral backing, interests are still important

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<sup>39</sup> *Prima facie* obligations, as articulated by Ross (2002), refer to duties that are binding at first sight or by default, but which may be overridden if more pressing moral considerations arise. *Prima facie* obligations provide a structured way to acknowledge multiple moral considerations in a complex situation or to consider contexts where there may be multiple stakeholders with competing moral claims, as is the case in government policymaking.

considerations for stakeholder engagement from a moral perspective and must be identified and balanced by governments to build trust in government and acceptance of its policies. Donaldson & Preston (1995) and Phillips (2003) highlight the moral importance of balancing different stakeholder interests to achieve fairness. In balancing different interests, Donaldson & Preston (1995) and Freeman et al. (2010b) discuss the importance of dialogical processes, negotiation, and collaboration between stakeholders.

Informed by the existing literature about the rights and interests of stakeholders, I will conduct a normative analysis of the government's obligation to not violate the rights or harm interests of dependent stakeholders and to further support the interests of dependent stakeholders in the development of a national carbon tax. Dependent stakeholders are important for governments to consider because governments have a moral responsibility to protect the rights and interests of citizens. In addition, because they lack power, dependent stakeholders are more likely to be overlooked. In defining rights as a minimum ethical standard, I refer to the United Nations' Universal Declaration of Human Rights, which have codified the basic human rights to which all human beings are entitled (United Nations, 1948). Both Ireland and South Africa have signed the Universal Declaration of Human Rights. As such, the realisation of these rights as they relate to a national carbon tax can be used as a minimum threshold of what governments owe their dependent stakeholders when designing a carbon tax. Interests can be extrapolated from the claims made by stakeholders in the descriptive analysis.

#### *6.3.2.2 Government as the principal*

This analysis will also be different from the analysis conducted by Mitchell et al. (1997) because the responsibility of businesses towards their stakeholders is different from the responsibility of governments towards stakeholders. There is a large and diverse body of literature which defines the role of businesses in society, in which that role ranges from wealth creation, fostering critical technological innovation, addressing climate, environmental and other ethical concerns, protecting human rights while doing business, or providing social goods (philanthropy, individual or corporate) (Sastry, 2011; Schrempf-Stirling et al., 2022; Schwartz & Carroll, 2008). Meanwhile, another body of literature examines the role of government in society, in which the role of government ranges from maintaining order and guaranteeing safety of citizens, to providing a platform for collective decision-making by members of society, to the provision of public welfare and services, to regulation of the economy (Kirlin, 1996; Raadschelders, 2020; Stiglitz, 1997). The extent to

which businesses or governments fit into the roles described above is much debated in the literature, but it is sufficient for this analysis to state that within these definitions, a firm has a fiduciary duty to shareholders while governments, specifically in a liberal democracy, have a broader duty to the electorate and taxpayers. In this case, a government has a broader range of responsibilities to a different range of stakeholders.

As per the data collected in the previous chapters, some stakeholders in the design of carbon pricing instruments may struggle to meet the increased costs of fossil-fuel energy prices and their needs may be met differently depending on how revenues are distributed, with implications for energy poverty, livelihoods, or health co-impacts. However, some of these groups who are impacted lack the agency, resources or technical acumen to advocate for their own interests in the design of a carbon tax, and as we have seen in the case studies, the interests of certain groups can be overlooked in the policy design. Therefore, this stakeholder analysis will make a case for the government's *prima facie* obligations towards these dependent stakeholders in the design of national carbon taxes. Considering government obligations towards disadvantaged groups as discussed by Berlin (1969) and Rawls (1999), I argue that the government has obligations to further the interests of dependent stakeholders because not only are their claims legitimate and urgent, but they are also relatively powerless to ensure that their claims are taken seriously.

#### **6.4 Descriptive Analysis**

In the literature review and case studies, several groups of stakeholders in the design of carbon pricing instruments have been identified using both bottom-up and top-down coding (see methodology for literature review and case studies). Using the results from the previous chapters, I will use descriptive stakeholder analysis according to Mitchell et al.'s (1997) typology to identify stakeholders who are dependent, that is, their claims are urgent and legitimate, but these stakeholders lack power. Firstly, I identify a selection of stakeholders from the literature review and case studies who will be included in the descriptive analysis. The stakeholders discussed across both studies are considered and I provide an explanation below for which stakeholders are included or excluded in the descriptive analysis. Secondly, I consider the extent to which these stakeholder groups possess the attributes of power, legitimacy and urgency as described by Mitchell et al. (1997). In considering which groups have urgent and legitimate claims but who lack power, I will identify which stakeholders are considered dependent.

In the systematic literature review, I asked: How are the rights and interests of different stakeholder groups considered in the literature? Which stakeholder groups are discussed? The following stakeholder groups were identified in addressing this question:

- Low-income households
- Indigenous peoples
- Women
- Ethnic or racial minorities
- Developing countries
- Future generations
- Businesses in high-emitting sectors
- Workers in high-emitting sectors

In the subsequent case studies, interview respondents were asked to consider: How are the interests of stakeholders considered by experts who are involved in the design and implementation of carbon pricing policies? Which stakeholder groups are discussed? Respondents identified several stakeholders as consistent with this initial list, with some differences, as follows:

<b>Stakeholders identified from data collection</b>		
<b>Literature Review</b>	<b>Irish Study</b>	<b>South African Study</b>
Low-income households	Low-income households	Low-income households
	Rural households	
	Renters	
	Older persons and people with disabilities	
Indigenous Peoples	<i>None</i>	<i>Limited data</i> <sup>40</sup>
Women	<i>Limited data</i>	<i>Limited data</i>
Ethnic or Racial Minorities	Irish Travellers	<i>Limited data</i>
	<i>Limited data (ethnic minorities who are not Travellers)</i>	
Developing Countries	Developing Countries	Developing Countries
Future Generations	Future Generations	<i>Limited Data</i>
Businesses in high-emitting sectors	Businesses in high-emitting sectors	Businesses in high-emitting sectors
Workers in high-emitting sectors	Workers in high-emitting sectors such as peat	Workers in high-emitting sectors such as coal mining

<sup>40</sup> I consider there to be limited data on the stakeholder groups mentioned in Table 6.1 either when not enough data emerged on these groups in the interviews and supplementary documents or when interviewees and supplementary data identified these groups as being insufficiently studied

	harvesting or peat energy production and agriculture	and energy production and manufacturing
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Table 6.1: Stakeholders identified from data collection

The data collected in the Irish study is more detailed because the Irish carbon tax has been implemented for a longer period, while in the South African case, the tax currently does not apply to households, so subgroups of low-income households have not been identified. Similarly, the data collected for this study from interviews, secondary data and the academic literature review is limited in the extent to which it discusses the differentiated impacts for racial and ethnic minorities in South Africa, beyond noting that black households in South Africa are more likely to be living in energy poverty or be unable to access the electricity grid than white households. In the Irish case, data on ethnic and racial minorities is limited beyond data on impacts for the Irish Traveller community. Since many of the impacts of the carbon tax on the Irish Traveller community are in relation to their likelihood to be in energy poverty or at risk of energy poverty, they will be discussed as part of the low-income household stakeholder group. In addition, data on women was limited in both case studies, so women are not discussed in this study as a differentiated stakeholder group. There are no Indigenous communities in Ireland and since households are currently exempt from the South African tax, limited data was available on the impact of a carbon tax on Indigenous households in South Africa. While developing countries and future generations are discussed to differing extents across all three studies, these groups are excluded from this analysis for the following reasons:

In the previous chapters, some authors in the literature and respondents in the case studies consider that a high rate of carbon tax to cut more emissions in the present will be of greater benefit to future generations, while less ambitious carbon taxes in the present will harm future generations. While this discussion has important ethical implications, future generations are problematic to consider using Mitchell et al.'s (1997) typology. It is problematic philosophically to say that entities who do not exist are making claims about their rights or interests. In addition, it is problematic to conceive of future generations as having entitlements and interests at all, since they do not yet exist (Beckerman, 2006; Parfit, 1987). While the possible rights and interests of future entities is an interesting metaphysical discussion, this is not the appropriate forum for that discussion. Since the focus of this analysis is on stakeholders who can be definitively classified as dependent, I will only consider stakeholders who can definitively be said to have claims in the present.

Moreover, some authors in the literature and respondents in the case studies consider how the responsibilities of developing and developed countries to reduce their emissions should be differentiated when considering historical responsibility and differentiated capabilities of these countries to reduce their emissions. This discussion relates to carbon pricing instruments most often when considering international instruments such as international offset credits or carbon border adjustment mechanisms. However, this analysis is limited in its scope to considering two national carbon taxes for two specific country-contexts. Whether or not any developing country should be considered a stakeholder in the design of a national tax (neither the Irish tax nor the South African tax includes a BCA, so their international implications are limited) is problematic to consider due to issues of sovereignty. Also, the specific obligations of Ireland (a relatively small country with a relatively low contribution to global emissions)<sup>41</sup> towards any specific developing countries is problematic to define. In addition, if one considers the extent to which revenues from a carbon tax should be recycled to other countries, one must then consider whether developing countries should be considered dependent stakeholders in any fiscal instrument adopted by a developed country? In this case, since carbon taxes are limited fiscal instruments, discussions of shares of the global carbon budget or climate finance owed to developing countries are more prudently examined in a broader policy discussion than the design of a national carbon tax which does not include a BCA. As such, developing countries will not be considered in this analysis.

Given the limitations discussed in this section, the stakeholders evaluated in the descriptive analysis to determine if they are dependent are as follows:

- Low-income households
- Workers in high-emitting sectors
- Businesses in high emitting sectors

This mapping is non-exhaustive in that it does not consider stakeholders who have not been identified in the previous literature and case studies (e.g. businesses in the renewable energy sector, transportation sector, middle-income households, high-income households). Furthermore, the extent to which non-dependent stakeholders fall into the different stakeholder categories defined by Mitchell et al. (1997) is not within the scope of this study.

The sections below will outline the claims made by each stakeholder group and define the extent to which each group possesses power, legitimacy and urgency. In line with Mitchell et al.'s (1997) definition of these attributes as transitory (they can be gained or lost) and varying

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<sup>41</sup> In 2022, Ireland accounted for 0.1% of global CO<sub>2</sub> emissions, or 6.45 tCO<sub>2</sub> per Capita (IEA, 2022)

(they can be possessed to different degrees), I will describe the stakeholder attributes as follows: high power agents, medium power agents, and low power agents, highly legitimate agents, medium legitimate agents, low legitimate agents, or high urgency agents, medium urgency agents and low urgency agents. Since relative levels of power are difficult to definitively ascribe to actors in a policy development process, some actors below will be considered to have medium-to-high or medium-to-low power. I will consider agents with medium-to-low power, low power, high urgency and high legitimacy to be dependent stakeholders.

When considering the definitions of the three attributes by Mitchell et al. (1997) (See 6.3.1), I make some clarifications. Firstly, I further consider Etzioni's (1964) definition of power: coercive power from physical force or violence; utilitarian power, considering manpower or financial resources; and normative power, using symbolic resources (e.g., media attention) (Mitchell et al., 1997). I consider these three types of power in the descriptive analysis.<sup>42</sup> Secondly, as defined by Mitchell et al., urgency exists under two conditions 1) the claim is time-sensitive *and* 2) the claim is critical to the stakeholder (Mitchell et al., 1997, p. 867). I consider both these conditions in the descriptive analysis. Moreover, regarding legitimacy, I consider the extent to which stakeholders' claims are derived from contract, exchange, legal title, legal right, moral right, at-risk status, or moral interest in the harms and benefits generated by the principal's actions (Mitchell et al., 1997, p. 862).

#### **6.4.1 The Irish Case**

The consultation process on the decision to raise the carbon tax rate took place as part of a citizens' assembly. To this extent, any stakeholders making claims about whether the carbon tax should be higher or lower, or which sectors should be covered by the tax, can be considered to have had some representative power in the decision-making process. The consultation on how revenues would be hypothecated occurred during a separate process to the citizen's assembly. According to a government respondent, the consultation was conducted online and via post, and resulted in 66 responses (See 4.3.2). The government

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<sup>42</sup> Categorisations of power for the stakeholders described in this analysis can be debated to some extent because the normative political influence of different stakeholders over the policymaking process is difficult to definitively assess. For example, in a liberal democracy, low-income households arguably have power as a voting block but the extent to which this has influenced the policy design of the carbon tax has not been determined by this study. Data for this study is limited to the information collected in the literature review, the expert interviews and accompanying documents collected for the case studies. As such, it is not known to what extent policy decisions were made in order to cater to low-income households as a voter group.

received submissions from individuals, NGOs, business associations, academic bodies and public sector bodies (See 4.3.2). Based on the submissions received during consultation, the Department of Public Expenditure and Reform (DPER) published a policy document outlining how the additional revenues are hypothecated (See 4.3.2). Respondents in the descriptive analysis below who discuss their levels of influence over the consultation process are referring to the consultation process for revenue hypothecation, not the consultation process for the decision to raise the tax rate.

#### *6.4.1.1 Low-income households*

**Claim:** Low-income households do not participate directly in the consultation process, so claims on behalf of this group come from NGOs advocating for the rights of groups who are vulnerable to energy poverty and from think tanks who are advising that the carbon tax is regressive. Respondents in the study have been clear that they are not advocating for pausing carbon tax increases or removing the carbon tax (See 4.3). These respondents are calling for revenues to be targeted towards households who are negatively impacted by the tax because they spend a larger portion of their household budget on their energy needs, and they lack access or agency to switch to more efficient or sustainable energy options. To the extent that the carbon tax revenues have been allocated to address regressiveness, some respondents claim that revenues are not targeted in a way that accurately accounts for the differences in fuel use patterns between households, such that some low-income households are not adequately supported.

Specifically, respondents criticise retrofit grants because low-income households who qualify for retrofits are on a two-year waiting list while those who can afford half the cost of a retrofit have their households retrofitted in six months; in addition households who do not own homes in the traditional sense (renters, travellers living in mobile homes) do not have access to retrofits (See 4.4.2). In addition, respondents make the claim that fuel allowances funded under the carbon tax revenues do not adequately support all low-income households because they do not account for differences in fuel use, such that low-income rural households have a higher dependence on solid fuels, and older persons or disabled households have higher energy needs (See 4.4.2).

**Power:** As defined by Mitchell et al. (1997), a stakeholder is dependent when they

*“depend upon others for the power necessary to carry out their will. Because power in this relationship is not reciprocal, its exercise is governed either through the advocacy or guardianship of other stakeholders” (p 877).*

According to this definition, low-income households can be considered dependent because their rights and interests in the earmarking of revenues were represented through advocacy channels. In addition, some NGO respondents representing low-income households in the Irish study have cited a lack of technical acumen and financial resources (See 4.3.2). While NGO respondents are aware of the implications of a carbon tax for those at risk of energy poverty, some lack the technical acumen to engage in more technical conversations about the design of the carbon tax (See 4.3.2). Some groups also describe the lack of manpower to make detailed submissions on the consultation process for the carbon tax due to the wide number of issues some NGOs lobby on (See 4.3.2).

Regarding symbolic power, the Sinn Féin political party has appeared in the news advocating for a pause in the annual tax increase or overall cessation of the Irish carbon tax on the grounds that it is regressive for low-income households (See 4.3.1). Some may consider this symbolic power if the claims being made by Sinn Féin were accurate. The regressiveness of the carbon tax is already being addressed by the recycling of 35% of revenues, as a result of which the bottom five income deciles are better off than they were before the revenues were hypothecated (See 4.4.1). Therefore, the removal of the carbon tax would not improve the situation for low-income households. A more accurate representation of the problem is that the targeting of carbon tax revenues is not accurate enough to account for differences in fuel use patterns, type of home ownership and energy needs. If a group with the power to attract media attention inaccurately represents the way the tax harms and benefits low-income households, while a more accurate representation is available through advocacy channels that receive less attention, this is further evidence that low-income households lack the power to make their claims heard.

**Legitimacy:** The impacts of the carbon tax on low-income households are a well-documented phenomenon in the Irish case (See 4.3.1). Due to the increase in fossil-fuel prices, low-income groups are at high risk of falling into or becoming further entrenched in energy poverty without the proper allocation of social welfare measures (See 4.3.1). Energy poverty causes tangible harms to households and can impact the physical and mental health of households, impact their mobility if the cost of transportation rises, or lower their quality of life (Barrett et al., 2022).

**Urgency:** As fossil-fuel energy prices increase, the risk of health, mobility, or quality-of-life impacts on low-income households can be immediate and severe.

**Dependent or Not Dependent Stakeholder:** Low-income households are represented through advocacy channels in a non-reciprocal power relationship. Moreover, the symbolic and utilitarian power of groups who accurately represent the claims of low-income households is limited. Therefore, low-income households are considered low power agents. The claims being made on behalf of low-income households are highly legitimate and highly urgent. Therefore, they are characterised as dependent stakeholders.

#### *6.4.1.2 Workers in high-emitting sectors*

**Claim:** The claims of workers in high-emitting sectors are represented in the Irish case by workers' unions and the farming lobby. In the case study, respondents have not made claims about the impacts of the carbon tax specifically on workers. However, they do make claims that revenues hypothecated from the carbon tax to assist workers in transition are not accurately targeted, not fit-for-purpose and do not result in wage-replacement for workers in high-emitting industries.

**Power:** As described in the Irish case study, some union respondents cite the lack of manpower to make detailed submissions on the consultation process for the carbon tax due to the wide number of issues they work on (See 4.3.2). Respondents from the agricultural sector do not make comments that they lack manpower or technical acumen. The farming lobby has some symbolic power as their initial objections to raising the carbon tax were picked up by the Irish media (See 3.3.1.3).<sup>43</sup> Workers' unions have the power to organise and strike, which would constitute coercive power, but workers' strikes have not occurred against the Irish carbon tax. Since union respondents have cited limited knowledge and engagement on climate policy issues, it is unclear whether the lack of strikes in opposition to the carbon tax are a strategic choice or whether they reflect a lack of awareness of the carbon tax. Workers in high-emitting sectors can be considered to have some power in the Irish case because workers' strikes are a form of coercive power, but since it is unclear how the capacity to strike is limited by the level of union awareness and engagement on climate policy issues, I will consider them to be medium-to-low power agents.

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<sup>43</sup> As of the interviews which took place for this case study in 2023-2024, respondents from the agricultural sector did not object to the use of or incremental increase in the carbon tax.

**Legitimacy:** The government has recognised in the budget design for carbon tax revenues that the transition to a low-carbon economy will result in short-term disruption to certain enterprises, workers and communities, and have allocated a portion of the carbon tax budget to ensure a just transition in “areas of the country that are at risk of disruption and job losses as a result of a changing economy” (DPER, 2019, p. 3).

**Urgency:** There are concerns about the impacts of other climate policies on workers in high emitting sectors; according to interview respondents in the Irish case, workers in high-emitting industries are currently subject to some impacts from the EU ETS, but as allowances are phased out and more businesses become liable for the emissions cap, workers may experience greater threats to their jobs due to rising fuel prices (See 4.4.2.3). Interviewees have further indicated that current climate policy impacts experienced by farmers and workers in Ireland are more a result of direct regulation by the government rather than carbon pricing (such as bans on peat harvesting and emissions reductions targets in agriculture) (See 4.4.2.3). While the impacts of the green transition are acknowledged to have a negative impact on the livelihoods of workers in high-emitting sectors, interviewees have indicated that these sectors are not as directly impacted by the carbon tax as by other climate measures, such as the ETS and direct regulation (See 4.4.2.3). Since the carbon tax is an instrument with limited scope and impact on workers in high-emitting sectors in Ireland, the claims of workers in high-emitting sectors can be characterised as having low urgency when compared to the claims of other stakeholders.

**Dependent or Not Dependent Stakeholder:** Workers in high-emitting industries can be said to have medium-to-low power in the design of the Irish carbon tax. Claims that workers’ livelihoods are disrupted by the green transition have been acknowledged by the government, but they cannot be said to be severely impacted by the carbon tax, as it is a limited instrument which currently covers electricity in buildings and transportation emissions. Therefore, their claims can be said to have medium legitimacy. While their claims could be argued to be urgent if the carbon tax resulted in short-term job losses, this does not appear to be the case in the Irish carbon tax. Therefore, their claims can be described as having low urgency. In sum, workers in high emitting sectors are not characterised as dependent stakeholders in the case of the Irish carbon tax.

#### *6.4.1.3 Businesses in high-emitting sectors*

**Claim:** Business associations interviewed for the Irish case study do *not* make claims that

Ireland should lower or withdraw the carbon tax. While interviewees have reported that Irish businesses are on board with the need to reduce their emissions, business associations argue that investments in green technology and infrastructure are expensive (See 4.4.2.4).

Respondents have not commented on the impacts of the tax on business based on their size or sector but have indicated that some businesses are under pressure to meet increased costs of doing business (See 4.4.2.4). This stakeholder group is claiming they need greater financial support from the government for costlier investments such as renewable heat pumps and is calling for stronger government guidance on which technologies to invest in the better to de-risk business investments (See 4.4.2.4).

**Power:** The relative power of big businesses compared to smaller businesses, or the power of different sectors was not discussed by interview respondents. However, respondents from business associations in Ireland reported to have a proficient technical knowledge of carbon taxation to engage in consultations on the tax design and observed that business associations are large and well-resourced networks, such that manpower issues were not reported (See 4.3.2). Business associations have the power to conduct public relations campaigns and can attract media attention. Businesses can therefore be said to have some symbolic power. Since they definitively have utilitarian power and have some symbolic power, Businesses in high-emitting sectors can be defined as being high power stakeholders.

**Legitimacy:** The economic concerns of businesses are valid to some extent. Businesses create jobs, support livelihoods, and provide services. Some businesses face a greater existential threat than others when facing the increased costs of operating. However, economic self-interest is less legitimate a claim than claims to reduce energy poverty or risks to livelihoods which have been cited by other stakeholders. The claims of businesses can therefore be said to have medium legitimacy.

**Urgency:** There are concerns about the impacts of other climate policies on workers in high emitting sectors; respondents have highlighted that businesses in Ireland may face a high economic burden from the EU ETS once free allowances under the ETS are phased out (See 4.4.2.4). However, respondents from business associations do not consider the carbon tax to have a high impact on most businesses in Ireland compared to other measures (See 4.4.2.4). Therefore, the claims of businesses as they relate to the Irish carbon tax can be considered to have low urgency.

**Dependent or Not Dependent Stakeholder:** While the power of individual businesses may vary in the consultation process for the Irish carbon tax design, businesses in high-emitting sectors overall have utilitarian power and some symbolic power, making them high power agents. The claims of businesses have medium legitimacy but not high legitimacy. While the impacts of the carbon tax are likely to be different across different sized businesses and across sectors, their claims overall can be classified as having low urgency in the Irish context. As such, businesses are not considered dependent stakeholders in the Irish case.

#### ***6.4.2 The South African Case***

Overall, the process for consultation on the South African carbon tax was reported to include business associations, businesses, labour unions, civil society and academics (See 5.3.1). The consultation process for the design of the tax (including the tax rate, covered entities and the use of exemptions) was extensive as the Treasury's initial proposal and call for comments was published in 2010 and the tax was implemented in 2019 (See 5.3.1). Unlike the Irish case, revenues are not currently hypothecated under the tax. As such, discussions about the design measures to mitigate the negative impacts of the tax on different groups refer either to the current use of exemptions or South Africa's Just Energy Transition Implementation Plan (JET IP) (5.3.4 Revenue use, regressiveness and negative impacts of the carbon tax on households)

The South African carbon tax came into effect in 2019, and covers large businesses across industry, power, and transport sectors (World Bank, 2024). Household emissions are not currently covered under the carbon tax (World Bank, 2024). In its current phase, covered firms are exempted from 60%–95% of their liability for the tax and are able to offset 10% of their tax liability using domestic carbon credit projects (World Bank, 2024). Since there are so many exemptions under the current tax, there were no impacts on households and limited impacts on businesses, and therefore the stakeholder groups discussed by interviewees are less detailed than those discussed in the Irish case.

##### ***6.4.2.1 Low-income households***

**Claim:** As low-income households do not participate directly in the consultation process, claims on behalf of this group come from NGOs advocating for the rights of those who are vulnerable to the impacts of climate change or transition policies and from academics advising on the regressiveness of the South African carbon tax. Furthermore, several respondents have observed that there is not a high level of education and awareness of

climate change and its impacts in South Africa, although this is reported to be improving (See 5.3.1.1). As such, the extent to which claims made by interview respondents reflect the views of low-income households is debateable to some extent.

Nonetheless, those advocating for low-income households in the case study claim 1) that the South African carbon tax rate should be higher to incentivise a reduction in GHG emissions and to protect low-income households who are more vulnerable to the impacts of climate change (See 5.3.2.2) and 2) that use of carbon tax revenues or accompanying social welfare policies are necessary to protect low-income households from the regressive impacts of the tax (See 5.3.4).

**Power:** As defined by Mitchell et al. (1997), the power relationship between dependent stakeholders and those with the power to highlight their claims is not reciprocal and the claims of dependent stakeholders are normally brought forward through advocacy channels or systems of guardianship. This is the case for low-income households, since their rights and interests regarding the carbon tax were represented through advocacy channels. In addition, some respondents have described a lack of awareness of climate policy issues by the general public (See 5.3.1.1). Other respondents mentioned that civil society organisations who would be aware of issues impacting local communities were not involved in the consultation process (See 5.3.1.1). As detailed in the South African study, while some respondents report that the engagement of NGOs in policy consultation processes has improved over the course of the 10-year consultation process for the tax, many respondents have reported that the industry lobby has a disproportionate influence over the consultation process compared to other groups (See 5.3.1.2).

**Legitimacy:** Empirical studies have established that the South African carbon tax is regressive (Bohlmann et al., 2022; Okonkwo, 2021). Due to the increase in fossil-fuel prices, low-income groups are at high risk of falling into or becoming further entrenched in poverty without the proper allocation of social welfare measures. Poverty causes tangible harms to households and can impact the physical and mental health of households, impact their mobility, or lower their quality of life. As such, calls for robust support measures for low-income households who will be impacted by the carbon tax as exemptions are phased out have high legitimacy.

Furthermore, climate change in South Africa is a severe threat to low-income households. According to the University of Cape Town, severe weather events will put

increasing pressure on the already stretched public services and infrastructure, increase food insecurity through negative impacts on agriculture, and negatively impact the economy, worsening inequality in South Africa overall (Johnston et al., 2024). As such, claims that the carbon tax should be higher to encourage more ambitious action on climate change can be considered to have high legitimacy.

**Urgency:** As fossil-fuel energy prices increase, the risk of health, mobility, or quality-of-life impacts on low-income households can be immediate and severe.

**Dependent or Non-Dependent Stakeholder:** Low-income households are represented through advocacy channels in a non-reciprocal power relationship. Furthermore, observer groups making claims on their behalf have observed that they have limited influence in the consultation process compared to business and industry lobbies, making them low power agents. In addition, the claims being made on behalf of low-income households have high legitimacy and high urgency. Therefore, they are characterised as dependent stakeholders.

#### *6.4.2.2 Workers in high-emitting sectors*

**Claim:** The claims being made by workers in high-emitting industries in South Africa are difficult to ascertain due to differences in views and the influence of industry lobbies on workers' views (See 5.4.2). Some respondents did recall that the just transition was an idea initially proposed and owned by workers' movements (See 5.4.2). However, it is not clear whether workers oppose the phase-out of the extractives industry, since this industry has negative health impacts on workers and mining communities but also provides jobs (See 5.4.2). While the claims of workers are not always clear, a union respondent has claimed that the phase-in of a higher carbon tax should include clearer policies in place to ensure their job security and livelihoods (See 5.4.2).

**Power:** As detailed in the South African study, unions were only directly involved in the consultation process for the carbon tax to a limited extent, and one union respondent observed that most unions direct their resources and lobbying to addressing “shop floor”<sup>44</sup> issues rather than advocating on issues of climate policy (See 5.3.1). Therefore, their utilitarian power can be considered low. Workers' unions have the power to organise and

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<sup>44</sup> “Shop floor” issues refer to day-to-day workplace concerns that directly affect workers and are typically addressed by labour unions at the operational level. These issues often involve working conditions, wages, safety, and job security, among other practical matters that impact employees' daily lives.

strike, which would be considered coercive power, however, there has not been a workers' strike related to the carbon tax. Given the responses from interviews that union groups are divided or have limited engagement on climate policy issues, it is unclear whether the lack of strikes in opposition to the carbon tax are a strategic choice or whether they reflect a lack of awareness of the carbon tax. Workers in high-emitting sectors can be considered to have some power in the South African case because workers' strikes are a form of coercive power, but since it is unclear how the capacity to strike is limited by the level of union awareness and engagement on climate policy issues, the capacity to strike can be considered a medium-to-low form of power.

In addition, other respondents have observed that business and industry lobbies frequently co-opt the support of union groups by exaggerating claims of job impacts from policies such as the carbon tax (See 5.4.2). Given that the claims being made by businesses in high-emitting sectors have only medium legitimacy (See 6.4.3.2), it is unclear whether having workers' claims co-opted by businesses in high-emitting sectors can be considered a genuine form of power. Since they lack utilitarian power in the consultation process and possess some symbolic power through workers' unions, workers can be said to have medium-to-low power.

**Legitimacy:** The South African economy is currently dependent on manufacturing and minerals extraction, making workers in high-emitting sectors vulnerable to changes in the price of fossil-fuel usage. South Africa also has a high rate of unemployment, standing at 33.5% in 2024 (41.9% if including those who have given up looking for work) (Phoshoko, 2024). The Minerals Council estimates that direct and indirect job losses from the carbon tax could amount to 6,000 jobs lost per year (Baker, 2022). While a green transition in South Africa will create jobs in the renewables industry in theory (815,000 new jobs up to 2050 according to World Bank Projections) (World Bank Group, 2022), interview respondents cite concerns that job replacement from the renewable energy sector has not been implemented in a meaningful way to ensure job and wage replacement for affected workers (See 5.4.2). Given the immediacy of the carbon tax impacts on the economy and rates of employment in South Africa, the claims of workers in high-emitting industries can be considered to have high legitimacy.

**Urgency:** Given the high dependency on the extractives and manufacturing industries for employment in South Africa, disruption from the increase in fossil-fuel prices will cause direct and immediate consequences for workers at risk for job loss, reduced income, and

potential displacement. Some job losses may be immediate from the closure of coal plants, while other jobs may be displaced due to a ripple effect on the economy, particularly in mining towns. Direct job losses from increasing fossil-fuel prices have high urgency, while job losses from the ripple effect can be considered to have medium urgency.

**Dependent or Not Dependent Stakeholder:** While workers possess some coercive power in the form of workers' unions, unions showed limited engagement in the consultation process for the tax due to a higher focus on other policy issues, demonstrating a medium-to-low level of power. While the extent to which risks of job losses have been exaggerated by industry remains debateable, the concerns of workers in high-emitting industries can be considered to have high legitimacy due to the high rates of unemployment, existing economic dependence on high-emitting sectors, and current difficulties in ensuring job and wage replacement for workers in high-emitting sectors. Risks to the livelihoods and quality of life of workers in high-emitting sectors can be considered to have high urgency. Since they have medium-to-low power and their claims are highly legitimate and highly urgent, workers in high-emitting industries can be considered dependent stakeholders.

#### *6.4.2.3 Businesses in high-emitting sectors*

**Claim:** Business associations interviewed for the South African study argue that the South African carbon tax rate should remain low and that they should be provided with additional climate finance to invest in green technology. Respondents made some comments on the impacts of the tax on businesses based on their size or sector, but not to such an extent that business stakeholders can be definitively characterised here by size or subsector.

**Power:** Business associations interviewed for the case study reported to have sufficient technical acumen to engage in the consultation process and did not report any lack of power and resources in the consultation process. One respondent from a business association reported to be "very appreciative of our government's approach" to the consultation process (See 5.3.1.1). Other participants interviewed for the study reported that lobbies for businesses in high-emitting sectors in South Africa have a disproportionate impact on the policy design process in the country and have a long history of stalling climate or environmental legislation (See 5.3.1.2). Further literature supports the contention that the industry lobby has historically used its economic influence to lobby against environmental regulations (Baker, 2022).

Lobbies for businesses in high-emitting sectors such as Steel and Engineering Industries Federation of South Africa, Business Unity South Africa, Business Leadership South Africa,

and the South African Petroleum Industry Association have made media press releases against the use of or increase in the carbon tax (Just Share, 2022; Maswanganye, 2022; The Mail & Guardian, 2015). Given that they are well resourced and considered to be part of a powerful lobby, businesses in high-emitting sectors can be considered to have both utilitarian and symbolic power, making them high power stakeholders.

**Legitimacy:** Business associations argue that the South African economy is heavily dependent on extractives and that the carbon tax will have a negative impact on economic growth, which will have a significant knock-on effect on service provision, unemployment and wealth inequality (See 5.3.2.1). The economic concerns of businesses are valid to some extent, though some interviewees claim that the concerns of businesses are exaggerated (See 5.3.1.2). In addition, concerns about the economy and knock-on effects do not justify continuing practices that exacerbate climate harm, especially when options are available for workers and impacted regions to shift to more sustainable energy or employment alternatives. Therefore, the claims of businesses can be considered to have medium legitimacy.

**Urgency:** While economic losses from the carbon tax and their knock-on effects on service provision and unemployment are a real and immediate concern, the carbon tax rate is being raised in phased increments, so businesses should be able to account for these changes over a medium-to-long-term horizon while limiting harm and disruption. These cost increases are also more predictable than the impacts of climate change and can be addressed with a managed transition. Given that the potential impacts of a carbon tax on the South African economy are severe, but less severe than the impacts of climate change, the claims of businesses in high-emitting sectors can be considered to have medium legitimacy.

**Dependent or Non-dependent stakeholder:** Businesses in high-emitting sectors have relatively more power in the consultation process for the South African carbon tax. Business claims can be considered to have medium legitimacy, but business concerns cannot definitively be considered to have high legitimacy when compared to other stakeholder concerns. If businesses were only claiming that they require more climate finance while the carbon tax is increased, their claims may have been considered more legitimate. However, the claim that the tax should remain low cannot be considered more legitimate when compared with the urgency of climate change impacts. While business claims may be considered to have medium legitimacy and medium urgency, they definitively have high power in the consultation process, therefore, they are not considered dependent stakeholders.

## 6.5 Normative Analysis

The normative analysis will focus on the moral responsibilities of governments towards dependent stakeholders. Mitchell et al (1997) define dependent stakeholders as having legitimate and urgent claims, but as being dependent on other stakeholders for the necessary power to ensure their claims are taken seriously (p 877). The original Mitchell et al. (1997) framework does not develop a rationale of entitlements for dependent stakeholders (or any other stakeholders) from a moral perspective. I specifically focus on the rights and interests of dependent stakeholders on the premise that the government has obligations which are specific to the interests of dependent stakeholders; this is in line with the arguments of Berlin (1969) and Rawls (1999) that governments have obligations to protect or benefit disadvantaged or worse-off members of society. I argue that governments have a responsibility to not violate the rights or harm the interests of dependent stakeholders because their claims are urgent and legitimate, and these groups lack the power to ensure that their claims are given a voice in the consultation process. I further argue that governments have a positive obligation to respect the rights and further the interests of dependent stakeholders. As noted in section 6.3.2.1, this normative claim may be subject to debate if one views the obligations of governments to be limited to non-interference with civil liberties (Taylor, 2019). However, human rights theory and social contract theory provide a basis for justification of positive obligations.

John Locke (1689) proposes the concept of a social contract in which citizens give up some individual freedoms and accept the legitimacy of the government in exchange for the protection of their natural rights, which are defined by Locke as the right to life, liberty and estate (Locke, 1689, p. 21). These rights as defined by Locke are considered negative rights, since rights holders are entitled to non-interference or non-harm of their rights to life, liberty and estate (Locke, 1689, p. 21). Later texts further develop the idea of rights protected by a social contract with the state, where human rights are seen to go beyond non-interference in individual rights (Berlin, 1969; Shue, 1980). In “Two Concepts of Liberty”, Berlin argues that the right to liberty conceived as a negative right is limited, because to

*“offer safeguards against intervention by the state, to [people] who are half-naked, illiterate, underfed, and diseased is to mock their condition; they need medical help or education before they can understand, or make use of, an increase in their freedom”* (Berlin, 1969, p. 360).

Berlin argues for positive action by the state to support citizens in realising their autonomy. Particularly for individuals whose ability to pursue their rights are constrained by economic, societal or physical limitations, rights can only be achieved through supportive government frameworks, thereby justifying more affirmative government intervention.

Henry Shue makes a similar argument in “Basic Rights”, in which he argues that positive rights are equally as important as negative rights (Shue, 1980). He argues that while in the United States, there may be a tendency to believe that the right to security is somewhat more important than the right to subsistence (food, shelter, clean air, clean water, etc.), that this belief is founded on the assumption that positive rights are secondary to negative rights (Shue, 1980, p. 301). Shue argues that this is not the case, giving the example of positive actions taken by the state to protect people from violent crime (Shue, 1980, p. 302). He demonstrates that the negative obligation of security (to refrain from violence) also necessarily requires the positive duties of protecting people from violence being enacted by others and to come to the aid of those who have been victims of violence (Shue, 1980, p. 302). Since even negative rights as they are conceived of imply the use of affirmative action to protect those rights, Shue demonstrates that positive rights and the fulfilment of positive obligations by the government are necessary (Shue, 1980). As such, the social contract as proposed by John Locke and the natural rights defined therein have been further developed in the contemporary political philosophy to encompass a wider set of positive obligations by the state to support the realisation of positive rights.

The use of positive obligations and positive rights has been recognised in international human rights law and discourse. In its development of the Universal Declaration on Human Rights, the United Nations describes the obligations of states to protect the rights of citizens as threefold: States are obligated to respect human rights through non-interference in human rights, states are obligated to protect individuals and groups from human rights abuses by state or non-state actors and states are obligated to take positive action to fulfil individuals and groups’ enjoyment of basic human rights (United Nations, 2023). Similarly, Stoyanova’s (2023) monograph analyses the way in which positive human rights have developed in the European Court of Human Rights. In many of the cases reviewed in this court, the state may be considered to be in breach of its human rights obligations not only due to actions by the state but by the failure of the state to adequately protect citizens from harm inflicted by private parties, corporations, armed groups, intergovernmental organizations, or even harm from natural disasters (Stoyanova, 2023). In sum, the positive obligations of governments towards citizens have been established in international and European human rights law.

In addition to defining the obligation of governments to fulfil the positive rights of citizens, further developments of social contract theory justify the focus of state obligations on dependent stakeholders. The Rawlsian theory of justice introduces the concept of the “veil of ignorance” (Rawls, 1999, p. 118). According to Rawls, if individuals did not know whether they would become an advantaged or disadvantaged member of society, they would agree to two principles; the first principle guarantees that everyone has an equal right to basic liberties, while the second principle defines two caveats under which social and economic inequalities are permissible (Mandle, 2009; Rawls, 1999). Firstly, positions and offices must be open to all under fair equality of opportunity, such that individuals of any background can hold office (Mandle, 2009, p. 50; Rawls, 1999, pp. 73–75). Secondly, any inequalities in society must be of the most benefit to the least advantaged members of society (known as the difference principle) (Mandle, 2009, p. 32; Rawls, 1999, pp. 65–69). The principle of fair equality of opportunity implies some positive obligations, since governments can correct for structural barriers to accessing offices and positions of power by ensuring rules of fair competition and by correcting for structural barriers based on race, class, gender, etc. The “difference principle” also suggests that the government has positive obligations towards dependent stakeholders. If social and economic inequalities must benefit the least advantaged, then the government has an obligation to ensure that the institutions and resources controlled by those with the most power should be used to protect the worst off (through social welfare measures, healthcare, education, etc.) (Mandle, 2009, p. 32; Rawls, 1999). Rawls’ theory that inequalities are acceptable only if they protect individuals who may find themselves to be the least advantaged members of society provides a basis for justification of the government’s positive obligations towards dependent stakeholders, as outlined in the following sections.

### ***6.5.1 Obligation to not violate rights or obligation to promote rights***

The rights outlined in the UN Universal Declaration of Human Rights are expansive, however, since the carbon taxes under review here are limited in scope, there are only three universal rights which I consider to be potentially impacted by a carbon tax (United Nations, 1948). These are the right to participate in public affairs (Article 21), the right to just and favourable conditions of work and the right to protection against unemployment (Article 23) and the right to a decent standard of living (Article 25) (United Nations, 1948).

The universal human rights defined above relate to the Irish and South African carbon tax in several ways. As per Article 21, stakeholders have the right to participate in public

affairs (United Nations, 1948). This includes the right to participate or be consulted in the design of a national carbon tax. As per Article 23, stakeholders have a right to favourable working conditions and protection against unemployment (United Nations, 1948). Insofar as the rising costs of fossil fuels under a carbon tax may result in job losses or losses in wages, this right has the potential to be impacted by a carbon tax. As per Article 25, stakeholders have a right to a decent standard of living (United Nations, 1948), which may be impacted if a carbon tax causes some groups to fall into energy poverty or exacerbate energy poverty. In addition, insofar as a national carbon tax acts as a measure to reduce the impacts of climate change, it may be considered a policy which upholds Article 25 to the extent that it ensures the adequate health and well-being of citizens. The extent to which these possibilities impact government obligations towards dependent stakeholders is considered here.

It is unlikely that the national carbon tax in either the Irish case or the South African case constitutes a violation of the three rights considered. A carbon tax is a limited fiscal instrument with a limited scope on impacted stakeholders. While, theoretically, either country could place a heavy tax on a dependent group and spend the government budget in ways that do not address social impacts of the tax, this is not the case in practice. Both countries conducted a public consultation process when deciding the rate of the carbon tax and acknowledged in these consultations that a carbon tax in both countries is regressive. In the Irish case, revenues from the carbon tax have been earmarked to mitigate negative impacts on low-income households and there are a number of allowances in the government budget aside from the carbon tax revenue which support social welfare, including, but not limited to, disability benefits, unemployment benefits, living alone allowances, carer's allowances, etc. (Citizens' Information, 2025a). In the South African case, while revenues are not earmarked there is a Just Energy Transition Implementation Plan to protect both workers and households from economic disruptions caused by the energy transition (Government of South Africa, 2023) and the government also has a number of measures in the budget to support social welfare including, but not limited to, care dependency grants, child support grants, disability grants, unemployment grants, old age pensions, etc. (Government of South Africa, 2025). As such, even if shortcomings can be identified in the equity of the government consultation process or measures to address the regressiveness or impacts on employment of either country's carbon tax, the government in both cases can be considered to not have violated or to have protected the rights of dependent stakeholders under a carbon tax.

### ***6.5.2 Obligation to not harm interests or obligation to promote interests***

The interests of dependent stakeholders can be extrapolated from the claims made above (See 6.4.1 and 6.4.2) and connected to distributive and procedural justice, which were the most discussed principles by interviewees cited in chapters 4 and 5. Since these interests are extrapolated from the claims made by dependent stakeholders in the Irish and South African case, this is a non-exhaustive list of interests which may potentially be harmed or benefited by a carbon tax. The principles of distributive and procedural justice are also non-exhaustive in that they represent a selection of possible justice principles related to climate justice frameworks (Schlosberg, 2014; Zimm et al., 2024). Broadly speaking, the tax may raise the cost of living, negatively impact the energy security of households or displace workers in high-emitting sectors. Also, low-income households across both cases may be benefited by a healthier environment with the implementation of an ambitious carbon tax. As such, the following interests are considered in this analysis:

- **Representation:** Ensuring that dependent stakeholders have a voice in the policy design process.
- **Environmental Health:** Supporting dependent stakeholders to live in an environment with clean air and clean water and that the impacts of extreme and slow-onset weather events on health are limited.
- **Affordability of Energy:** Ensuring that carbon taxes do not exacerbate energy poverty or increase the cost of living beyond stakeholders' means. Supporting access to affordable, sustainable energy and transportation options for those most impacted.
- **Job Security:** Protecting or transitioning workers in affected sectors to avoid job losses or wage losses.

In connecting these interests to the principles of distributive and procedural justice, I will refer to definitions from the literature reviewed in chapter 2, where distributive justice is defined in the context of carbon pricing as the fair allocation of the benefits and burdens (Caney, 2006; Garvey, 2008; Shue, 2014) and procedural justice is defined as fairness, transparency and inclusivity of decision-making processes (de Ridder et al., 2023; Suiseeya & Caplow, 2013). The stakeholder interest in representation is directly connected to procedural justice, because to ensure the fairness, transparency and inclusivity of decision-making processes related to a carbon tax, governments should ensure that dependent stakeholders have a voice in the process. Representation is also related to distributive justice

in that more inclusive representation of dependent stakeholders may result in a more equitable distribution of benefits and burdens related to the carbon tax.

While the public consultation process as has been conducted by the Irish and South African governments on the carbon tax is sufficient to uphold the rights of dependent stakeholders, the following criteria would ensure that dependent stakeholders' interests are also supported:

- 1) Governments should *proactively* engage and empower dependent stakeholders. I define proactivity to include a) active outreach to dependent stakeholders who may be impacted by a policy to ask these groups to make a submission and b) capacity building and knowledge dissemination as appropriate to ensure that dependent stakeholders have the capacity to make informed contributions to technical discussions of policy design.
- 2) Governments should consider the timing of public consultation processes to ensure that dependent stakeholders have the appropriate time to make informed submissions, including ensuring that consultations do not take place during periods of cultural or religious significance.
- 3) Governments should develop evaluation frameworks for policies which include objective, measurable and time-bound performance indicators to measure the results of policy implementation.

By adhering to these three criteria, governments can ensure that they are supporting the interests of dependent stakeholders in equitable representation.

In addition, governments have a normative obligation to benefit or to not harm the environmental health of dependent stakeholders. This interest relates to distributive justice insofar as dependent stakeholders are vulnerable to both the impacts of climate change and the impacts of short-term economic disruptions caused by energy transition policies. In line with the fair distribution of benefits and burdens associated with climate impacts and economic disruption, governments are obliged to balance the short-term economic impacts of a carbon tax on consumers with long-term impacts on the climate, as well as localised environmental conditions (i.e., pollution).

Furthermore, governments have an obligation to ensure that energy remains affordable for dependent stakeholders. The interest in energy affordability relates to the principle of distributive justice because dependent stakeholders are disproportionately vulnerable to increasing costs in energy (see chapters 2, 4 and 5) and may be unable to afford their energy needs. In order to ensure that the burdens of energy cost increases do not disproportionately

accrue to dependent stakeholders, I argue that the government obligation to ensure affordability of energy is two-fold:

- 1) Governments have an obligation to put social welfare measures in place to ensure that the rising cost of energy does not increase the cost of living beyond dependent stakeholders' means. In the context of a carbon tax, this may include measures such as fuel allowances, free basic electricity, subsidised household retrofits or solar panel installation, etc.
- 2) Governments have an obligation to ensure that the social welfare measures which are in place are appropriately targeted to ensure that no dependent stakeholders are left out of the social welfare measures or that the measures are sufficient to meet the needs of dependent stakeholders.

By upholding this two-fold obligation regarding affordability of energy, governments can ensure that their social welfare policies do not miss out on the specificity of vulnerabilities of different dependent stakeholders.

Moreover, governments have an obligation to ensure that policies to transition their economies towards more renewable energy do not result in job losses or significant losses of wage earning for workers in impacted sectors. This relates to the principle of distributive justice because, as described in the previous chapters, workers in high-emitting sectors may be at risk of job or wage losses resulting from the energy transition; as such, without government intervention, workers in high-emitting sectors could bear a higher burden than workers in less-impacted sectors. More specifically, the government has an obligation, in conjunction with businesses, to support the following actions:

- 1) Reskill workers in impacted sectors through vocational training and upskilling, to help workers transition into different sectors which match their current level of wage-earning capacity.
- 2) Strategically invest in job development in impacted regions, keeping jobs in the same communities where possible and invest in local infrastructure to prevent a decline in communities which have formed around high-emitting industries.
- 3) Where it is not possible to reskill and redeploy workers into new industries, ensure fair compensation and pension protections for workers forced to leave their industries.

- 4) Develop transition plans in close collaboration with impacted sectors and labour unions to ensure job reskilling is matched with realistic job opportunities. Be as transparent as possible about transition plans and their implementation.

By upholding these obligations towards workers in high-emitting sectors, governments, in conjunction with businesses, can ensure minimum disruption on the job security of dependent stakeholders.

Having defined these obligations of governments to support or to not harm the interests of dependent stakeholders, I will evaluate the extent to which governments in Ireland and South Africa have protected these interests and make context-specific recommendations.

## **6.6 Recommendations**

The normative analysis sets out the obligations of governments to not harm, or to further promote, the rights and interests of dependent stakeholders within the context of a carbon tax. However, as has been noted in previous chapters, what is ethical in the design of carbon taxes is often dependent on contextual factors. As such, it is necessary to take the moral norms identified above and make them more specific in the context of the Irish and South African case studies. Specification is the process of clarifying how moral principles are applied depending on situational context (Beauchamp & Childress, 2001).

Recommendations are identified below to improve the extent to which the governments of Ireland and South Africa promote or do not violate the interests of dependent stakeholders in the design of a national carbon tax. These recommendations are made by specifying the moral obligations of governments in each country context. Contextual specifics are identified from the interview data and accompanying literature collected in the case study chapters. As outlined in the above sections, recommendations are made specifically for governments in Ireland and South Africa to consider dependent stakeholders who have been identified in the descriptive analysis.

### ***6.6.1 Recommendations for the Irish carbon tax***

#### ***6.6.1.1 Representation***

The Irish government has considered the interests of dependent stakeholders in having a voice in the policy design process in several ways. Firstly, the decision to raise the carbon tax to meet Ireland's emissions reductions goals was made as part of a citizens' assembly, which

allowed for the meaningful participation of a demographic representation of the groups living in Ireland. In addition, the consultation for the use of carbon tax revenues was open to submissions from all parties, and the government publishes what the carbon tax revenues are spent on in its annual budget report. Dependent stakeholders have a voice to the extent that they have access to consultation processes and the outcomes of those processes are transparent.

Moreover, the existing social welfare measures which are funded by the carbon tax revenues and additional social welfare measures to address risks of energy poverty in Ireland suggest that the government has given serious consideration to the impacts of the carbon tax on dependent stakeholders. However, as shown in the Irish case study, some social welfare measures are targeted very broadly, with a focus on income as a measure of vulnerability to energy poverty and very little targeting based on variations in fuel use, home heating costs or dependency on solid fuels. The inaccurate targeting of social welfare measures suggests that the needs of dependent stakeholders are misunderstood and that assumptions (energy poverty is only a problem of income) or generalised data (Gini coefficients as a measure of welfare in assessments of tax impacts etc.) are being used to develop policy. Giving greater voice to the interests of dependent stakeholders can ensure that policy measures which are intended to benefit those stakeholders are more accurately targeted.

While the consultation process for the use of carbon tax revenues was open to public consultation and the way revenues are hypothecated is a matter of public record, responses in the Irish case study indicate that the technical nature of the consultation limited the accessibility of the consultation to actors without sufficient technical acumen and that actors representing dependent stakeholders had a limited capacity to engage due to low manpower resources. To improve the representation of dependent stakeholders in the consultation process, I argue that the government has a normative obligation to improve the knowledge and capacity of dependent stakeholders to participate in design of more technical instruments like the carbon tax. This could entail capacity building workshops on carbon taxation for NGOs or other actors advocating for the interests of dependent stakeholders. If advocates for dependent stakeholders are more proficient in the design and use of carbon pricing or revenues, they will be better able to influence the policy. In addition, the improved dissemination of communications materials about the implications of a carbon tax and the options available for revenue use in plain and accessible language would enable dependent stakeholders to understand how a carbon tax may affect them. While measures such as capacity building workshops require a lot of time and resources from the government, such

measures would play a significant role in improving the representation of dependent stakeholders. To the extent that carbon tax revenues are already hypothecated to 2030, such workshops would only be recommended going forward in the Irish case depending on the level of control the Irish government has to hypothecate its share of revenues under the EU ETS II.<sup>45</sup> In addition, while the scope of this study is limited to making recommendations on the Irish carbon tax, it is likely that capacity building workshops could play a significant role in design of any further emissions reductions measures proposed by the government (subject to further research), on the grounds that emissions reductions measures tend to disrupt existing energy infrastructure and cause short-term price shocks.

In addition to addressing imbalances in knowledge and capacity, proactive engagement with dependent stakeholders also requires addressing the manpower and resources deficit that interview respondents reported in the Irish case study. The government has a normative obligation to ensure that dependent stakeholders have the time and manpower to make a strong submission to the consultation process. The first step to ensuring this is to make a point of specifically inviting dependent stakeholders to make a submission on issues which will affect them and providing them adequate time to make a submission in line with their available resources. The economic studies of carbon tax impacts identified several stakeholders who would be negatively impacted by the tax, including low-income, rural, and older households. While Travellers and households with a disability did not appear in the economic projections, the vulnerability of these groups is known to policymakers through advocacy channels. I argue that the government has a normative obligation to directly approach groups who are identified as dependent stakeholders at the start of the consultation process and ensure their capacity to engage in the consultation. This may involve an extension of the timeline for consultation or cultural awareness of different groups' lifestyles. Regarding the extension of consultation timelines, this can be done in consideration for the ability of advocates for dependent stakeholders to collect adequate data from these groups about the potential impacts of different policy measures on their lives. Regarding consideration for cultural practices, one respondent from the case study noted that Traveller households most likely cannot be reached for comment during the summer months or during periods of school closure, as these households are not likely to be in residence at a permanent

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<sup>45</sup> Ireland currently has a derogation from the EU ETS II (which covers emissions from transportation and buildings) until 2030, with the stipulation that the carbon tax rate remains equivalent or higher to the ETS II rate. After 2030, it is likely that the EU ETS II will replace the national carbon tax, and that Ireland will be restricted in its choice of revenue recycling methods in line with EU requirements that ETS revenues are used to fund emissions mitigation activities. Under such restrictions, some existing hypothecation measures under the Irish carbon tax, such as the fuel allowance, would not be covered.

address during these periods (C7). Similarly, rural households who are engaged in agricultural activities may be harder to reach during busy seasons such as planting or harvest.

Further to considerations being made for the accessibility and timing of consultations, the monitoring of impacts of the carbon tax revenues on dependent households could be made more inclusive and transparent. Responses from the Irish case study indicate that: 1) it is difficult to track carbon tax revenue expenditures across the government departments to which it has been allocated due to the structure of budget reporting, and 2) it is difficult to understand how impactful revenue expenditures have been because many government departments do not currently collect data on equality measures<sup>46</sup> when reviewing the programmes they have budgeted for (See 4.3.6). In order to make the impacts of the carbon tax and its revenue uses more transparent and understandable for dependent stakeholders, I argue that the government has an obligation to ensure that the expenditures of carbon tax revenues are more transparent for parties trying to determine where the money was spent and that they have better equality data measures to determine the extent to which the tax revenues truly benefit dependent stakeholders.

*Key Takeaways:*

- Provide knowledge and capacity building for dependent stakeholders to participate in design of more technical policy instruments. This includes capacity building workshops on carbon taxation for NGOs or other actors advocating for the interests of dependent stakeholders
- Improve dissemination of communications materials about the implications of a carbon tax and the options available for revenue use in plain and accessible language
- Directly approach groups who are identified as dependent stakeholders at the start of the consultation process and ensure their capacity to engage in the consultation.
- Regarding consideration for cultural practices, do not hold consultation processes during periods of school closure when Traveller families will not be in permanent residents or during busy periods of agricultural work in rural areas
- Make the tracking of carbon tax expenditure more transparent and develop equality data measures to determine the extent to which the tax revenues truly benefit dependent stakeholders.

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<sup>46</sup> The European Commission defines equality data as 'any piece of information that is useful for the purposes of describing and analysing the state of equality'. This includes data which reflects the causes and effects of inequality in society. See (European Commission, 2023c).

### 6.6.1.2 Environmental Health

Given the difficulty of attributing environmental health impacts to the carbon tax specifically, no recommendations are made in the Irish case. The Irish carbon tax has the potential to benefit the environmental health of dependent stakeholders. It is likely that an effective carbon tax will provide environmental health co-benefits. Depending on the effectiveness of the carbon tax in disincentivising the use of fossil-fuel energy in buildings and transportation, and the availability of sustainable alternatives, the carbon tax has the potential to reduce congestion, air pollution and noise pollution (Climate Change Advisory Council, 2024; Jammet, 2023). In addition, the reduction in local pollutants can result in health benefits for communities such as a reduction in allergies, asthma, respiratory health risks and pulmonary health risks (Climate Change Advisory Council, 2024; Jammet, 2023). It should be put into context that a carbon tax is a limited instrument and only one measure amongst Ireland's different emissions mitigation policies. As such, while the carbon tax is fulfilling the obligation of governments to support the environmental health of dependent stakeholders, the extent to which it is doing so is difficult to measure with precision.

### 6.6.1.3 Affordability of Energy

The Irish case study shows that differences in lifestyle and patterns of energy use for low-income households results in some groups, such as rural households, renters, Travellers and people with disabilities or long-term illnesses, not being adequately supported by carbon tax revenues. While these groups may receive support through the low-income targeted fuel allowances, the *de facto* exclusion of some households from retrofit grants and the inadequacy of fuel allowances in addressing the specific energy needs and dependence on solid fuels of some groups means that the supports may fall short of compensating for the added burden of increasing fuel prices, thereby exacerbating their income precarity. As such, I argue that for the Irish government to protect dependent households' interests in affordable energy, the government should target its revenue recycling policies to account for variations in fuel use, differences in home heating costs and variations in dependency on solid fuels.

One measure to better address the interests of dependent households is to provide a minimum quantity of energy for households, measured in kilowatt hours (kWh). To account for differences in energy needs, this minimum threshold of energy provision should be scaled to account for the energy efficiency of the dwelling, types of fuels accessible to the household

and the energy needs of the household. For instance, a low-income household living in a house with modern insulation requires a different minimum threshold of energy to achieve adequate heating than a low-income household living in an older, less well insulated home, or living in a mobile home that does not meet the standard for year-round living. Similarly, low-income households who are not older persons or do not have disabilities do not require as much energy as low-income households who require the house to be warmer or to power medical devices. In addition, if a guaranteed minimum amount of energy in kWh is provided to households through an electricity metre, the government must account for situations where multiple households are using the same meter, as may be the case in some private rental accommodation or halting sites. This will ensure that dependent households are receiving adequate supports to ensure that the rising cost of energy is not beyond their means.

In addition, where rising costs in energy for transportation is an issue, as is the case for low-income rural households, Irish Rural Link have called for regionally specific measures such as removal of the 3.4km limit on school transportation and allowances to be provided for individuals eligible for a free travel card who cannot get full use out of it, such that these allowances can go towards the cost of private transportation (O'Connor et al., 2023).

*Key Takeaways:*

- Target revenue recycling policies to account for variations in fuel use, differences in home heating costs and variations in dependency on solid fuels.
- Consider the use of a minimum energy guarantee in kWh
- Implement region-specific measures such as increases to school transportation and additional travel allowances for individuals eligible for a free travel card who cannot access public transportation

*6.6.1.4 Job Security*

As observed in the descriptive analysis, the Irish carbon tax has limited potential to impact job security in Ireland. As such, there are no recommendations to further the interests of dependent stakeholders related to job security under the Irish carbon tax.

## ***6.6.2 Recommendations for the South African carbon tax***

### ***6.6.2.1 Representation***

The consultation process for the design of the South African carbon tax was open to the public, data driven, and included a range of different stakeholders. However, a number of respondents in the South African case argued that the current level of exemptions under the South African carbon tax is a reflection of strong lobbying influence by businesses in high-emitting sectors (See 5.3.1.2). Other respondents have indicated that there was limited engagement from labour unions and civil society during consultations (See 5.3.1.1). As such, the government can take measures to improve the representation of stakeholders with relatively less power in the consultation process.

To better protect the representation of dependent stakeholders in the consultation process, I argue that the government has a normative obligation to address the knowledge and capacity deficit of dependent stakeholders to participate in the design of more technical instruments like the carbon tax. This could entail capacity building workshops on carbon taxation for NGOs or other actors advocating for the interests of dependent stakeholders. Several respondents in the South African case highlighted the limited involvement of civil society groups in the consultation process (See 5.3.1.1). Respondents noted that these groups are more aware of the interests of local communities, so upskilling and resourcing civil society groups to be involved in the consultation process would help give voice to the interests of dependent stakeholders (See 5.3.1.1). In addition, the better dissemination of communications materials about the implications of a carbon tax and the options available for revenue use in plain and accessible language would enable dependent stakeholders to understand how a carbon tax may affect them. Particularly in the South African case, improved communications about both the carbon tax and climate change more broadly would improve the ability of households to understand and participate in policymaking around climate change. Measures such as capacity building workshops are resource- and time-intensive for governments. However, respondents have highlighted limited capacity of NGOs to engage in technical discussions of the carbon tax and have also highlighted limited awareness of climate issues amongst the public overall; as such, it is important for the government, within reason with its limited resources, to improve the capacity of dependent stakeholders to engage in discussions of policy design as the carbon tax develops and exemptions are phased out (See 5.3.1.1). It is possible for philanthropic or private sector funders to play a role in aiding capacity building measures.

In addition to improving knowledge and capacity, proactive engagement with dependent stakeholders also requires addressing imbalances in manpower and resources for dependent stakeholders in the South African carbon tax. The government has a normative obligation to ensure that dependent stakeholders have the time and manpower to make a strong submission to the consultation process. One NGO respondent in the South African case noted that they were invited to participate in a round of consultation which had gotten few submissions from NGOs (See 5.3.1.1). The government could scale up this practice and engage more groups who are known to be impacted by a carbon tax but who have not made submissions; economic projections of the South African carbon tax indicate that it is regressive, while respondents in the study discussed impacts specific to black households in informal housing communities, Indigenous peoples, women and workers in high-emitting sectors such as coal mining and manufacturing (See 5.4.2). In addition, more proactive engagement of labour unions is called for, since respondents to the case study noted a lack of engagement from this stakeholder group and further described contradicting views on the just transition from different union groups (See 5.4.3). Improved engagement with workers in transition could more clearly highlight the interests of workers in high-emitting sectors, since the claims made by these groups are not always consistent. I argue that the government has a normative obligation to directly approach groups who are identified as dependent stakeholders in the consultation process and ensure they have the capacity to meaningfully engage in the consultation.

*Key Takeaways:*

- Provide knowledge and capacity building for dependent stakeholders to participate in design of more technical policy instruments. This includes capacity building workshops on carbon taxation for NGOs or other actors advocating for the interests of dependent stakeholders
- Improve dissemination of communications materials about the implications of a carbon tax and the options available for revenue use in plain and accessible language
- Directly approach groups who are identified as dependent stakeholders at the start of the consultation process and ensure their capacity to engage in the consultation.
- Target outreach, capacity building and dissemination towards grassroots or local civil society organisations and labour unions
- Conduct further research and consultation to determine the impacts of the carbon tax and possible revenue uses based on non-income measures of vulnerability

### *6.6.2.2 Environmental Health*

Respondents have indicated that workers in high-emitting sectors, particularly workers and communities in mining towns, suffer from negative health impacts due to localised co-pollutants from coal mining and coal use in addition to pollution of water and agricultural land in areas surrounding coal mines (See 5.4.2). As such, policies to transition the South African economy away from coal mining will provide health co-benefits to mining communities, provided that reasonable job alternatives are in place for these communities. In protecting the environmental health interests of dependent stakeholders, it is important for the South African government to implement an effective carbon tax rate in spite of the short-to-medium-term economic impacts.

#### *Key Takeaways:*

- Implement a higher effective tax rate while coordinating with communities near high-emitting sectors to ensure workers and communities suffering from the negative health impacts of high-emitting industries are able to shift to healthier jobs and livelihoods

### *6.6.2.3 Affordability of Energy*

Given the current exemptions for household electricity under the South African carbon tax, limited data is available on the impacts of the tax on energy poverty beyond the fact that the tax is understood to be regressive. The government has an obligation towards dependent stakeholders to make more transparent when and how exemptions will be phased out for households. The government also has obligations to put measures in place that ensure dependent stakeholders are still able to afford energy. These measures may include increases to free basic electricity or measures to supply clean energy alternatives, such as solar panels for households or better access to public transportation.

Data is limited in this case on the specifics on the impacts of the carbon tax on households, but there is some data to indicate that there are differences in fuel-use patterns and types of housing between different dependent stakeholders which should be accounted for to protect the interests of these households. For instance, where respondents have indicated that free basic electricity does not meet all energy needs (See 5.4.3), policies subsidising or providing allowances for clean fuels for cooking would benefit women living

in energy poverty, as the use of solid fuels or dirtier cooking fuels has a negative health impact on women. In addition, capacity building is needed for municipalities to improve accessibility to the free basic energy allocation, since respondents have indicated it is difficult in some regions to get registered and stay registered for free basic electricity (See 5.4.3). Further work is needed to better target or complement measures such as free basic electricity, since multiple households in informal housing tend to be sharing the same electricity connection, and a high number of rural households do not have access to the electricity grid (See 5.4.3). Further research is also needed to understand how best to provide access to energy alternatives. For instance, it would be helpful to understand who might or might not be able to access subsidies for solar panel installation, or who may or may not be reached by an improved public transportation system, etc. Improved targeting of such measures will help ensure that there are not specific subgroups of dependent stakeholders who are missing out.

There are multiple measures which the South African government could take to protect the energy affordability of dependent stakeholders. However, some respondents have flagged the enormity of infrastructure and service provision deficits in the country and the lack of government budget to address these many issues (see 5.4.3). A government, even with limited capacity and resources, still has obligations towards dependent stakeholders, however, the prioritisation of more essential needs may be required. If issues such as sanitation infrastructure, food security or improved policing arise which are more urgent than the affordability of energy, then the government may need to redirect revenues from the carbon tax towards more immediate interests than energy affordability.

*Key Takeaways:*

- Conduct further policy research to account for differences in fuel-use patterns and types of housing between different dependent stakeholders so that revenues or other measures can be appropriately targeted when they become available
- Provide capacity building for local government authorities to improve accessibility to the free basic energy allocation
- Improve transparency of communications about prioritisations of government revenues towards different social welfare measures

*6.6.2.4 Job Security*

The government has an obligation towards dependent stakeholders to play a role in limiting the impact of the carbon tax on job losses, declines in job quality or losses in wages, while

acknowledging that businesses also have a role to play. Several respondents have observed that there are serious negative health impacts for workers in coal mines and in communities surrounding coal mines or coal energy production plants (See 5.4.2). In this instance, a shift away from economic dependency on extractives will benefit the long-term interests of workers in high-emitting sectors if they are transitioned to jobs with fewer health impacts. However, there are serious risks of economic disruption in the short-term as the carbon tax increases.

To address short- to medium-term economic disruptions, the government has conducted extensive consultations with civil society, youth organisations, businesses, different governmental departments and faith-based organisations to develop the Just Energy Transition Implementation Plan 2023–2027 (JET IP) (Government of South Africa, 2023). This plan is extensive, data-driven and defines workstreams across key areas to create jobs, boost economic growth, improve energy security and address climate change (Government of South Africa, 2023). As of 2024, €13.8 billion was committed in international financing to the JET IP (Government of South Africa, 2024b). The South African government has appointed a Presidential Climate Commission (PCC) to collaborate with government departments, businesses, labour unions, civil society and traditional leadership in order to improve the evidence base for the just transition and monitor impacts on affected stakeholders (Elliott et al., 2024). To this extent, the interests of workers in high-emitting sectors are being incorporated into policy design.

The South African case study has highlighted several issues with the existing government plan to protect workers in high-emitting sectors. Firstly, respondents have indicated that the international actors who have committed money to the JET IP have not yet met these commitments, such that plans to mitigate the impact of the carbon tax on workers have not been realised, and there is still “a bit of back and forth” at the government level in finalising the JET IP (See 5.4.2). Secondly, respondents suggest that jobs in the renewable energy sector are not going to South Africans, they are going to foreign contractors of companies who own the patents on the renewable technology (See 5.4.2). In addition, several respondents have cited a history of government corruption, unmet government promises towards workers, and low levels of trust in the government to fulfil the JET IP (See 5.4.2).

Similarly to the previous section on energy affordability, the government is limited in its capacity to protect the interests of dependent stakeholders. Insofar as the government is dependent on foreign financing and technology to implement parts of the JET IP, they can only be as communicative and transparent as possible about the situation in order to keep

stakeholders informed during the shift, and be as responsive as possible to changes in the plan. Similarly, lack of trust in government and perceptions of corruption can be addressed through improved transparency and communication about government activities to mitigate negative economic impacts of the carbon price.

*Key Takeaways:*

- Insofar as the government is dependent on foreign financing and technology to implement parts of the JET IP, they can only continue to search for alternative means of climate finance and be as communicative and transparent as possible about government activities to mitigate impacts on job security

## **6.7 Limitations**

There are some limits to this analysis. The descriptive and normative analyses are non-exhaustive: the descriptive analysis is limited to stakeholders arising in the data from the literature review and case studies, while the normative analysis is limited to dependent stakeholders from the descriptive analysis. As such, there are groups who may be impacted by a national carbon tax who have not been considered in detail in this analysis, such as further analysis of workers and businesses based upon the size of the business or impacts specific to the sector they work in (i.e., renewable energy sector, transportation sector, etc). Household impacts have also not been considered exhaustively, such as the potential power, urgency and legitimacy of middle-or-high-income households. Also, as noted above, data on some groups who may or may not be considered dependent stakeholders is limited, such as data on women compared to men, or data on Indigenous groups in South Africa. As such, further research is called for to conduct a more detailed stakeholder mapping in the case of national carbon taxes to consider stakeholders who may be missing from the analysis, or to consider what the obligation of governments may be towards stakeholders who are not dependent.

In addition, this study relies on the data collected from the literature review and case studies to determine the extent to which the stakeholders assessed are considered dependent. Mitchell et al. (1997) define three different types of power which stakeholders can be considered to have, utilitarian, normative and symbolic. The data for this study is not detailed enough to granularly assess the normative and symbolic power of the stakeholders assessed, and many of the details on utilitarian power provided for this study are self-reported by the interviewees selected for this study. As such, further research is called for in future

descriptive analyses of public policy processes to quantify the comparative attributes between stakeholders in greater detail.

Furthermore, a carbon tax is limited in scope and does not reach all aspects of a national economy, while other climate policy instruments may have different impacts on different groups. This was highlighted above when considering the case of workers in high-emitting sectors in Ireland. As such, further research is called for which considers the obligations of a government towards its stakeholders when reviewing all the climate policy measures being implemented by a national government.

Despite limitations to the scope of analysis, this study nonetheless contributes a normative analysis of the design of national carbon tax instruments and provides recommendations for governments to better meet their *prima facie* obligations towards dependent stakeholders.

## **6.8 Conclusion**

Previous chapters of this thesis indicate that during the policy design process, the power dynamics of different stakeholder groups to influence the development of carbon pricing policies results in some groups whose interests are not adequately represented in policy design. In this chapter, I considered which stakeholders are considered dependent in the design of national carbon taxes in Ireland and South Africa. Utilising Mitchell et al.'s (1997) stakeholder theory, I characterised a selection of stakeholders identified in the literature review and case studies according to their level of power in the policy design process as well as the level of legitimacy and urgency of their claims. Through this descriptive analysis, I identified a selection of stakeholders with low power and high levels of legitimacy and urgency. In addressing the question of moral obligations of governments towards a selection of stakeholders, I assessed government obligations in not harming or in further advancing the rights and interests of dependent stakeholders under a national carbon tax. As part of this analysis, I developed a set of recommendations for the government of Ireland and South Africa to better protect the interests of dependent stakeholders in the design of a national carbon tax.

## **Chapter 7 – Conclusion**

### **7.1 Introduction**

Having investigated the ethical implications of carbon pricing instruments in the previous chapters, this conclusion will revisit the research objectives and summarise the results arising from my analysis. I will further emphasise the contributions to the debate, highlight the study's limitations, and propose directions for future research. The conclusion of this thesis proceeds as follows: Section 7.2 considers how the research objectives have been addressed. Section 7.3 discusses the contributions of the research. Section 7.4 considers the limitations and section 7.5 offers directions for future research.

### **7.2 Summary of the Results**

The results are presented here alongside the three research objectives considered for this thesis:

1. Identify the ethical issues involved in carbon pricing.
2. Conduct a normative analysis of a selection of ethical issues involved in carbon pricing.
3. Develop a set of recommendations for a selection of stakeholders.

#### ***7.2.1 Identify the ethical issues involved in carbon pricing***

The review of the literature examined the ethical arguments for and against carbon pricing to understand the main ethical issues and approaches being discussed and identify gaps in the existing literature which prompt further examination. The results of this review showed that most of the literature about ethics and carbon pricing instruments were concerned with the distributive, procedural or recognition justice implications of carbon pricing instruments. The review highlighted that many critiques of carbon pricing are focussed on the specific design features of carbon pricing instruments, and that careful policy design can more equitably address stakeholder interests and resolve many of the justice concerns raised about carbon pricing.

Findings from the literature review indicated that the ethical acceptability of different types of carbon pricing instruments is dependent on various factors, including the ability of different stakeholders to participate in the policy design process, impacts of price instruments

on different stakeholder groups, and the various uses of carbon pricing revenues to mitigate negative impacts on different groups. Many of the stakeholder groups identified in the literature were considered vulnerable in some way, either because they lacked the power and access to ensure their needs were represented, or because they were exposed in some way to the negative impacts of carbon pricing policies. Unique historical, cultural, political, and economic factors impact the design and acceptability of carbon pricing instruments in different country contexts, indicating the need for context-specific research on the ethical implications of carbon pricing instruments in practice. As such, Chapters 3–5 developed case studies of the ethical issues arising from the development of a national carbon tax in practice.

The carbon taxes of Ireland and South Africa were selected to examine the similarities and differences arising in two cases. By focusing on cases that differ widely, these case studies highlighted elements that may consistently contribute to justice or perceptions of fairness<sup>47</sup> under a carbon tax, making it easier to identify factors that are robust across different environments. In addition, as described in section 3.2, carbon pricing instruments have different implications in developed and developing countries due to differences in distributive impacts, institutional capacity, levels of public trust, etc. As such, it was useful to examine the ethical implications in both a developed and developing country to conduct a normative analysis that is applicable in different country contexts. The case studies confirmed the findings of the literature review in that experts interviewed about carbon taxes in their national contexts were primarily concerned with the principles of distributive, procedural and recognition justice. In addition, the case studies indicated that in discussions of policy design experts were primarily concerned with the price level of the tax, what groups, if any, were exempt from the tax, how the costs of reducing emissions accrue to businesses and households and the ways in which revenues were used to reduce these costs. Moreover, the case studies demonstrated that during the policy design process, the power imbalances between different stakeholder groups influenced the development of carbon pricing policies, and that the rights and interests of some groups were not always represented in policy design.

In sum, the literature review and case studies demonstrated that the design and implementation of carbon pricing mechanisms can have significant consequences on how costs and benefits are allocated across different groups and that some groups have fewer

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<sup>47</sup> For definitions of justice, please refer to sections 2.3.4.1 – 2.3.4.3 of the literature review. Perceptions of fairness are described in sections 4.3 and 5.3 of the case studies.

resources and less technical acumen to advocate for their interests, making some stakeholders vulnerable under the final design of the carbon tax.

### ***7.2.2 Conduct a normative analysis of a selection of ethical issues involved in carbon pricing***

Given that previous chapters indicated different interests between stakeholders and differences in the capacity of stakeholders to advocate for their interests, I utilised Mitchell et al.'s (1997) stakeholder theory to identify dependent stakeholder groups in the policy design process for a national carbon tax. In the literature review and case studies, several groups of stakeholders in the design of carbon pricing instruments were identified using both bottom-up and top-down coding (see methodology for literature review and case studies). I considered the extent to which these stakeholder groups possessed the attributes of power, legitimacy and urgency as described by Mitchell et al. (1997). For the normative analysis of the rights and interests of a selection of stakeholders, I focussed on dependent stakeholders, as defined by Mitchell et al. (1997) as those who have low power in the stakeholder consultation process but whose needs are urgent and legitimate. Findings from both the literature and the case studies indicated that stakeholders who are vulnerable to negative impacts under carbon pricing or who have limited power to advocate for their interests under a carbon price are important to consider from an ethical perspective.

Using Mitchell et al.'s (1997) framework, I identified low-income households as dependent stakeholders in the Irish case and identified low-income households and workers in high-emitting sectors as dependent stakeholders in the South African case. I argued that the government has obligations to further the interests of dependent stakeholders because not only are their claims legitimate and urgent, but they also have less power to ensure that their claims are taken seriously. As such, I conducted a normative analysis considering the government's obligation in the case of the Irish carbon tax and South African carbon tax to 1) not violate the rights or harm the interests of dependent stakeholders and 2) respect the rights and further the interests of dependent stakeholders.

In the normative analysis, I examined the moral responsibilities of governments toward dependent stakeholders, arguing that governments have both negative and positive obligations to protect their rights and interests. This analysis was grounded in social contract theory and human rights theory, which together provide a justification for state duties to actively support dependent stakeholders in the policy process. The normative analysis demonstrated that because the carbon tax in both cases is limited in scope, it is unlikely to

risk violating the rights of any dependent stakeholders. It is more likely that a carbon tax will harm the interests of dependent stakeholders without careful consideration from the government, or that there are steps which the government can take to further the interests of dependent stakeholders. As part of the normative analysis, I outlined a set of interests that the government has an obligation to further, or not to harm, in the development of a carbon tax:

- **Representation:** Ensuring that dependent stakeholders have a voice in the policy design process.
- **Environmental Health:** Supporting dependent stakeholders to live in an environment with clean air and clean water and ensuring that the impacts of extreme and slow-onset weather events on health are limited.
- **Affordability of Energy:** Ensuring that carbon taxes do not exacerbate energy poverty or increase the cost of living beyond stakeholders' means. Supporting access to affordable, sustainable energy and transportation options for those most impacted.
- **Job Security:** Protecting or transitioning workers in affected sectors to avoid job losses or wage losses.

In considering the extent to which these interests may be impacted under a carbon tax, I made several recommendations for governments to fulfil their obligations towards dependent stakeholders during the design and implementation of a national carbon tax.

### ***7.2.3 Develop a set of recommendations for a selection of stakeholders***

For the normative analysis, I considered government obligations towards dependent stakeholders. I argued that governments have a responsibility to not violate the rights or harm the interests of dependent stakeholders because their claims are urgent and legitimate, and these groups lack the power to ensure that their claims are given a voice in the consultation process. I further argued that governments have a positive obligation to respect the rights and further the interests of dependent stakeholders, as outlined in chapter 6. After outlining the normative obligations of governments towards dependent stakeholders under a carbon tax, I specified how those obligations were applicable to the Irish and South African carbon tax, drawing on data collected from the interviews and accompanying literature in the case studies. The process of specification led to recommendations for the Irish and South African government in the design of a national carbon tax.

Several recommendations were made in the Irish case to improve the extent to which the government mitigates harms and furthers the interests of dependent stakeholders under a carbon tax. These include improving the knowledge and capacity of dependent stakeholders through capacity-building workshops on carbon taxation for NGOs and advocates, enhancing the accessibility of communications materials by using plain and accessible language, and addressing manpower and resource deficits by specifically inviting dependent stakeholders to participate in consultations. Additionally, the government should ensure adequate time is provided for submissions and adopt culturally aware practices to engage hard-to-reach groups. I also argued that for the Irish government to protect dependent households' interests in affordable energy, the government should target its revenue recycling policies to account for variations in fuel use, differences in home heating costs and variations in dependency on solid fuels. Transparent monitoring of carbon tax revenue impacts, with better equality data measures, is also recommended to evaluate the effectiveness of policies in benefiting dependent stakeholders.

Similarly, it is recommended that the South African government improve the representation of dependent stakeholders in the carbon tax consultation process through capacity-building workshops for NGOs and civil society groups and improved dissemination of plain language communication materials about the implications of the carbon tax for different groups. Additionally, proactive engagement with dependent stakeholders is crucial to ensure they have the capacity and resources to meaningfully participate in consultations, addressing manpower and resource imbalances to strengthen their voice in policymaking. There are several policy options to protect energy affordability under a carbon tax; in the South African case, further research and consultation is recommended to ensure that policies to address energy poverty account for variations in fuel use and households' energy needs. Moreover, ensuring job security requires continued implementation of the Just Energy Transition Investment Plan (JET IP), with a focus on transparent communication about progress and challenges. However, the government's capacity to fully support dependent stakeholders is limited by infrastructure and service provision deficits, as well as reliance on international financing and technology, highlighting the need for transparency and realistic prioritisation of essential needs.

## **7.3 Contributions**

### ***7.3.1 Contributions of the literature review***

Chapter 2 contributes a systematic review of the literature on ethics and carbon pricing which differs from existing reviews in the scope of carbon pricing instruments considered, the ethical lenses considered and its use of a systematic PRISMA approach. This literature expands upon the scope of existing literature reviews of ethics and carbon pricing in that it includes carbon taxes, emissions trading, and regulatory forms of offsetting (see chapter 2). This is useful because whether carbon pricing as such is morally objectionable or whether only certain types of carbon pricing are morally objectionable should be clarified in the debate. The literature review further accounts for a broader set of ethical theories than previous reviews and considers the distribution of different ethical arguments that have been made in favour of and against carbon pricing. Considering the distribution of different ethical arguments in the literature is helpful from a policymaking perspective because it demonstrates the extent to which carbon pricing is considered a morally objectionable or desirable policy instrument. Moreover, the review conducted for this thesis makes a methodological contribution to the literature using PRISMA, a more systematic approach to reviewing the literature on ethics and carbon pricing than existing reviews.

By analysing the primary arguments within the debate on ethics and carbon pricing, the literature review contributes to the knowledge of practice for policymakers regarding the selection and design of emissions abatement policy instruments: The analysis highlights that many critiques of carbon pricing are focussed on potential features of carbon pricing rather than essential features, such as the use of offsetting, grandfathered allowances, or calculations of the social cost of carbon. Also, careful policy design resolves most of the justice concerns raised in the literature. Even in cases where careful policy design does not resolve all justice concerns, other mitigation instruments are also likely to leave some justice concerns unresolved (e.g., related to procedural justice). The review indicates that offsetting is the least ethically defensible form of carbon pricing. This suggests the use of other methods to address developing countries' needs for climate finance. The literature review highlights that none of the ethical objections to carbon pricing appearing in the literature precludes the use of carbon pricing as a tool to reduce GHG emissions, provided that certain standards of distributive, procedural and recognition justice are adhered to.

### *7.3.2 Contributions of the case studies*

While there are existing studies of the Irish and South African carbon tax, the case studies developed for this thesis differ from existing studies along several dimensions. In the case of the Irish carbon tax, most existing studies consider the welfare impacts of the carbon tax (see chapters 3 and 4). My case study differs in scope and methodological approach, contributing a qualitative study of the Irish carbon tax from an ethical perspective that is based on interview data. While this study does confirm some existing findings regarding several groups who are impacted by regressiveness, my analysis further enabled me to explore groups who may be missing from the design of the carbon tax, particularly those whose vulnerabilities are not revealed through econometric studies. In addition, while existing studies of welfare impacts have implications for distributive justice under a carbon tax, this case study has a broader ethical focus, considering procedural and recognition justice.

Similarly, research on the South African carbon tax has largely focused on welfare impacts and revenue use to protect vulnerable groups, with a few existing studies that use qualitative data to assess the tax from a human rights perspective, emphasising potential revenue uses, or considering systemic inequalities and the extractives industry's role in shaping policy resistance (see chapters 3 and 5). While this study does confirm existing findings from previous studies regarding regressiveness, systematic inequalities and the role of the extractives industry, the study conducted for this dissertation enabled me to explore a broader range of ethical issues arising under the carbon tax from a broader ethical lens including distributive, procedural and recognition justice.

The case studies add to the body of empirical evidence on ethics and carbon pricing by exploring the ethical issues arising and stakeholders considered in the development of carbon tax policies in practice. The studies confirm existing findings in the literature that respondents considering carbon taxation in their national contexts are concerned with the distributive, procedural and recognition justice implications of carbon taxes. The results in the South African case study about the tension between emissions reduction policy and South Africa's right to economic development, in addition to the justice implications of the EU CBAM, are also consistent with the literature on the ethical implications of carbon pricing for developing countries. These issues were discussed in section 2.3.6.5 of the literature review and by interview respondents in the South African case study. The studies further extend distributive, procedural and recognition justice theory by examining their applicability in the development of carbon taxes across countries with starkly different socioeconomic and

institutional contexts, highlighting ways in which policymakers can better address justice or equity problems arising in tax design. By considering the different justice dimensions of carbon taxes, these studies contribute to knowledge of practice as policymakers can gain a deeper understanding of how carbon pricing interacts with different vulnerabilities under the energy transition. Comparing the ethical implications of a carbon tax in a developed country context to a developing country context is further helpful to determine how the impacts of carbon pricing are similar or variable across different settings. If the similarities and differences in implications across country contexts are better understood, policymakers will be better able to implement carbon tax policies which are fair and equitable in their own countries. These case studies offer insights into how policies can be adapted to address the unique needs and vulnerabilities of diverse populations.

### ***7.3.3 Contributions of the normative analysis***

Applying stakeholder theory to the case of a national carbon tax offers several theoretical contributions to the literature. Traditional stakeholder theory often focusses on corporate settings and has been increasingly applied to public policy contexts. Using stakeholder theory to consider carbon tax policies expands its applicability further into climate policy contexts, as stakeholder theory has not been applied to carbon taxation in the existing literature. The normative analysis of this dissertation demonstrates how stakeholder theory can be adapted beyond existing models to include national climate policy implications. In addition, applying Mitchell et al.'s (1997) stakeholder salience theory considers the ethics of carbon pricing instruments from a different perspective, exploring how the legitimacy, power, and urgency of stakeholder claims contribute to discussions about fairness and justice.

The normative analysis examines the ethical obligations of governments towards groups with urgent and legitimate claims who have less power in the consultation process for a national carbon tax. In this analysis, I argue that governments have both negative obligations to avoid harming dependent stakeholders and positive obligations to take active measures to protect and advance their interests. In making this argument, the analysis further develops the concept of rights and interests in the context of carbon tax policy design. This provides a methodological contribution to the literature by considering national carbon taxes from the perspective of government obligations under human rights and social contract theory.

Considering contributions to knowledge of practice, applying stakeholder theory to a national carbon tax contributes insights into how stakeholder engagement and management

can enhance policy design, implementation, and justice outcomes of a national carbon tax. Further, analysing the obligations of governments to mitigate harms and further the interests of dependent stakeholders can lead to a better targeted and more equitable carbon tax design, and can help policymakers identify potential challenges or unintended consequences of a carbon tax. Moreover, by conducting a more in-depth analysis of stakeholder rights and interests, policymakers can build trust and enhance the perceived legitimacy of a carbon tax, reducing political opposition. In addition, as highlighted in chapter 2, since many of the ethical arguments applying to carbon pricing are applicable to both carbon taxes and emissions trading during policy design, the normative analysis conducted here and resulting principles and recommendations are also applicable to several types of carbon pricing.

#### **7.4 Limitations**

This dissertation has certain limitations, including which stakeholders are considered and which policy measures are considered. The discussion of stakeholders in the literature review, case studies, and stakeholder analysis is not comprehensive. The dissertation primarily focuses on stakeholders identified through the literature review and case study data, and as such, there are some stakeholder groups who were not considered in detail. For instance, there are some stakeholder groups, such as subgroups of workers and businesses accounting for factors such as business size or industry-specific impacts (e.g., renewable energy, transportation), who are not considered. The analysis of household impacts is also not exhaustive, for instance, it does not consider middle- and high-income households. Furthermore, there are some stakeholder groups discussed in the dissertation where data limitations were identified. These include disparities in gender-based data and a lack of detailed information on Indigenous communities (in the South African case) and ethnic minorities.

Moreover, as noted in chapter 6, the normative analysis of rights and interests is restricted to dependent stakeholders identified in the descriptive analysis. As a result, those who are not considered dependent stakeholders are not considered in the normative analysis. It is recognised that other stakeholders as defined by Mitchell et al.'s (1997) typology also have rights and interests under a carbon tax which are of concern to the government, but these are not within the scope of this study.

Additionally, it is important to recognise that a carbon tax is only one of many policy instruments available to address climate change, and its scope to impact the national economy is limited to areas covered by the tax. Different climate policies may have varied effects on

distinct groups, as illustrated by the example of workers in Ireland's high-emitting sectors discussed in chapter 6. However, the scope of the analysis conducted in this study is limited in that the literature review considers carbon taxes, emissions trading schemes, offset mechanisms and border adjustment mechanisms, the case studies consider the Irish carbon tax and EU ETS in Ireland and the South African carbon tax, and the normative analysis considers the Irish and South African carbon tax.

### **7.5 Directions for further research**

The following avenues for further research are proposed based upon the limitations identified above. While workers and businesses in high emitting sectors were considered to some extent in the literature and case studies, additional research could consider in greater depth how a national carbon tax affects workers and businesses in high-emitting sectors based on size or industry-specific impacts (for instance, impacts on the renewable energy or transportation sectors, or differential impacts on small-to-medium enterprises). The Irish case study developed here demonstrated that differential impacts on households vulnerable to energy poverty are only accounted for to a limited extent. As such, it is important to consider how workers or businesses may be differentially impacted by a carbon tax to consider how best to target revenues or other measures to support the transition. Future research in this area would not only improve the fairness of tax outcomes for affected sectors but also improve the public acceptability and effectiveness of carbon prices in incentivising a transition to low-carbon alternatives.

Furthermore, a more comprehensive stakeholder mapping for national carbon taxes would be useful to identify overlooked stakeholders and evaluate the extent of government obligations toward those who are not categorised as dependent stakeholders. Since the analysis undertaken for this dissertation was focussed on dependent stakeholders identified using the literature review and case study data, further research could be done to map all stakeholders impacted by a carbon price in a given jurisdiction and more comprehensively consider the extent to which these stakeholders have power, urgency and legitimacy according to Mitchell et al.'s (1997) framework. This kind of analysis would provide a more complete picture of the impacts of carbon taxation on actors with different interests and levels of influence over the policy design process. Accounting for these factors more comprehensively in the design of different national carbon taxes could inform a more just, effective, and politically resilient climate policy.

Furthermore, the analysis conducted for this study could be applied to other climate policy instruments to assess how governments balance their responsibilities to stakeholders across a broader spectrum of climate policy initiatives. As the literature and case studies have demonstrated, carbon pricing instruments are not considered a “silver bullet” in terms of climate policy and have been proposed by some scholars and interview respondents to be useful in combination with other policy measures. In addition, as the Irish study indicates, while certain stakeholders are not impacted to a significant extent by their national carbon tax, they may have justice concerns about other climate policy measures in their jurisdiction. When considering further research on the circumstances under which carbon pricing delivers just and effective emissions abatement, research conducted on what combination of carbon price and non-price instruments delivers the most significant abatement and best addresses other ethical concerns would be useful. Considering which combination of policy measures best addresses justice and effectiveness concerns in different regional jurisdictions would help to improve the fairness, effectiveness and political viability of carbon pricing instruments. Taken together, these different avenues for future research offer important opportunities to advance more equitable, context-specific, and politically sustainable approaches to carbon pricing and broader climate policy.

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## **Appendix A: Databases included in ProQuest search**

Coronavirus Research Database

Dissertations & Theses @ Dublin City University

Ebook Central

Education Collection

European News stream

International Bibliography of the Social Sciences (IBSS)

Library & Information Science Collection

Linguistics Collection

Literature Online

Philosopher's Index

Politics Collection

ProQuest Dissertations & Theses A&I

ProQuest Historical Newspapers: The Irish Times and The Weekly Irish Times

ProQuest Historical Newspapers: The Times of India

Publicly Available Content Database

Social Science Database

Sociology Collection

## **Appendix B: Exact search terms used (for replicability)**

### **Proquest:**

abstract(("carbon price" OR "carbon prices" OR "carbon pricing" OR "carbon tax" OR "carbon taxes" OR "cap-and-trade" OR "cap and trade" OR "emissions trading" OR "market-based measures" OR "quantity instrument" OR "price instrument" OR "offsetting" OR "offset credit" OR "carbon credit")) AND abstract(ethic\* OR (human right\*) OR equit\* OR Justice OR moral OR utilitarian\* OR consequentialis\*) AND la.exact("English")

### **Web of Science:**

AB=(("carbon price" OR "carbon prices" OR "carbon pricing" OR "carbon tax" OR "carbon taxes" OR "cap-and-trade" OR "cap and trade" OR "emissions trading" OR "market-based measures" OR "quantity instrument" OR "price instrument" OR "offsetting" OR "offset credit" OR "carbon credit") AND (ethic\* OR (human right\*) OR equit\* OR Justice OR moral OR utilitarian\* OR consequentialis\*))

### **Scopus:**

TITLE-ABS-KEY ( ( "carbon price" OR "carbon prices" OR "carbon pricing" OR "carbon tax" OR "carbon taxes" OR "cap-and-trade" OR "cap and trade" OR "emissions trading" OR "market-based measures" OR "quantity instrument" OR "price instrument" OR "offsetting" OR "offset credit" OR "carbon credit" ) ) AND TITLE-ABS-KEY ( ethic\* OR ( "human right\*" ) OR equit\* OR justice OR moral OR utilitarian\* OR consequentialis\* ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )

## Appendix C: Sources included in literature review

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## Appendix D: Sources in favour of or against specific carbon pricing instruments<sup>48</sup>

### *Position of different sources on carbon tax*

#### **Position of different sources on carbon tax**

##### **Title**

##### **Position taken**

A fair and progressive carbon price for a sustainable economy	For
A feminist perspective on carbon taxes	Conditional
A right to pollute versus a duty to mitigate: on the basis of emissions trading and carbon markets	Unspecified
An International Comparison of Environmental Tax with an Emphasis on South Africa	Conditional
Approaches to energy transitions: Carbon pricing, managed decline, or green new deal	Against
Are Carbon Taxes Good for South Asia?	For
Are climate change policies fair to vulnerable communities? The impact of British Columbia's carbon tax and Australia's carbon pricing policy on indigenous communities	Conditional
Background environmental justice: An extension of Rawls's political liberalism	Conditional
Beyond the social cost of carbon: Negative emission technologies as a means for biophysically setting the price of carbon	Conditional
Canada's Carbon Tax and the TMX Controversy: A Case Study	For
Carbon Pricing Ethics	For
Carbon pricing in Peru: a matter of climate justice in the Covid-19 context	For
Carbon Pricing is not Unjust	For
Carbon Pricing Under Uncertainty	For
Carbon Pricing: Effectiveness and Equity	For
Carbon Tax and Equity : The Importance of Policy Design	For
Carbon tax as a climate intervention in South Africa: A potential aid or hindrance to human rights?	For
Carbon Tax Ethics	For
Carbon tax salience counteracts price effects through moral licensing	Unspecified

<sup>48</sup> For full bibliographical details on the following titles, refer to Appendix C

Carbon taxes vs tradable permits: efficiency and equity effects for a small open economy	For
Carbon trading for climate justice?	Unspecified
Carbon trading: how it works and why it fails	Unspecified
Carbon trading: unethical, unjust and ineffective?	For
Carbon trading-a critical conversation on climate change, privatisation and power	For
Clean energy policy: Taxing carbon and the illusion of the equity objective	Against
Climate action with revenue recycling has benefits for poverty, inequality and well-being	For
Climate change mitigation and intergenerational justice	Unspecified
Climate change: the political economy of Kyoto flexible mechanisms	Unspecified
Climate Hope: Implementing the Exit Strategy	For
Climate justice: Vulnerability and protection	For
Climate mitigation policies and actions: access and allocation issues	Unspecified
Climate Politics and Race in the Pacific Northwest	Conditional
Climate, Jobs, and Inequity: Models of Worker Mobility and Distribution Under Carbon Pricing	For
Coordinating social equity and emissions: Challenges in carbon tax policy	For
Distributional effects of emission pricing in a carbon-intensive economy: The case of Poland	For
Distributional Impacts of Carbon Pricing in Low and Middle-Income Countries	For
Distributional Implications of a National Co2 Tax in the U.s. Across Income Classes and Regions: A Multi-Model Overview	For
Economic Instruments	For
Efficiency–equity trade-off in the Irish carbon tax: A CGE investigation of mixed revenue recycling schemes	For
Emissions Trading and Social Justice	For
Empowering energy justice	For
Energy Justice, Decarbonization, and the Clean Energy Transformation	Conditional
Eroding Environmental Justice: Can Carbon Emission Trading Stimulate Green Technological Innovation?	For
Fairness, effectiveness, and needs satisfaction: new options for designing climate policies	For
Far from optimal? Exploring the normative premises and politics of carbon pricing	Against
How Fairness Principles in the Climate Debate Relate to Theories of Distributive Justice	For
How socially just are taxes on air travel and ‘frequent flyer levies’?	For
Impacts of a carbon tax across US household income groups: What are the equity-efficiency trade-offs?	For

Impacts of carbon pricing on income inequality in Brazil	For
Implementation of carbon pricing in an aging world calls for targeted protection schemes	For
Inequality, (Re)Distribution and Luxury-Taxation of International Household Energy and Carbon Footprints	For
Instrument choice in environmental policy	For
Internalizing negative externalities of carbon emissions for climate justice	For
Left Clouds Over Climate Change Policy	Against
Luxury-focused carbon taxation improves fairness of climate policy	For
Making carbon pricing work for citizens	For
Moral duties, compliance and polycentric climate governance	For
Opportunities for Imposing Carbon Tax Through the Aceh Qanun in the Perspective of Inter-generational Justice	For
Optimal Carbon Taxation and Horizontal Equity: A Welfare-Theoretic Approach with Application to German Household Data	For
Pollution trading and environmental injustice: Los Angeles' failed experiment in air quality policy	For
Populism and Carbon Tax Justice: Yellow Vest Movement in France	Unspecified
Poverty and distributional effects of carbon pricing in low- and middle-income countries – A global comparative analysis	For
Pricing carbon for climate justice	For
Pricing externalities and moral behaviour	For
Procedural climate justice: Conceptualizing a polycentric solution to a global problem	Unspecified
Protecting the Poor with a carbon tax and equal per capita dividend	For
Pursuing a Just Energy Transition in the Canadian Legal System	For
Putting a Price on Carbon: Ensuring Equity	For
Rationing and Climate Change Mitigation	Against
Reducing fuel subsidy or taxing carbon? Comparing the two instruments from the economy, environment, and equity perspectives for Indonesia	For
Rethinking the equity and efficiency of carbon tax: A novel perspective	For
Salvation or Commodification? The Role of Money and Markets in Global Ecological Preservation	Against
Tax mix change to reduce greenhouse gas emissions	For
Ten reasons why carbon markets will not bring about radical emissions reduction	Conditional
The brave new world of carbon trading	For
The Distributional Impact of Environmental Policy: The Case of Carbon Tax and Energy Pricing Reform in Indonesia	For

The Ethics of Emissions Trading (Aldred)	Unspecified
The forward-looking polluter pays principle for a just climate transition	For
The High Cost of Cost Efficiency: A Critique of Carbon Trading	For
The Impact of a Carbon Tax on Inequality	For
The Moral Limits of Market-Based Mechanisms: An Application to the International Maritime Sector	Against
The Price is Not Right	Conditional
The Routledge Handbook of Applied Climate Change Ethics	For
The unfair burdens argument against carbon pricing	Conditional
The Welfare Consequences of Taxing Carbon	For
The welfare implications of carbon taxes and carbon caps: A look at U.S. households	Against
Toward a just energy transition: A distributional analysis of low-carbon policies in the USA	For
Towards an equitable transition in the decarbonization of international maritime transport: Exemptions or carbon revenues?	For
Understanding Road Transport Emissions Reduction Policies Using Multi-criteria Analysis	For
Unemployment, Labour Mobility and Climate Policy	For
What climate policy can a utilitarian justify?	For
What do climate change winners owe, and to whom?	Unspecified
What do we know about the employment impacts of climate policies? A review of the ex post literature	For
What Factors Drive Inequalities in Carbon Tax Incidence? Decomposing Socioeconomic Inequalities in Carbon Tax Incidence in Ireland	For
When standards have better distributional consequences than carbon taxes	Conditional
Why are Carbon Taxes unfair	Conditional

## *Position of different sources on emissions trading*

### **Position of different sources on emissions trading**

<b>Title</b>	<b>Position taken</b>
'I Know What I Must Do. It's just ...!' Justice in Emissions Trading Design and the Recent Reforms in New Zealand	Conditional
A fair and progressive carbon price for a sustainable economy	For
A fair trade? Expert perceptions of equity, innovation, and public awareness in China's future Emissions Trading Scheme	For
A Review on Emission Trading System (ETS): Policy Tool for Green Technology Transition and Humanitarian Equity	For
A right to pollute versus a duty to mitigate: on the basis of emissions trading and carbon markets	Against
A sectoral approach balancing global efficiency and equity	For
Achieving additional emission reductions under a cap-and-trade scheme	Conditional
Achieving cost-effectiveness and equity: Analysis of the international emissions trading system	For
An International Comparison of Environmental Tax with an Emphasis on South Africa	Unspecified
Approaches to energy transitions: Carbon pricing, managed decline, or green new deal	Against
Are climate change policies fair to vulnerable communities? The impact of British Columbia's carbon tax and Australia's carbon pricing policy on indigenous communities	Conditional
Background environmental justice: An extension of Rawls's political liberalism	Conditional
Between- and within-country distributional impacts from harmonizing carbon prices in the EU	For
Business as Usual? Instituting Markets for Carbon Credits	Against
Buying the right to do wrong - An experimental test of moral objections to trading emission permits	Unspecified
California's cap-and-trade program: is it effective in advancing social, economic, and environmental equity?	For
Can the market be fair and efficient? an environmental justice critique of emissions trading	Conditional
Carbon Border Adjustments: A Legal Tool for Mitigation or a Barrier to Justice?	Unspecified
Carbon Pricing Ethics	For
Carbon Pricing is not Unjust	For
Carbon Pricing Under Uncertainty	For
Carbon Pricing: Effectiveness and Equity	For
Carbon taxes vs tradable permits: Efficiency and equity effects for a small open economy	Unspecified
Carbon Trading & Environmental Equity: Evidence from the Regional Greenhouse Gas Initiative (2000 - 2019)	Conditional

Carbon Trading for Climate Justice?	Against
Carbon trading, co-pollutants, and environmental equity: Evidence from California's cap-and-trade program (2011–2015)	Conditional
Carbon Trading: How it Works and Why it Fails	Against
Carbon trading: unethical, unjust and ineffective?	For
Carbon trading-a critical conversation on climate change, privatisation and power	Against
Cashing in on climate change: political theory and global emissions trading	Conditional
Climate change mitigation and intergenerational justice	Unspecified
Climate Change Mitigation, Air Pollution, and Environmental Justice in California	Unspecified
Climate fraud and carbon colonialism: The new trade in greenhouse gases	Against
Climate Hope - Implementing and Exit Strategy	For
Climate Justice Inside and Outside the UNFCCC: The Example of REDD	Unspecified
Climate justice: Vulnerability and protection	For
Climate mitigation policies and actions: access and allocation issues	Unspecified
Climate Politics and Race in the Pacific Northwest	Against
Cosmopolitanism, climate change, and greenhouse emissions trading	For
Economic Instruments	For
Efficiency or Equity? Simulating the Carbon Emission Permits Trading Schemes in China Based on an Inter-Regional CGE Model	For
Emissions Trading and Environmental Justice US Acid Rain Programme	For
Emissions Trading and Social Justice	For
Emissions Trading and the Polluter-Pays Principle: Do Polluters Pay under Grandfathering?	For
Emissions Trading Ethics	For
Emissions Trading Systems and Environmental Justice	Unspecified
Emissions trading, equity, and sustainability: the case for allocating entitlements to "individuals-in-community	For
Empowering Energy Justice	For
Energy Justice, Decarbonization, and the Clean Energy Transformation	Conditional
Environmental Justice and Carbon Pricing: Can They Be Reconciled?	For
Environmental Justice and Domestic Climate Change Policy	For
Equity criterion for initial rights CO2 emissions allocations under emissions trading: Cooperation or conflict among nations?	Unspecified

Eroding Environmental Justice: Can Carbon Emission Trading Stimulate Green Technological Innovation?	Against
Ethical aspects of emissions trading	Unspecified
Ethical Emissions Trading and the Law	Conditional
Ethical influences on the evolution of the US tradable permit approach to air pollution control	Unspecified
EU climate action through an energy poverty lens	For
Far from optimal? Exploring the normative premises and politics of carbon pricing	Against
Four Problems with Carbon Markets: a critical review	Against
Greening Capitalism? A Marxist Critique of Carbon Markets	Against
Has the international climate regime promoted climate justice? Evidence from Clean Development Mechanism projects in China	Conditional
How Fairness Principles in the Climate Debate Relate to Theories of Distributive Justice	For
How Will an Emissions Trading System Affect Household Income and Social Equity? A CGE-Based Case Study of China	For
Implementation of carbon pricing in an aging world calls for targeted protection schemes	For
Instrument Choice in Environmental Policy	For
International emissions trading: Equity issues in the search for market-based solutions to global environmental degradation	For
Is carbon pricing regressive? Insights from a recursive-dynamic CGE analysis with heterogeneous households for Austria	For
Is the EU ETS a just climate policy?	Conditional
Justice and boundary setting in greenhouse gas cap and trade policy: A case study of the Western Climate Initiative	Conditional
Justice and climate change: The unpersuasive case for per capita allocations of emissions rights	For
Justice in a Warming World	For
Left Clouds Over Climate Change Policy	For
Making carbon pricing work for citizens	For
Marketing and making carbon dumps: Commodification, calculation and counterfactuals in climate change mitigation	Against
Markets, Morality and Climate Change: What, if Anything, is Wrong with Emissions Trading?	For
Moral duties, compliance and polycentric climate governance	For
Moral reasoning and climate change mitigation: The deontological reaction toward the market-based approach	Unspecified
Neoclassical realism and international climate change politics: Moral imperative and political constraint in international climate finance	For
Pollution markets and social equity: Analyzing the fairness of cap and trade	For

Pollution trading and environmental injustice: Los Angeles' failed experiment in air quality policy	Against
Price and prejudice: the politics of carbon market establishment in Turkey	Against
Pricing Carbon for Climate Justice	For
Pricing externalities and moral behaviour	Against
Pulling up the carbon ladder? Decarbonization, dependence, and third-country risks from the European carbon border adjustment mechanism	Unspecified
Rationing and Climate Change Mitigation	Against
Reconciling justice and efficiency: integrating environmental justice into domestic cap-and-trade programs for controlling greenhouse gases	For
Risky Business: Cap-and-Trade, Public Health, and Environmental Justice	For
Salvation or Commodification? The Role of Money and Markets in Global Ecological Preservation	Against
Selling pollution and safeguarding lives: international justice, emissions trading and the Kyoto Protocol	Against
Spatializing climate justice: Justice claim making and carbon pricing controversies in Australia	Unspecified
Strengthening bottom-up and top-down climate governance	Conditional
Survey Article: Trading Nature: When Are Environmental Markets (Un)desirable?	For
Tax mix change to reduce greenhouse gas emissions	For
Ten reasons why carbon markets will not bring about radical emissions reduction	Against
The Brave new world of carbon trading	Against
The California Cap-and-Trade Program: A Model Policy for Promoting Environmental Justice Using Accountability for Reasonableness	For
The Environmental Justice Dimension of the Mexican Emissions Trading System	For
The Ethics of Emissions Trading (Aldred)	Against
The Ethics of Emissions Trading (Page)	Conditional
The forward-looking polluter pays principle for a just climate transition	For
The hidden costs of carbon commodification: emissions trading, political legitimacy and procedural justice	Conditional
The Hidden Disequities of Carbon Trading: Carbon Emissions, Air Toxics, and Environmental Justice	Against
The High Cost of Cost Efficiency: A Critique of Carbon Trading	Against
The Moral Limits of Market-Based Mechanisms: An Application to the International Maritime Sector	Against
The politics of carbon leakage and fairness of border measures	Conditional

The Protestant Dimension of the Ethical Critique of Carbon Commodification	Unspecified
The Routledge Handbook of Applied Climate Change Ethics	For
The Unfair Burdens argument against carbon pricing	Conditional
The welfare implications of carbon taxes and carbon caps: A look at U.S. households	For
Towards an equitable cap-and-trade scheme in South Korea: based on input-output analysis of the distributional implications of carbon pricing mechanisms	For
Towards an equitable transition in the decarbonization of international maritime transport: Exemptions or carbon revenues?	For
Trading equity for efficiency in environmental protection? Environmental justice effects from the SO2 allowance trading program	For
Understanding Road Transport Emissions Reduction Policies Using Multi-criteria Analysis	For
Unilateral climate policy design: Efficiency and equity implications of alternative instruments to reduce carbon leakage	For
Virtuous carbon	For
What Climate Policy Can a Utilitarian Justify?	For
What do climate change winners owe, and to whom?	Unspecified
What do emissions markets deliver and to whom? Evidence from Southern California's NO X trading program	For
What do we know about the employment impacts of climate policies? A review of the ex post literature	For
What's wrong with trading emission rights?	For
When standards have better distributional consequences than carbon taxes	Conditional
Who wins from emissions trading? Evidence from California	Against

## *Position of different sources on offsetting*

### **Position of different sources on offsetting**

<b>Title</b>	<b>Position taken</b>
Achieving additional emission reductions under a cap-and-trade scheme	Unspecified
Achieving cost-effectiveness and equity: Analysis of the international emissions trading system	Conditional
An analysis of the FDI determinant of clean development mechanism (CDM)	Conditional
Background environmental justice: An extension of Rawls's political liberalism	Unspecified
Biodiversity Offsetting: Ethical Views within Environmental Organisations in the European Union	Conditional
Brazil's Amazon Fund: A "Green Fix" between Offset Pressures and Deforestation Crisis	Against
Business as Usual? Instituting Markets for Carbon Credits	Against
Carbon Offsetting and Justice: A Kantian Response	Conditional
Carbon Trading for Climate Justice?	Against
Carbon Trading: How it Works and Why it Fails	Against
Carbon trading-a critical conversation on climate change, privatisation and power	Against
Climate change: the political economy of Kyoto flexible mechanisms	Against
Climate fraud and carbon colonialism: The new trade in greenhouse gases	Against
Climate Justice Inside and Outside the UNFCCC: The Example of REDD	Against
Climate matters: Ethics in a warming world	For
Climate mitigation policies and actions: access and allocation issues	Unspecified
Climate Politics and Race in the Pacific Northwest	Unspecified
Emissions Trading and Social Justice	Unspecified
Empowering Energy Justice	Unspecified
Energy Justice, Decarbonization, and the Clean Energy Transformation	Unspecified
Environmental Justice and Domestic Climate Change Policy	Conditional
Equitable carbon revenue distribution under an international emissions trading regime	For
Eroding Environmental Justice: Can Carbon Emission Trading Stimulate Green Technological Innovation?	Against
Ethical aspects of emissions trading	Unspecified
Ethics and biodiversity offsetting	Conditional

Experiences of host communities with carbon market projects: towards multi-level climate justice	Conditional
Fair ways to share benefits from community forests? How commodification is associated with reduced preference for equality and poverty alleviation	Against
Four problems with global carbon markets: a critical review	Against
Greening Capitalism? A Marxist Critique of Carbon Markets	Against
Has the international climate regime promoted climate justice? Evidence from Clean Development Mechanism projects in China	Conditional
How much carbon offsetting and where? Implications of efficiency, effectiveness, and ethicality considerations for public opinion formation	Unspecified
Implementing REDD+ at the local level: Assessing the key enablers for credible mitigation and sustainable livelihood outcomes	Conditional
Implications on equity in agricultural carbon market projects: a gendered analysis of access, decision making, and outcomes	Conditional
In pursuit of procedural justice: Lessons from an analysis of 56 forest carbon project designs	Conditional
Institutions for governing biodiversity offsetting: An analysis of rights and responsibilities	Conditional
Intimate Exclusions from the REDD+ forests of Sungai Lamandau, Indonesia	Against
Is the Clean Development Mechanism delivering benefits to the poorest communities in the developing world?	Against
Is the EU ETS a just climate policy?	Against
Justice and boundary setting in greenhouse gas cap and trade policy: A case study of the Western Climate Initiative	Unspecified
Left Clouds Over Climate Change Policy	For
Marketing and making carbon dumps: Commodification, calculation and counterfactuals in climate change mitigation	Against
Markets, Morality and Climate Change: What, if Anything, is Wrong with Emissions Trading?	Against
Moral Dimensions of Offsetting Luxury Emissions	Conditional
No net loss of what, for whom?: stakeholder perspectives to Biodiversity Offsetting in England	Conditional
Offsetting dispossession? Terrestrial conservation offsets and First Nation treaty rights in Alberta, Canada	Conditional
On Climate Matters: Offsetting, Population, and Justice	Unspecified
Principles of justice in proposals and policy approaches to avoided deforestation: towards a post-Kyoto climate agreement	Against
Reconciling justice and efficiency: integrating environmental justice into domestic cap-and-trade programs for controlling greenhouse gases	Against
Reduced deforestation and the carbon market: the role of market regulations and future commitments	Conditional
Renewable energy and human rights violations: illustrative cases from indigenous territories in Panama	Conditional

Selling pollution and safeguarding lives: international justice, emissions trading and the Kyoto Protocol	Against
Should I Offset or Should I Do More Good?	Against
Social capital from carbon property: Creating equity for indigenous people	For
Strengthening bottom-up and top-down climate governance	Against
Survey Article: Trading Nature: When Are Environmental Markets (Un)desirable?	Conditional
Taming a Wicked Problem: Resolving Controversies in Biodiversity Offsetting	Unspecified
Ten reasons why carbon markets will not bring about radical emissions reduction	Against
The Brave new world of carbon trading	Against
The Clean Development Mechanism as ethical development?: Reconciling emissions trading and local development	Against
The Equity and Legitimacy of Markets for Ecosystem Services	Conditional
The Ethics of Carbon Offsetting	Unspecified
The Ethics of Emissions Trading (Aldred)	Against
The Ethics of Emissions Trading (Page)	Unspecified
The ethics of offsetting nature	Against
The hidden costs of carbon commodification: emissions trading, political legitimacy and procedural justice	Against
The Hidden Disequities of Carbon Trading: Carbon Emissions, Air Toxics, and Environmental Justice	Against
The High Cost of Cost Efficiency: A Critique of Carbon Trading	Against
The Moral Economy of Carbon Offsetting: Ethics, Power and the Search for Legitimacy in a New Market	Against
The Moral Limits of Market-Based Mechanisms: An Application to the International Maritime Sector	Against
The Morality of Carbon Offsets for Luxury Emissions	For
The Protestant Dimension of the Ethical Critique of Carbon Commodification	Unspecified
The Routledge Handbook of Applied Climate Change Ethics	For
The true loss caused by biodiversity offsets	Against
Towards sustainable carbon markets: Requirements for ecologically effective, economically efficient, and socially just emissions trading schemes	Against
Views of the Forest: Property Law and Carbon Rights	Conditional
What do climate change winners owe, and to whom?	Unspecified
When solutions to the climate and biodiversity crises ignore gender, they harm society and the planet	Conditional

Which "fairness", for whom, and why? An empirical analysis of plural notions of fairness in Fairtrade Carbon Projects, using Q methodology	For
Whose voices count in biodiversity conservation? Ecological democracy in biodiversity offsetting, REDD+, and rewilding	For
Why I Should Still Offset Rather Than Do More Good?	For

***Position of different sources on the CBAM***

**Position of different sources on carbon border adjustment mechanisms (CBAs)**

<b>Title</b>	<b>Position taken</b>
The politics of carbon leakage and fairness of border measures	Against
Carbon Border Adjustments: A Legal Tool for Mitigation or a Barrier to Justice?	Conditional
Making the EU Carbon Border Adjustment Mechanism acceptable and climate friendly for least developed countries	Conditional
Procedural climate justice: Conceptualizing a polycentric solution to a global problem	Unspecified
Pulling up the Carbon Ladder	Conditional
The EU Carbon Border Adjustment Mechanism will exacerbate the economic-carbon inequality in the plastic trade	Against
Unilateral climate policy design: Efficiency and equity implications of alternative instruments to reduce carbon leakage	Conditional

***Position of different sources on carbon pricing generally (where the instrument is not specified)***

**Position of different sources on carbon pricing (instrument not specified)**

<b>Title</b>	<b>Position taken</b>
Climate mitigation policies and actions: access and allocation issues	For
Selling environmental indulgences: International review for social sciences	Against
Subsistence Emissions and Luxury Emissions	For
What do climate change winners owe, and to whom?	For

What money can't buy: the moral limits of markets

Against

## Appendix E: References for ranking of arguments

### References for 'Distributive justice objections'

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## Appendix G: Interview Questions

- (1) What is your background and knowledge of your national carbon tax?
- (2) What are the key reasons why people have supported the use of the carbon tax?
- (3) What are the key reasons why people have opposed the use of the carbon tax?
- (4) Please describe the consultation process for development of the carbon tax. Which stakeholders/ stakeholder groups were involved and how was their feedback incorporated?
- (5) When designing the carbon tax, was there any engagement or consultation done to better understand the impact of carbon pricing on specific vulnerable groups?  
Specifically:
  - a. Vulnerabilities specific to urban or rural households
  - b. Racial or ethnic minorities
  - c. Women
  - d. Workers in high-emitting industries
  - e. Communities living in areas supported by high-emitting industries
- (6) Were any groups exempted from the carbon tax? Did any groups lobby for exemptions who did not get them?
- (7) How are revenues from the carbon tax distributed? Which groups benefit from the use of revenues?
- (8) What does fairness mean to you in the context of the carbon tax? How should a carbon tax be designed to be considered fair?
- (9) How much impact has the carbon tax had on reducing emissions compared to a scenario with no carbon price? How impactful is the carbon tax projected to be in the future?
- (10) Who benefits the most from the implementation of the carbon tax? Who, if anyone, is negatively impacted by its implementation?
- (11) Please describe the challenges in implementing the carbon tax once the policy is designed and the price is set. What are the trade-offs, and are there gaps between the policy that is decided and what you are able to implement in practice?
- (12) When a carbon tax is implemented, post facto evaluations are conducted to determine the effectiveness of the tax and any unintended consequences it may have had on different groups. How are the impacts of the carbon tax on different groups evaluated? How often is the tax evaluated to measure these impacts?

- (13) Are there any documents or reports that you think would be useful to read further on these issues?
- (14) Is there anyone else you recommend I talk to about this?

## Appendix H: Confirmation of Research Ethics Approval



Faculty of Humanities & Social Sciences  
**DUBLIN CITY UNIVERSITY**

25 May 2023

### CONFIRMATION OF RESEARCH ETHICS APPROVAL FOR A PROJECT

Application Reference: **DCU-FHSS-2023-033**  
Project Title: **Ethics and Carbon Pricing**  
Project contact(s): **jeanne.magnetti2@mail.dcu.ie**

Let this letter certify that the proposed project identified above has been reviewed by the *Humanities & Social Sciences Faculty Research Ethics Committee* (F-REC) and has been approved as a low-risk project. The application was found to comply with university requirements and best practices for research ethics, and with GDPR guidelines and requirements where personal data is processed in the project.

A copy of the application, including appended documents related to participant consent, is archived under the reference above. Queries about this project's approval may be directed to the F-REC Chair.

Sincerely,



Dr Dónal Mulligan  
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Chair, Faculty Research Ethics Committee  
Faculty of Humanities & Social Sciences  
Dublin City University

Dámh na nDaonnachtaí agus na nEolaíochtaí Sóisialta  
Ollscoil Chathair Bhaile Átha Cliath