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Eco-Digital Products and Services: Towards New EU Sustainability Rights?

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I. Introduction

The European Commission envisioned the adoption of a framework of digital rights and principles as an element of the 2030 Digital Compass strategy.¹ The first draft of the *European Declaration on Digital Rights and Principles for the Digital Decade* was published on January 26, 2022, following a heated period of discussions within the European institutions.² On January 23, 2023 the Declaration was solemnly adopted by the EU Commission, the Parliament and the Council.³ Although this instrument is not legally binding, both the EU and its Member States should refer to the Declaration within their respective competences using it as a guidance document.⁴ European values permeate the Declaration, putting people at the centre, supporting an autonomous and sovereign role of the EU in the digital field, with a commitment to a secure, safe and sustainable digital transformation.⁵

Compared with the EU Charter of Fundamental Rights, the Declaration represents a step forward in terms of environmental protection in the digital context. While in the Charter only one article guides EU policies by establishing a general need to protect and improve the quality of the environment,⁶ in the Declaration Chapter VI is entirely devoted to digital sustainability.⁷ It calls out specific measures related to the mitigation of the negative impact of digital products and services in the environment, by promoting circular economy and by empowering users to make environmentally responsible choices. In addition, Chapter VI lists the efforts that the EU

¹ European Commission, 2030 Digital Compass: the European way for the Digital Decade 2021 [COM/2021/118 final].

² European Declaration on Digital Rights and Principles for the Digital Decade 2022 [COM (2022) 28 final].

³ European Declaration on Digital Rights and Principles for the Digital Decade 2023/C 23/01 2023 [2023/C 23/01]. For a commentary, see Edoardo Celeste, 'Digital Constitutionalism, EU Digital Sovereignty Ambitions and the Role of the European Declaration on Digital Rights' in Annegret Engel, Xavier Groussot and Gunnar Thor Petursson (eds), *New Directions in Digitalisation: Perspectives from EU Competition Law and the Charter of Fundamental Rights* (Springer 2024).

⁴ *ibid*, Preamble.

⁵ See Celeste (n 3). For an analysis of EU digital sovereignty strategies, see Edoardo Celeste, 'Digital Sovereignty in the EU: Challenges and Future Perspectives' in Federico Fabbrini, Edoardo Celeste and John Quinn (eds), *Data Protection Beyond Borders: Transatlantic Perspectives on Extraterritoriality and Sovereignty* (Hart 2021).

⁶ EU Charter, art. 37.

⁷ See Alba Perez Victorio, Edoardo Celeste and Alberto Quintavalla, 'Greening AI? The New Principle of Sustainable Digital Products and Services in the EU' (2024) 61 *Common Market Law Review* 1019, where we analysed the contribution of this chapter in the context of EU AI policies.

commits to make at that level. By doing so, the Declaration provides clearer guidelines for EU institutions and Member States to integrate sustainability in their policies.

Sustainability – or, more specifically, sustainable development – is a general principle of EU law, which has been recognized in the Charter of Fundamental Rights of the EU and in the TFEU.⁸ In particular, the EU sustainable development strategy is very much related to the United Nations 2030 Agenda and the 17 Sustainable Development Goals (SDGs).⁹ One of the most cited definitions of sustainable development is the one given by the Brundtland Report of 1987, named after the Chairwoman of the World Commission on Environment and Development (WCED) and which was sponsored by the United Nations.¹⁰ The Brundtland Report provided a broad definition that puts the emphasis on the need of technology and social organisations to meet the needs of present generations without prejudicing the needs of future ones.¹¹ With this definition, the promotion of a ‘balanced and sustainable development’ as an objective of the EU in the Preamble of the Charter is to be interpreted in the sense that there are environmental limits to economic growth and these have to be considered in a long-term perspective. In the same line, Article 37 of the Charter requires to use the principle of sustainable development to incorporate a ‘high level of environmental protection and the improvement of the quality of the environment’ into EU policies, a point reiterated in Article 11 TFEU.

However, the Charter does not explicitly enshrine a right to a healthy environment. This has been object of discussion at EU level, especially in the EU Parliament. On June 9, 2021, the Parliament published a Resolution which addressed and reviewed the EU Biodiversity Strategy for 2030 adopted by the EU Commission.¹² Among the several points that are considered, paragraph 143 of the Resolution recalls that the principle of environmental protection is recognized in the Charter and argues that the right to a healthy environment should also be explicitly enshrined in this document. Moreover, the Parliament claims that the EU should not only promote the right within the borders of the EU but also at the international level.

Within this context and given the focus of the recently adopted Declaration on Digital Rights and Principles on digital sustainability, the present chapter examines whether and to what extent this document is shaping or recognising new sustainability rights in the digital environment. Section II analyses the content of Chapter VI of the Declaration, focusing on its legislative history and subsequent amendments. We will argue that Chapter VI has not recognized a new right to a healthy environment in the digital society, but rather enshrines a

⁸ While the concept of sustainability is often used to refer to *ecological* sustainability, sustainable development is usually defined as encompassing three interdependent components: economic, social and ecological. See Jennifer A Elliott, *An Introduction to Sustainable Development* (Routledge 2006); Carlos Alberto Ruggerio, ‘Sustainability and Sustainable Development: A Review of Principles and Definitions’ (2021) 786 *Science of The Total Environment* 147481. However, these terms are used indistinctly in this chapter.

On sustainable development in EU law, see András Jakab, ‘Sustainability in European Constitutional Law’, *Intergenerational Justice in Sustainable Development Treaty Implementation: Advancing Future Generations Rights through National Institutions* (Cambridge University Press 2021).

⁹ European Commission, ‘Sustainable Development Goals’ https://commission.europa.eu/strategy-and-policy/sustainable-development-goals_en; UN Department of Economic and Social Affairs, ‘Transforming Our World: The 2030 Agenda for Sustainable Development |’ (2015) A/RES/70/1 <https://sdgs.un.org/2030agenda>.

¹⁰ Michelle E Jarvie, ‘Brundtland Report, Publication by World Commission on Environment and Development’, *Britannica* (2023) <https://www.britannica.com/topic/Brundtland-Report>; United Nations General Assembly, ‘Report of the World Commission on Environment and Development: Our Common Future’ (1987) <https://www.are.admin.ch/are/en/home/medien-und-publikationen/publikationen/nachhaltige-entwicklung/brundtland-report.html>.

¹¹ *ibid*, par. 27.

¹² European Parliament, Resolution of 9 June 2021 on the EU Biodiversity Strategy for 2030: Bringing nature back into our lives 2021 [2020/2273(INI)].

principle of sustainable digital products and services. The novelty of this principle is then examined in Section III, which looks in more detail at EU and Member States law as well as at existing digital bills of rights. The chapter will posit that the uniqueness of Chapter VI lies in making explicit the principle of sustainable products and services through an operation of normative retrofitting that reconstructs a guiding principle of already existing EU and Member State regulatory and policy strategies. Finally, Section IV contextualises Chapter VI within the EU digital and environmental policy framework, questioning the feasibility of its ambitions starting from the assumption that even a virtuous digitalisation may negatively affect the environment. We will refer to theories of digital sobriety and degrowth, ultimately arguing that the reconciliation between the twin transitions in the Declaration is unavoidably only partial.

II. New sustainability rights?

Despite not being present since the very beginning of the genealogy of the Declaration, the theme of sustainability was incorporated soon during the legislative process. Indeed sustainability was not included in the set of digital principles and rights as originally envisioned by the European Commission in its first Communication on the topic.¹³ The European Commission proposed ‘digital systems and devices that respect the environment’ – what in this chapter we define as ‘eco-digital’ – as an area of principles to enshrine in the Declaration during the public consultations that preceded the adoption of this document.¹⁴ That concern has been a constant element during the legislative process and in both versions of the Declaration. Indeed, ‘Chapter VI: Sustainability’ was already included in the first version of the Declaration. However, some amendments were subsequently made. While comparing these two versions, this section first analyses the content and nature of Chapter VI. Second, it answers whether Chapter VI follows the Parliament’s 2021 Resolution on the EU Biodiversity Strategy for 2030 and recognizes a right to a healthy environment in the digital context. For clarity, the chapter will hereinafter refer to the ‘initial draft’, ‘first version’ or ‘previous version’ for the version of the Declaration published in 2022, and to the ‘second version’, ‘final version’ or simply the ‘Declaration’ for the final text of the Declaration published in January 2023.

A. Digital sustainability in the Declaration

The title of Chapter VI of the Declaration, ‘Sustainability’, well depicts its substantive content. It is divided into two articles, Articles 23 and 24, and in addition, it includes a series of commitments that the EU undertakes in order to protect the accomplishment of the mentioned provisions. The core element of Chapter VI, which is present in both versions of the Declaration, can be identified in the promotion of eco-digital products and services to prevent that significant harm be caused to the environment. The latter is to be achieved by means of circular economy and of increased awareness of the users.

From a more formal point of view, the sequence of articles succeeded by commitments is the *modus operandi* followed by each chapter in the Declaration. Besides commitments, Celeste argued that the Declaration includes three other groups of articles: rights and two types of

¹³ It was not included in the set of digital principles and rights to be declared in the declaration envisioned by European Commission, 2030 Digital Compass: the European way for the Digital Decade 2021 [COM/2021/118 final].

¹⁴ See European Commission, ‘Public Consultation on a Set of European Digital Principles | Shaping Europe’s Digital Future’ (12 May 2021) <https://digital-strategy.ec.europa.eu/en/consultations/public-consultation-set-european-digital-principles>.

principles.¹⁵ Rights are recognised by the use of the expression ‘everyone has the right to’, and principles generally adopt the present or the conditional tense. In this case, Articles 23 and 24 are formulated by using the conditional tense ‘should’. Therefore, they are part of the second category of principles, which gives them a softer normative character.¹⁶ From synthesizing the content and type of articles present in Chapter VI in the context of the Declaration, this chapter claims that they merely declare a principle – and not a right – of sustainable digital products and services.

Article 23 aims to prevent harm to the environment, while Article 24 envisions responsible choices at the user level. Therefore, the principle is composed of a substantial element and a procedural element. The final version of Article 23 states that the design, production, use, reparation, recycle and disposal of digital products and services should be done in such a way that their negative impact on the environment and on society is mitigated. In addition, it shall avoid premature obsolescence. Indeed, this article puts an emphasis on the implementation of circular economy methods, where materials and products are re-used, either in their original form, by for instance repairing the product, or in a new one, by transforming them and making other products. It is also to be noted that the level of protection has been lowered throughout the legislative history of the Declaration. While in the first version Article 23 aimed to ‘minimise’ the environmental and social impact, in the final text it now simply seeks to ‘mitigate’ it. From a literal interpretation of this article, ‘minimisation’ implies reducing something to the least possible level. On the contrary, ‘mitigation’ only requires making it less harmful. Therefore, the guidelines given by the Declaration call for reducing the environmental and social impact of digital products and services, but without it being necessary to limit their impact to the least possible level.

Moreover, the final version of Article 24 establishes the possibility to access accurate and easy-to-understand information about the environmental impact and the energy consumption of digital products and services, their reparability and lifetime. As set out by the Declaration, this would enable people living in the EU to make responsible choices.¹⁷ In comparison with the first version of this provision, the second one is more specific on which is the type of information that shall be accessible. Indeed, the initial draft only referred to information on environmental impact and energy consumption, while the second one included information about reparability, lifetime, and premature obsolescence of the product. This evolution reinforces the role of users by adding an additional ‘choice period’ once the product is already in use. In other words, while information about environmental impact and energy consumption enables for a responsible choice when buying the product, information about the reparability and lifetime of the product enables for a responsible choice when the product is being used, the so-called after-sales context. In addition, the decision power of whether to repair or update the product or service once it has deteriorated or is out of date, lies not only in the hands of the user but also in those of the manufacturer.¹⁸ Indeed, the user can only decide whether to repair it if there is an actual possibility for that. Thus, the second version also reinforces the role of the corporate sector, since manufacturers may, for instance, offer convenient reparation services themselves, manufacture the product in a way in which pieces can be easily changed,

¹⁵ Celeste (n 3).

¹⁶ *ibid.* 6.

¹⁷ Article 24 uses the expression ‘everyone’, but the Declaration is consistent in using the expression ‘people living in the EU’. Therefore, ‘everyone’ is here interpreted as limited to people living in the EU, being this comprehensive of EU citizens and non-EU citizens that live in the EU.

¹⁸ Manufacturer is understood in broad terms and may also encompass the producer, importer, seller, or any other person which intervenes in the value chain of the product or service.

or design robust products that do not become rapidly obsolete and that allow for the incorporation of updates if required.

Finally, in relation to the commitments established in Chapter VI of the Declaration, while the first version included two aspects in which the Commission engages, the second version adds up to four. The pre-existent two commitments, only slightly amended in the second version, include the support of the development and use of digital technologies that are sustainable, in the sense that their negative environmental and social impact should be minimal.¹⁹ They also include the promotion of the ‘development, deployment and active use’ of digital technologies that are innovative, in the sense that their impact on the environment and climate is positive as it stimulates the green transition.²⁰ Although these commitments already referred to technologies that have a positive effect on the environment, the specific mention to the green transition was only added in the second version. The two undertakings that are incorporated in the second version are the encouragement of consumers and businesses to make sustainable choices, as well as the enhancement of responsible corporate conduct, including not only environmental related behaviours but also with a view to prevent forced labour attitudes, in worldwide value chains.²¹ Last, the EU also pledges to promote standards and labels that show the sustainability levels of digital products and services.²²

The clarification of the pre-existent two commitments and the inclusion of two additional ones implies an extension of the scope of Chapter VI in relation to the engagement of EU institutions, and it may allow for more tangible actions. Notably, by explicitly adding the mention to the so-called green transition, the second version makes the link between eco-digital products and services, on the one hand, and the green transition, on the other hand, explicit. The link between digital and green is in line with the EU Commission’s Strategic Foresight Report 2022.²³ Moreover, both additional commitments put the emphasis on the user and on the corporate sector. The aim of the EU is to drive the latter towards sustainable and responsible choices. Their function is further highlighted by the promotion of standards and labels, which indicate that the corporate sector shall place them on their products and services, and the user shall take them into account when effectuating a purchase.

In sum, on the one hand, despite the use of the word ‘mitigate’ instead of ‘minimize’ in relation to the negative impact of digital products and services in the environment, the scope and characteristics of the principle of sustainable digital products and services are further elaborated in the second and final version of the Declaration. There seems to be an aim to broaden the effects of the Declaration in the second version and to make it more inclusive.²⁴ Proof of that is, for instance, also the fact that the holders of the rights and principles extend from ‘Europeans’, to ‘people living in the EU’.²⁵ On the other hand, there is an increased attention to the responsibilities of the user, also in line with the promotion of ‘consumer’s ability to make autonomous and informed choices’ enshrined in ‘Chapter III: Freedom of choice’.

¹⁹ Chapter VI, letter a.

²⁰ Chapter VI, letter c. For a deeper analysis of the relation between the digital and the green transition in the EU, see Section 4 of the present contribution.

²¹ Chapter VI, letter b.

²² Chapter VI, letter d.

²³ European Commission, 2022 Strategic Foresight Report Twinning the green and digital transitions in the new geopolitical context 2022 [COM/2022/289 final]. See Section 4 of this contribution for a deeper analysis of this link.

²⁴ Celeste (n 3).

²⁵ Eg in the section ‘Fair and just working conditions’, four commitments are added.

B. Towards a right to a healthy environment in the EU?

Putting the above in relation to paragraph 143 of the EU Parliament's Resolution of June 9, 2021,²⁶ two preliminary remarks can be made. First, the Resolution was published before both the first and the second versions of the Declaration. Therefore, it has not directly influenced the amendments made from one version to the other. Second, the Resolution argues in favour of the recognition of the right to a healthy environment in the EU Charter of Fundamental Rights and Principles, as well as internationally.²⁷ Thus, the resolution is very specific as to in which particular instrument should the right be enshrined in the EU. The Declaration of Digital Rights and Principles is formally independent from the Charter. However, both proclaim European values and the Declaration explicitly states to build on the rights enshrined in the Charter, and which are thus articulated in the context of the digital environment.²⁸

The 'right to a healthy environment' was declared for the first time in the 1972 Stockholm Declaration,²⁹ on occasion of the first world conference on the environment.³⁰ Principle 1 of the Stockholm Declaration states that 'Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being'.³¹ The right has since been progressively endorsed at both the national and the regional level, and is now widely recognized around the world.³² Different expressions are used to describe the right to a healthy environment, such as 'healthy environment', 'clean', 'safe', 'favourable', 'wholesome' or 'ecologically balanced' environment, along many forms to protect the right.³³ Nonetheless, the right to a healthy environment is often seen as a safeguard that allows for the effective enjoyment and preservation of other human rights,³⁴ and that is intrinsically related to the right to life.³⁵

As argued above, the Declaration limits itself to establish the principle of sustainable digital products and services. The Declaration does not incorporate a right or a commitment to a healthy environment in the digital context nor a *right* to sustainable digital products and services. Yet, it can be argued that the recognition of a principle promoting the sustainability of digital products and services is, in the digital decade, a necessary condition to preserve a

²⁶ European Parliament Texts adopted - EU Biodiversity Strategy for 2030 (n 12).

²⁷ Resolution, par. 143.

²⁸ Celeste, 'Digital Constitutionalism, EU Digital Sovereignty Ambitions and the Role of the European Declaration on Digital Rights' (n 3), 6.

²⁹ United Nations, 'United Nations Conference on the Human Environment, Stockholm 1972' (www.un.org) <https://www.un.org/en/conferences/environment/stockholm1972>.

³⁰ See Aguila Yann, 'The Right to a Healthy Environment' (www.iucn.org, 29 October 2021) <https://www.iucn.org/news/world-commission-environmental-law/202110/right-a-healthy-environment>.

³¹ Declaration of the UN Conference on the Human Environment. UN Doc. A/Conf.48/14/Rev.1 (1972).

³² For an empirical analysis of the implementation of the right to a healthy environment, see David R Boyd, 'Catalyst for Change: Evaluating Forty Years of Experience in Implementing the Right to a Healthy Environment' in John H Knox and Ramin Pejan (eds), *The Human Right to a Healthy Environment* (Cambridge University Press 2018) and Human Rights Council, 'Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment' (UN, 2018) A/73/188 <https://digitallibrary.un.org/record/1639368>.

³³ See Human Rights Council (n 33) and Yann (n 31).

³⁴ It is seen as such in the Declaration of the UN Conference on the Human Environment. UN Doc. A/Conf.48/14/Rev.1 (1972), Chapter I, 1; Human Rights Council (n 33) and Yann (n 31). On the relationship between environmental protection and human rights, see Amedeo Postiglione, 'Human Rights and the Environment' (2010) 14 *The International Journal of Human Rights* 524.

³⁵ David R Boyd, 'The Implicit Constitutional Right to Live in a Healthy Environment' (2011) 20 *Review of European Community & International Environmental Law* 171 considers that because of this relation, the right to a healthy environment is implicitly recognized in constitutions.

healthy environment. Indeed, because of the rapid development of digital technologies and its weight in today's society, it is necessary to mitigate their negative consequences if the environment is to be protected.

It can also be argued that the principle of sustainable digital products and services is a specific articulation of the right to a healthy environment. According to the Special Rapporteur of the Human Rights Council, the right to a healthy environment implies the recognition of both procedural and substantive rights.³⁶ The first refer to, for instance, the right to access information or to take part in environmental decision-making processes. An example of the second group of rights is the right to breathe unarmful air.³⁷ In this case, the aforementioned principle articulates a procedural element of that right: it defines how digital technologies should be used (Article 23 of the Declaration) and which information shall be accessible (Article 24).

Ultimately, however, this may not be the only procedural condition that shall be met in order to guarantee a right to a healthy environment: the digital may jeopardise the environment in other ways that are not prevented through implementing the principle of sustainable digital products and services. For example, even sustainable products and services may promote other less sustainable choices. This phenomenon can be explained through the so-called 'rebound effect', which will be further elaborated in section IV.

III. Sustainable digital products and services: A new principle?

The Declaration on digital rights and principles for the digital decade illustrates the political purposes of the EU in the digital context, with a focus on individual rights, and the commitments taken to achieve them.³⁸ The Declaration asserts that it expands previous EU legislation.³⁹ In particular, it adapts fundamental rights and European principles applicable in offline situations to the digital context.⁴⁰ This is coherent with the claim presented in the previous section, according to which the Declaration does not recognize a right to a healthy environment. Otherwise, the Declaration would be formulating *ex novo* a right in EU law.

However, following this line of arguments, if the Declaration is only translating existent EU values and fundamental rights, the principle of sustainable *analogue* products and services should already be present in an offline context. This section discusses whether this is the case or, in other words, whether the principle of sustainable digital products and services adds something new to the existing law.

A. Sustainable products and services in the 'analogue' world: an implicit principle

Although, as established above, sustainable development is a general principle in the EU, the principle of sustainable products and services in an 'analogue', i.e. non digital, context, is not explicitly recognized in the EU Charter or in the Treaties. From empirical research of CJEU decisions on the topic,⁴¹ the judgments analysed do not explicitly refer to a similar principle

³⁶ See Human Rights Council (n 33).

³⁷ *ibid.*

³⁸ Declaration, Preamble 7.

³⁹ Declaration, Preamble 10. See Celeste (n 3).

⁴⁰ Declaration, Preamble 3.

⁴¹ The methodology involved a search using the CJEU search engine (curia.europa.eu) of decisions from January 2019, year of publication of the EU Green Deal, till September 2023. The criteria selected was 'Environment' as the subject-matter, and different searches combining one, some or all the following words: 'sustainable product',

nor is it possible to conclude it is implicit in their decisions. The Court referred to other principles such as the ‘waste hierarchy principle’⁴² or ‘the general environmental protection principles of precaution and sustainability, technical feasibility and economic viability, protection of resources as well as the overall environmental, human health, economic and social impacts’,⁴³ access to information, public participation in decision-making and access to justice in environmental matters.⁴⁴

EU regulations that may recognize the principle of sustainable analogue products and services can be found in the clean and circular economy framework. The European Green Deal represents the EU agenda for sustainable growth.⁴⁵ Although not formulating the principle as such, the Green Deal does refer to the potential of promoting sustainable products and services policies for a clean and circular economy.⁴⁶ The EU adopted the Circular Economy Action Plan (CEAP) as one of the main blocks of the European Green Deal.⁴⁷ The CEAP outlines different initiatives that affect the entire lifecycle of products and aims to ensure that the design of products takes into account circular economy processes, encourages sustainable consumption and prevents waste. Indeed, it aims to make sustainable products the norm in the EU.⁴⁸ The CEAP also establishes, for instance, that the EU Ecolabel, which is the EU official voluntary scheme for environmental excellence of products and services, shall be based on the environmental performance of the product.⁴⁹ Moreover, the New Consumer Agenda 2020 aims to empower consumers for the green transition by making sure that they have the information to make decisions that are environmentally conscious when buying products, and to protect them from misleading ‘greenwashing’ practices.⁵⁰ Thus, the regulation proposes to amend the Consumer Rights Directive and to create a new right for information on the durability and reparability of products.⁵¹

Another example is to be found in the recently adopted Sustainable Products Initiative,⁵² aiming to make the EU more efficient in terms of resources use and climate-neutrality, within the broader aim of achieving a free of pollution circular economy. In this context, the Ecodesign

‘sustainable products’, ‘product sustainability’, ‘ecodesign’, ‘ecolabel’, ‘products’, ‘product’, ‘sustainability’, ‘sustainability of products’.

⁴² This principle is enshrined in Article 4 of Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312 22.11.2008, p 3), which reads as follows: ‘1. The following waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy: (a) prevention; (b) preparing for re-use; (c) recycling; (d) other recovery, e.g., energy recovery; and (e) disposal.’ See Case C-305/18 *Verdi Ambiente e Società - Aps Onulu and others* [2019].

⁴³ These principles are enshrined in Article 4(2) Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312 22.11.2008, p 3). See Case C-305/18 *Verdi Ambiente e Società - Aps Onulu and others* [2019] and Case C-487/17 *Criminal proceedings against Alfonso Verlezza and Others* [2019].

⁴⁴ See Case C-432/21 *Commission v Poland (Gestion et bonne pratique forestières)* [2023] and Case T-9/19 *ClientEarth v EIB. External relations - international agreement* [2021].

⁴⁵ European Commission, The European Green Deal [COM/2019/640 final] 2019 [COM/2019/640 final] Chapter 1.

⁴⁶ *ibid.* Chapter 2, 2.1.3 *Mobilising industry for a clean and circular economy.*

⁴⁷ European Commission, A new Circular Economy Action Plan For a cleaner and more competitive Europe [COM/2020/98 final] 2020.

⁴⁸ *ibid.* Chapter 1. Introduction.

⁴⁹ *ibid.* Chapter 2. A Sustainable Product Policy Framework.

⁵⁰ European Commission, New Consumer Agenda Strengthening consumer resilience for sustainable recovery [COM/2020/696 final] 2020.

⁵¹ ‘Circular Economy: Commission Proposes New Consumer Rights’ (*European Commission - European Commission*) https://ec.europa.eu/commission/presscorner/detail/en/ip_22_2098.

⁵² European Commission, On making sustainable products the norm [COM/2022/140 final] 2022.

for Sustainable Products Regulation (ESPR) entered into force.⁵³ This regulation establishes the requirements for product reparability at the production phase and, particularly, for product design and for the availability of spare pieces. For instance, the requirements refer to product durability and reliability, reusability, upgradability, reparability, maintenance, recyclability, products' carbon footprint and expected generation of waste.⁵⁴ In addition, the EU adopted the Directive on empowering consumers for the green transition (ECGT).⁵⁵ This piece of legislation further elaborates on the New Consumer Agenda, and provides the consumer with better information regarding the durability and reparability of goods when buying them. That shall allow for sustainable purchasing decisions.

Last, the EU also adopted a Directive on common rules promoting the repair of goods,⁵⁶ which puts the focus in the after-sales context. Likewise referring to consumers, the Proposal for a Green Claims Directive⁵⁷ shall make green claims reliable, comparable, and verifiable across the European Union, and prevent 'greenwashing'. It is to be noted that, particularly regarding the ESPR, the ECGT and the Directive on the repair of goods, the European Commission has argued that these regulations jointly recognize the so-called 'right to repair'.⁵⁸ In addition, there are other, more peripheral, regulations that promote sustainable analogue products and services. For instance, initiatives to promote sustainable textiles,⁵⁹ a review of the Construction Products Regulation,⁶⁰ or actions to address pollution.⁶¹

⁵³ Regulation (EU) 2024/1781 of the European Parliament and of the Council of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC (Text with EEA relevance) 2024.

⁵⁴ ESPR, Article 5.1.

⁵⁵ Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information (Text with EEA relevance).

⁵⁶ Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828 (Text with EEA relevance) 2024.

⁵⁷ Proposal for a directive of the European Parliament and of the Council on substantiation and communication of explicit environmental claims (Green Claims Directive) [COM/2023/166 final] 2023.

⁵⁸ European Commission, 'Rules Promoting the Repair of Goods' https://commission.europa.eu/law/law-topic/consumer-protection-law/consumer-contract-law/rules-promoting-repair-goods_en.

⁵⁹ European Commission, 'Textiles Strategy' https://environment.ec.europa.eu/publications/textiles-strategy_en.

⁶⁰ European Commission, 'Review of the Construction Products Regulation' <https://single-market-economy.ec.europa.eu/sectors/construction/construction-products-regulation-cpr/review_en> accessed 23 July 2023; Commission Delegated Regulation (EU) 2024/2769 of 30 May 2024 supplementing Regulation (EU) No 305/2011 of the European Parliament and of the Council by laying down the applicable systems to assess and verify constancy of performance of construction products in relation to the essential characteristics on environmental sustainability and amending that Regulation as regards the assessment and verification of constancy of performance of construction products based on a modelling approach.

⁶¹ For example, see European Commission, 'Proposal Revision Industrial Emissions Directive' <https://environment.ec.europa.eu/publications/proposal-revision-industrial-emissions-directive_en> accessed 23 July 2023; Directive (EU) 2024/1785 of the European Parliament and of the Council of 24 April 2024 amending Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control) and Council Directive 1999/31/EC on the landfill of waste (Text with EEA relevance) 2024. See also European Commission, 'Microplastics Pollution – Measures to Reduce Its Impact on the Environment' (*European Commission - Have your say*, 18 January 2022) https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12823-Microplastics-pollution-measures-to-reduce-its-impact-on-the-environment_en.

B. From analogue to digital: the constitutionalising role of the Declaration

There is therefore an implicit principle of sustainable products and services at EU level. The EU Declaration of Digital Rights and Principles does not declare a new principle from scratch, but it makes a principle that guides EU and Member States policy explicit. The main benefit of that is clarity and transparency as regards to the European strategy and its guiding values. Indeed, a document such as the Declaration has the advantages of being accessible to its addressees because of its short length and conciseness. Moreover, specific actions included in the form of commitments, which may be seen as particular examples of how the principle is to be complied with. The Declaration has thus the capability to turn into a standard for individuals, businesses, and Member States. This is in line with the trend noted by Papakonstantinou and Hert, which explains that EU law is making an effort to get closer to the general public within the digital context.⁶²

In this sense, the novelty of Chapter VI of the Declaration in EU law lies in making explicit a guiding principle of EU policies in the field of green transition: what we could define a process of normative ‘retrofitting’.⁶³ The Declaration plays a constitutionalising role in the digital realm and thus contribute to the normative movement that has been called digital constitutionalism.⁶⁴ It connects the dots between the general principles and values enshrined in EU primary law, and in particular the Charter of Fundamental Rights, and the concrete provisions of the EU regulatory framework and the Commission’s policy strategies in the digital field. The Declaration interprets the former to provide a more explicit rationale to the latter in the digital environment.

IV. Questioning the ambitions of the Declaration: is it possible to ‘green’ the digital?

The inclusion of Chapter VI on Sustainability in the Declaration is very much in line with the current EU policy strategies. In particular, with the emphasis put by the EU institutions on the interaction between the green and the digital transitions, the so-called ‘twin transitions’.⁶⁵ Notably, the President of the EU Commission claimed that the twin transition was a key priority in the EU in 2020,⁶⁶ and it is still considered as such in more recent EU policy strategies.⁶⁷ Given the urgency of the climate crisis, the Strategic Foresight Report 2022 argues in favour of digital technologies as the key actor to accomplish the EU goal of climate neutrality, reduce pollution and restore biodiversity.⁶⁸ However, the correlation between these two transitions is

⁶² Papakonstantinou refers to the phenomenon of ‘Act-ification’, defined as the trend in EU law to publish eponymous regulations in the digital context. As opposed to anonymous regulations, which are numbered, eponymous regulations contain a name in their title. This is the case of ‘Acts’ published by the EU. See Vagelis Papakonstantinou and Paul de Hert, ‘The Regulation of Digital Technologies in the EU: The Law-Making Phenomena of “Act-ification”, “GDPR Mimesis” and “EU Law Brutality”’ (2022) 2022 *Technology and Regulation* 48.

⁶³ See Celeste (n 3).

⁶⁴ See Edoardo Celeste, ‘Digital Constitutionalism: A New Systematic Theorisation’ (2019) 33 *International Review of Law, Computers & Technology* 76.

⁶⁵ See Edoardo Celeste and Goran Dominioni, ‘Digital and Green: Reconciling the EU Twin Transitions in Times of War and Energy Crisis’ in Federico Fabbrini and Christy A. Petit, *Research Handbook on Post-Pandemic Economic Governance & NGEU Law* (Edward Elgar 2024).

⁶⁶ European Commission, ‘State of the Union 2020. The EC President’s Address’ https://state-of-the-union.ec.europa.eu/state-union-2020_en.

⁶⁷ Several programmes within the Horizon Europe - Work Programme 2023-2024 allocate a big amount of funds to the ‘Twin Green and Digital Transition’. European Commission, ‘Horizon Europe Work Programme for 2023-24 Now Available’ (<https://cinea.ec.europa.eu/>) https://cinea.ec.europa.eu/news-events/news/horizon-europe-work-programme-2023-24-now-available-2022-12-07_en.

⁶⁸ European Commission (n 21).

not clear, and the Strategic Foresight Report also identifies some tensions along the potential synergies.

In light of this, the coherence of the principle of sustainable digital products and services shall be questioned: is it possible for digital products and services to be sustainable? Or is the expression ‘eco-digital product or service’ an oxymoron? This section discusses whether Chapter VI of the Declaration may effectively reconcile the digital and environmental ambitions of the EU. To do that, it describes the respective aims of the digital transition and of the green transition, as well as its correlation. Then, it positions Chapter VI of the EU Declaration within this framework.

A. The twin transitions and the Declaration

The digital transition in the European Union puts the focus on businesses and individuals. Indeed, a prosperous digital future is envisioned as human-centred and sustainable.⁶⁹ In the 2030 Digital Compass communication,⁷⁰ the Commission pointed out the digitalisation degree as a key factor in the economy or society’s resilience as well as global influence. Moreover, it identified four cardinal points in the EU’s digital transformation: digital skills, digital infrastructures, the digitalisation of business, and the digitalisation of public services. Remarkably, the 2030 Digital Compass proposed to adopt an inter-institutional solemn declaration incorporating digital principles and rights to protect and empower citizens, and it also suggested the approval of a policy programme including an appropriate governance framework in order to implement different strategies in critical areas of the digital transformation. The former led to the adoption of the Declaration, while the latter has been accomplished with the publication of the Digital Decade Policy Programme 2030.⁷¹

The EU green transition is mainly driven by the European Green Deal and aims to achieve an economy which is modern, resource efficient and competitive. Economic growth shall be decoupled from the use of resources, and greenhouse carbon emissions shall be zero by 2050.⁷² In addition, such a transition shall be ‘just and inclusive’.⁷³ The Green Deal responds to climate and environmental-related challenges by setting climate targets and, in a similar fashion to the 2030 Digital Compass, it presents a roadmap to implement further key policies and measures. Among other objectives, the European Green Deal sets out climate neutrality by 2050. This commitment has become legally binding through the adoption of the so-called European Climate Law,⁷⁴ which includes an intermediate objective: reducing greenhouse gas emissions by at least 55% by 2030.⁷⁵

Digital technologies are identified as key enablers to attain the sustainability goals of the European Green Deal, both in the green and the digital transition policy frameworks. Indeed,

⁶⁹ European Commission, ‘Europe’s Digital Decade: Digital Targets for 2030’ https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en.

⁷⁰ European Commission, Digital Compass: the European way for the Digital Decade 2021 [COM(2021) 118 final/2].

⁷¹ Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030.

⁷² *ibid.*

⁷³ European Commission, ‘A European Green Deal’ (14 July 2021) <https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en> accessed 5 September 2023.

⁷⁴ Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (‘European Climate Law’) 2021 [L 243/1].

⁷⁵ Compared to 1990 levels.

the Digital Decade Policy Programme 2030 states that ‘[...] digital technologies and new methods and processes are critical enablers for attaining the sustainability goals of the European Green Deal, the Paris Agreement [...], and the United Nations’ Sustainable Development Goals.’⁷⁶ In the same line, the European Climate Law reads as follows: ‘Digital transformation, technological innovation, and research and development are also important drivers for achieving the climate-neutrality objective.’⁷⁷

By the same token, while the EU Declaration of Digital Rights and Principles is altogether part of the EU digital transition policy framework, Chapter VI of the Declaration particularly represents the incorporation of the green transition onto it. In other words, it offers a straightforward example of what the EU means by intertwining these two transitions. In this sense, the principle of sustainable digital products and services unfolds in the following two parts: it promotes digital products and services – digital transition – which at the same time shall be sustainable –green transition. However, for this policy to be effective in reconciling the twin transition, it shall be effective in achieving both the aims of the digital and the aims of the green transition. As will be argued below, this remains a challenge.

B. Rebound effect, digital sobriety and degrowth

The principle of sustainable digital products and principles responds to the aims of the digital transformation. Indeed, by promoting digital products and services, it fosters a higher degree of digitalisation of the economy and of society. Nonetheless, even if at a first glance the principle seems to be in line with the green transition – as it will bring about a more sustainable economy, the promotion of sustainable products and services may have adverse effects on the environment by increasing greenhouse gas carbon emissions.

Nowadays there is a consensus on the fact that the ICT sector has a remarkable carbon footprint, and thus a tangible impact on the environment.⁷⁸ Moreover, although the literature claims that measuring this impact is not an easy task since integrated data is difficult to find, three elements may be considered: energy or electricity consumption, greenhouse gas emissions and raw materials consumption.⁷⁹ Particularly regarding energy consumption and greenhouse emissions, it is claimed that there is no consensus on the effects of ICT. Some studies show that ICT developments result in a reduction of the sector’s energy consumption and/or of emissions, others that it results in an increase, and some argue that the correlation is nonlinear.⁸⁰ This does not deny the high carbon footprint of the ICT sector stated in the first place. However, it shows a disagreement in how efficiency improvements in the digital may influence it.

⁷⁶ Decision (EU) 2022/2481 (n 68) Preamble (6).

⁷⁷ Regulation (EU) 2021/1119 (n 71) Preamble (11).

⁷⁸ See Stefano Bianchini, Giacomo Damioli and Claudia Ghisetti, ‘The Environmental Effects of the “Twin” Green and Digital Transition in European Regions’ (2023) 84 *Environmental & resource economics* 877; Charlotte Freitag and others, ‘The Real Climate and Transformative Impact of ICT: A Critique of Estimates, Trends, and Regulations’ (2021) 2 *Patterns* [https://www.cell.com/patterns/abstract/S2666-3899\(21\)00188-4](https://www.cell.com/patterns/abstract/S2666-3899(21)00188-4); and The Shift Project, ‘Lean ICT: Towards Digital Sobriety’ (2019) 429 *Futuribles* <https://theshiftproject.org/en/article/lean-ict-our-new-report/>.

⁷⁹ The Shift Project (n 75).

⁸⁰ Zhouyi Zhang and others, ‘Effects of Heterogeneous ICT on Critical Metal Supply: A Differentiated Perspective on Primary and Secondary Supply’ (2023) 83 *Resources Policy* 103690; Huanyu Cui and others, ‘Multiple Effects of ICT Investment on Carbon Emissions: Evidence from China’ (2023) 30 *Environmental Science and Pollution Research* 4399.

Whatever the answer to that question is, it is certain that the concerns regarding the digital carbon footprint are increasing.⁸¹

A recent report from the French think tank The Shift Project (TSP) considers it illusory to assume that the digital transformation is going to have a primarily positive effect on the energy consumption of services, businesses or nations, or that it is going to have a neutral energy balance.⁸² According to TSP, the positive impact of the digital in global emissions is overestimated mainly because it does not consider the so-called ‘rebound effect’.⁸³ Sorrell characterizes the rebound effect as ‘an umbrella term for a variety of economic mechanisms that reduce the “energy savings” from improved energy efficiency’.⁸⁴ In the digital context, this effect demonstrates that even if technology becomes more energy efficient – i.e., in theory more sustainable –, the energy consumption and thus carbon emissions will still increase since efficiency boosts consumption – i.e., makes it in practice less sustainable.⁸⁵ The TSP report offers a good example of this phenomenon by looking at the frequency with which smartphones are charged. Indeed, even if the average power of smartphone batteries has doubled during the last few years thanks to efficiency developments, the charging frequency of smartphones remains more or less constant.⁸⁶

In light of this trend, TSP argues in favour of ‘digital sobriety’ to move towards a scenario where digital technologies are wisely managed by taking into account opportunities and challenges.⁸⁷ Along the same lines, it is worth mentioning the discussions in the area of technological ‘degrowth’. Degrowth is a multi-faceted concept, and many argue that it is controversial to give it one single definition.⁸⁸ Fournier defines it as a phenomenon that puts together a ‘variety of forums’ that serves to disseminate ideas and engage in constructive discussions.⁸⁹ Most of the degrowth community considers that conventional economic growth

⁸¹ Céline Pérée, Jessica Gérard and Julien De Benedittis, ‘Digital Sobriety: From Awareness of the Negative Impacts of IT Usages to Degrowth Technology at Work’ (2023) 194 *Technological Forecasting and Social Change* 122670.

⁸² The Shift Project (n 75).

⁸³ See Celeste and Perez Victorio in this Volume.

⁸⁴ Steve Sorrell, ‘Energy Substitution, Technical Change and Rebound Effects’ (2014) 7 *Energies* 2850, 2850. See also Steffen Lange and others, ‘The Jevons Paradox Unravelling: A Multi-Level Typology of Rebound Effects and Mechanisms’ (2021) 74 *Energy Research & Social Science* 101982.

⁸⁵ For an insight on the rebound effect of digital technologies, see Vlad C Coroama and Friedemann Mattern, ‘Digital Rebound - Why Digitalization Will Not Redeem Us Our Environmental Sins’, *Proceedings of the 6th International Conference on ICT for Sustainability (ICT4S 2019)* (RWTH 2019) <https://www.research-collection.ethz.ch/handle/20.500.11850/387584?show=full> and Ray Galvin, ‘The ICT/Electronics Question: Structural Change and the Rebound Effect’ (2015) 120 *Ecological Economics* 23.

⁸⁶ The Shift Project (n 75) 20.

⁸⁷ On digital sobriety, see Pérée, Gérard and De Benedittis (n 78) 4. This phenomenon raises challenges related to the voluntary abandonment or moderate use of IT.

⁸⁸ Mario Pansera, Melf-Hinrich Ehlers and Christian Kerschner, ‘Unlocking Wise Digital Techno-Futures: Contributions from the Degrowth Community’ (2019) 114 *Futures* 102474; Christian Kerschner and others, ‘Degrowth and Technology: Towards Feasible, Viable, Appropriate and Convivial Imaginaries’ (2018) 197 *Journal of Cleaner Production* 1619; Giacomo D’Alisa, Federico Demaria and Giorgos Kallis (eds), *Degrowth: A Vocabulary for a New Era* (Routledge 2014).

⁸⁹ Valérie Fournier, ‘Escaping from the Economy: The Politics of Degrowth’ (2008) 28 *International Journal of Sociology and Social Policy* 528, 532.

– here understood as GDP growth – and sustainability are incompatible.⁹⁰ Following this line, the community shows different degrees of enthusiasm and scepticism towards technology.⁹¹

Coming back to Article 23 of the Declaration, we can argue that even if digital products and services are sustainable, their increase may result in greater carbon emissions, mainly due to the rebound effect. Ultimately and in more general terms, a higher degree of digitalisation may not contribute to a higher degree of sustainability. Considering the procedural element of Article 24 of the Declaration too, a similar conclusion regarding the effectiveness of the measure in relation to the twin transition is reached. At first insight, Article 24 seems to be coherent with both the digital and the green transitions, since it promotes the access to environmental-related information about digital products and services by consumers and business. However, the adequate use of this information to make more environmentally friendly decisions does not follow from the mere possibility of accessing it. For example, a consumer may have the possibility of accessing environmental information about product A and product B, and still decide not to access it. Or, even if such information is accessed, it may not be used: the consumer may still buy the product with a higher environmental impact because of other reasons, such as price, brand, or other advantages. Thus, even if it is true that the EU commits to incentivise better choices and models,⁹² the Declaration ultimately passes the ball to consumers and businesses, on which its success depends.

The reconciliation between the ambitions of the green and the digital transitions in Chapter VI of the EU Declaration of Digital Rights and Principles is therefore partial. Firstly, because eco-digital products and services may not be adequate to achieve the environmental goals of the policies adopted within the green transition framework. Secondly, because the choices effectuated by consumers may not be aligned with those goals due to other competing factors.

V. Conclusion

Even if the Declaration proposes itself as a quasi-constitutional instrument articulating digital rights and principles for the EU, it does not recognize a right to a healthy environment in the digital context. Nonetheless, since it enshrines the principle of digital sustainable products and services, Chapter VI on sustainability articulates a procedural element of that right. Although the principle was already implicitly recognized in EU law, the Declaration represents one step forward in the formulation of EU policies. Making the principle explicit not only entails shaping a more apparent strategy and increasing the level of simplicity and clarity, which is relevant to the law-making process and to the further development of EU and national policies in the digital environment. But this also allows individuals and businesses, who are some of the addressees of the Declaration, to have a better understanding of European values. Indeed, because of the high pace at which digital technologies advance and the need to guide their adoption and use, the digital field is a dynamic environment that witnesses the continuous emergence of new issues and questions that challenge the interpretation of existing fundamental rights.

Ultimately, the Declaration encourages further measures to help the principle of sustainable digital products and principles materialise. Following its focus on individuals, more sustainable

⁹⁰ See Jan Pollex and Andrea Lenschow, ‘Surrendering to Growth? The European Union’s Goals for Research and Technology in the Horizon 2020 Framework’ (2018) 197 *Journal of Cleaner Production* 1863. For a critical position, Hubert Buch-Hansen and Iana Nesterova, ‘Less and More: Conceptualising Degrowth Transformations’ (2023) 205 *Ecological Economics* 107731.

⁹¹ Pansera, Ehlers and Kerschner (n 84).

⁹² Declaration, Chapter VI, letter b.

choices in the digital are incentivised. However, nothing guarantees that they will be taken, as consumers may take into account other factors, such as the impact of the brand or the design. Given the relevance of the green transition, the implementation of, for example, sustainable labels that guide consumer choices, is a rather timid measure. Instead, the implementation of mandatory schemes such as environmental requirements in order to put a product or service in the market may be more effective measures.

Chapter VI of the Declaration is unique as it provides a normative guidance between green and digital policies. It represents an effort to intertwine these two transitions. However, the effectiveness of the principle of sustainable digital products and services may be jeopardised by the energy consumption intensity of digital devices and infrastructures, and more generally by its rebound effect on the environment. This is part of a broader question, which challenges the feasibility of a really ‘eco-digital’ field, as well as the discussion promoted by the degrowth community, which objects to the current economic model because of its lack of long-term sustainability. Research in this area brings about an outside-the-box thinking, and, although there are many and varied perspectives, its findings may be of interest to both those working in the digital and green domains.