

Unpacking the Electricity Market Design Reform: The Introduction of the Right to ‘Energy Sharing’

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ABSTRACT: The Electricity Market Design Reform introduces energy sharing as a general right, extending its scope beyond its previous qualification as an activity of energy communities. This article examines the significance of this development within the broader transformation of EU energy policy associated with the energy transition. The first section analyses the context in which this development takes place, shedding light on the regulatory contents of the energy transition. The second section assesses the characteristics of energy sharing under the Electricity Market Design Directive, focusing on its definition, eligibility criteria, operational modalities, and substantive safeguards. The third section explores the broader implications of energy sharing, with particular attention to its role in the structural transformation of electricity supply and its intersection with justice considerations within the energy transition. The final section draws some concluding remarks and reflects on the evolving trajectory of the energy transition in light of emerging initiatives, including the Clean Industrial Deal.

KEYWORDS: energy sharing – European Green Deal – energy transition – Electricity Market Reform – energy supply – prosumers.

1. The Electricity Market Design Reform in context: the regulatory contents of the energy transition

Energy policy is undergoing a process of deep transformation, which is commonly dubbed as ‘energy transition’.¹ In this context, the European Union (EU) has recently

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¹ The concept of transition refers to the shift from a ‘before’ to an ‘after’, in relation to which law has an instrumental role: F Fracchia, ‘Lo spazio della pubblica amministrazione. Vecchi territori e nuove frontiere. Un quadro d’insieme’ (2023) *Il diritto dell’economia* 247.

approved a reform aimed at reshaping the electricity market,² which has introduced energy sharing as a general right going beyond its previous qualification as an activity of energy communities. In order to understand the provisions on energy sharing and to assess their significance as part of the evolution patterns of the energy sector, it is necessary to posit them within the overall process of transformation of energy policy by first identifying the components of the energy transition.

The process of transformation here discussed is the result of the interaction of a multiplicity of different EU macro-strategies, which jointly intercept and reshape the historical trajectory of this policy.³ Although the mutual interplay of these regulatory forces is difficult to disentangle analytically, their main components can nonetheless be identified by taking their flagship initiatives as a point of reference. Firstly, the European Green Deal (EGD) regulatory process⁴ involves a deep transformation of the EU's energy system in light of its macro-objective of achieving climate neutrality,⁵ which is articulated in sector-specific sub-objectives.⁶ Accordingly, EGD's subsequent measures have substantiated these targets, resulting in a deep and functionally oriented transformation of energy policy. This is exemplified by the Fit for 55⁷ and RepowerEU⁸ regulatory programmes and strategies such as the Green Industrial Plan.⁹ Secondly, energy policy is crucially affected by the Digital Decade Policy Programme 2030.¹⁰ The achievement of a digitalised and green energy system can be regarded as

² This reform is constituted by Regulation (EU) 2024/1747 of the European Parliament and of the Council of 13 June 2024 amending Regulations (EU) 2019/942 and (EU) 2019/943 as regards improving the Union's electricity market design and by Directive (EU) 2024/1711 of the European Parliament and of the Council of 13 June 2024 amending Directives (EU) 2018/2001 and (EU) 2019/944 as regards improving the Union's electricity market design.

³ In this relation, please refer to K Talus, *EU Energy Law and Policy: A Critical Account* (Oxford University Press 2013).

⁴ This process started with Communication COM(2019) 640 final from the Commission of 11 December 2019 on the European Green Deal. On the significance of the EGD as a regulatory process, see E Chiti, 'Managing the Ecological Transition of the EU: The European Green Deal as a Regulatory Process' (2022) *Common Market Law Review* 19.

⁵ This objective was first stated in Communication COM(2019) 640 final (n 4) 4 and was subsequently legally formalised in 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) 401/2009 and (EU) 2018/1999, Art 1.

⁶ In the case of energy, this is exemplified by the renewable energy targets, for which it has been lastly provided a binding target of at least 42.5% and a collective endeavour to reach 45%: Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652, Art 1(2).

⁷ Communication COM(2021) 550 final from the Commission of 14 July 2021 on 'Fit for 55': delivering the EU's 2030 Climate Target on the way to climate neutrality.

⁸ Communication COM(2022) 230 final from the Commission of 18 May 2022 on REPowerEU Plan.

⁹ Communication COM(2023) 62 final from the Commission of 1 February 2023 on a Green Deal Industrial Plan for the Net-Zero Age.

¹⁰ Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030.

a policy priority where the ‘twin’ transitions go ‘hand-in-hand’.¹¹ This relationship is twofold. From one perspective, energy is instrumental in delivering a sustainable digital transition, given the regulatory challenges posed for the energy system.¹² From the other perspective, digitalisation comes into play as a key enabler for the achievement of several regulatory objectives underpinned by the energy policy.¹³ Thirdly, the transition is influenced by the need to swiftly respond to challenges posed by crises.¹⁴ The disruptions caused by Russia’s invasion of Ukraine have exposed critical vulnerabilities in the energy sector, underscoring the urgent need to strengthen resilience and independence. This has resulted in regulatory measures aimed at fast-forwarding the implementation of renewables, diversifying energy supplies, and increasing energy savings.¹⁵ Finally, the transition is in the process of gradually embedding competitiveness considerations. This is linked to the progressive consolidation of an industrial policy turn,¹⁶ through instruments such as the Competitiveness Compass¹⁷ and the Clean Industrial Deal,¹⁸ which frame decarbonisation and competitiveness in an integrated manner. In doing so, they contribute to re-orienting the transition towards objectives going beyond climate neutrality.

¹¹ Communication COM(2022) 552 final from the Commission of 18 October 2022 on Digitalising the energy system - EU action plan, 1.

¹² This refers to the issue of the electricity consumption of the ICT and is exemplified by data centres: Staff Working Document SWD(2023) 570 final from the Commission of 27 September 2023 on implementation of the Digital Decade objectives and the Digital Rights and Principles, 50–55. On data centres, see Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast), Art 12. On the interplay between sustainability and digitalisation, refer to E Fazio, ‘Data-driven Ecosystems: Competition Law as a Way to Link Sustainability and Digitalisation’ in E Chiti and A Giorgi (eds), *Ecological Sustainability and the Law: The European Green Deal and the New Frontiers of Sustainability* (Routledge-Giappichelli 2024) 199.

¹³ This is exemplified by the role of smart grids as enablers of energy management, facilitating real-time monitoring, demand response, and efficient energy distribution. See Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (recast), Art 19. See also E Olson, ‘Digital Transformation and AI in Energy Systems: Applications, Challenges, and the Path Forward’ in T Lynn P Rosati, D Kreps and K Conboy (eds), *Digital Sustainability. Leveraging Digital Technology to Combat Climate Change* (Palgrave Macmillan 2024) 63.

¹⁴ On the impact of crises on public intervention, see A Moliterni, ‘Metamorfosi dell’intervento pubblico nell’economia’ (2024) 1 *Rivista della Regolazione dei mercati* 63.

¹⁵ Reference is made to the measures adopted in relation to Communication COM(2022) 230 (n 8).

¹⁶ *Ex multis*, E Bruti Liberati, ‘La nuova strategia industriale europea e la sua sostenibilità politica e sociale’ (2024) 2 *Rivista della Regolazione dei mercati* 413.

¹⁷ Communication COM(2025) 30 final from the Commission of 29 January 2025 on A Competitiveness Compass for the EU.

¹⁸ Communication COM(2025) 85 final from the Commission of 26 February 2025 on The Clean Industrial Deal: A joint roadmap for competitiveness and decarbonisation. See also Communication COM(2025) 378 final from the Commission of 2 July 2025 on Delivering on the Clean Industrial Deal I.

Reconstructed in this sense, the energy transition has been understood as incorporating and entailing a shift from a strictly top-down supply chain to a model progressively incorporating bottom-up solutions.¹⁹ This has been accompanied by the formal recognition in legislation of hybrid market participants (such as prosumers)²⁰ and non-hierarchical schemes (such as peer-to-peer trading)²¹ to allow these new emerging modes of producing and transacting energy. Moreover, the transformation of the energy system is increasingly conceived as having social considerations at its core. According to this vision, the general pledge to ‘leave no one behind’²² requires the energy transition to ensure ‘fairness’ and ‘solidarity’, resulting, for example, in a specific consideration of energy poverty.²³ Both these profiles are directly relevant to the introduction of energy sharing as a general right.

Against the background of the current EU energy transition, this article examines whether the introduction of energy sharing as a general right under the Electricity Market Design Reform constitutes a further step within the broader transformation of the EU energy *acquis* and assesses the extent to which it reinforces ongoing trends towards decentralisation and the embedding of social considerations. Methodologically, the article adopts a doctrinal and contextual approach. It reconstructs the legal provisions governing energy sharing and situates them within the broader regulatory strategies shaping the trajectory of energy policy, in order to assess their systemic implications.

The article proceeds as follows. First, it examines the introduction of energy sharing as a general right under the Electricity Market Design Directive, analysing how its scope has expanded beyond its initial conceptualisation within energy communities and outlining its main provisions. Building on this, it explores the broader implications of energy sharing, assessing its role in reshaping the structure of energy supply and embedding justice considerations into the regulatory framework. Finally, it draws some concluding remarks with reference to the evolving scenario of the energy transition.

¹⁹ L Diestelmeier and D Kuiken, ‘Is Sharing Caring? “Energy Sharing” within Energy Communities under EU Law’ in R Fleming and others (eds), *A Force of Energy: Essays in Energy Law in Honour of Professor Martha Roggenkamp* (University of Groningen Press 2022) 275.

²⁰ Prosumer is a term first appearing in A Toffler, *The Third Wave* (Bantam Books 1990), and in this context refers to subjects both consuming and producing electricity.

²¹ Peer-to-peer trading refers to an electronic platform by which it is possible to horizontally transact electricity. On this notion, see L de Almeida, V Cappelli, N Klausmann and H van Soest, ‘Peer-to-Peer Trading and Energy Community in the Electricity Market – Analysing the Literature on Law and Regulation and Looking Ahead to Future Challenges’ (EUI Working Paper RSC 35-2021).

²² Communication COM(2019) 640 (n 4) 4.

²³ Commission Recommendation (EU) 2023/2407 of 20 October 2023 on energy poverty.

2. The introduction of ‘energy sharing’ as a general right

The term ‘energy sharing’ is not new to EU law. It was first mentioned within the Clean Energy for All Europeans package,²⁴ where it was envisioned primarily as an activity of energy communities rather than as an autonomous legal scheme. In that framework, the notion was not expressly defined. Its characteristics were therefore reconstructed indirectly, through the analysis of the legal architecture governing Renewable Energy Communities (RECs) and Citizen Energy Communities (CECs).²⁵

These collective entities were conceived as new forms of market participation by final customers. Although differing in scope of activities and eligibility requirements, both RECs²⁶ and CECs²⁷ are characterised by horizontal governance structures and by a primary purpose oriented towards the delivery of environmental, economic, and social benefits to their members or to the local area, rather than the pursuit of financial profit.²⁸ Their introduction marked a significant step in the progressive decentralisation of electricity markets, as EU law formally recognised collective actors capable of producing, consuming, storing, and, under certain conditions, selling electricity. Moreover, a limited form of renewable energy sharing was also permitted among self-consumers located in the same building.²⁹ However, this possibility remained spatially confined and did not alter the overall regulatory logic.

Within the framework established by the Clean Energy for All Europeans package, energy sharing functioned as an internally oriented activity. It was linked to specific, collectively organised production and consumption schemes and mainly remained structurally embedded in the organisational perimeter of energy communities. Accordingly, energy sharing did not operate as a general right, but remained confined to those specific arrangements.

The Electricity Market Design Directive significantly reshapes this configuration. It extends the scope of energy sharing and integrates it into a more comprehensive framework. In this context, energy sharing is introduced as a general right on the grounds of its capacity to ensure resilience to energy prices, strengthen consumers’ empowerment, and increase renewables’ uptake.³⁰ This approach moves beyond the earlier

²⁴ This package consisted of 8 legislative texts, adopted between 2018 and 2019, and was based on a set of proposals put forward by Communication COM(2016) 860 final from the Commission of 30 November 2016 on Clean Energy for All Europeans.

²⁵ L Diestelmeier and V Cappelli, ‘Conceptualizing “Energy Sharing” as an Activity of “Energy Communities” under EU Law’ (2023) 12 *Journal of European Consumer and Market Law* 15.

²⁶ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast), Arts 2(16) and 22.

²⁷ Directive (EU) 2019/944 (n 13) Arts 2(11) and 16.

²⁸ The idea of energy community has emerged in the EU since the 1970s: E Caramizaru and A Uihlein, ‘Energy Communities: An Overview of Energy and Social Innovation’ (Publications Office of the European Union, 2020), at publications.jrc.ec.europa.eu. For a comprehensive review of this concept, refer to Almeida(n 21).

²⁹ Directive (EU) 2018/2001 (n 26) Art 21(4).

³⁰ Directive (EU) 2024/1711 (n 2) Recital 22.

conception of energy sharing as an activity confined to energy communities and instead frames it as a legal device enabling broader participation in electricity exchanges.

To assess the broader implications of this recognition, the provisions governing energy sharing need to be unpacked. They clarify the definition of energy sharing, identify the actors entitled to participate, establish the modalities through which the right may be exercised, and introduce a set of safeguards intended to preserve the status of participating customers within electricity markets.

A first important innovation is the introduction of a specific definition of energy sharing. In the Electricity Market Design Directive, energy sharing is conceived as a form of self-consumption by active customers of renewable electricity that is directly generated or stored either on-site or off-site. Such electricity may originate from a facility owned, leased, or rented by the participants or may alternatively be transferred to them by another active customer, either free of charge or for a price.³¹ This definition is particularly significant because it clarifies the regulatory logic underpinning energy sharing. Rather than framing it as a simple contractual exchange of electricity between market participants, the Directive conceptualises energy sharing as a form of distributed self-consumption organised among active customers, thereby situating it within the broader category of active customer participation in electricity markets.

The Directive also specifies the categories of actors entitled to engage in energy sharing. Participation is granted to households, small and medium-sized enterprises, and public bodies, while Member States retain the possibility to extend the scope of this right to additional categories of final customers.³² Participation must occur on a non-discriminatory basis and within defined geographical limits, such as the same bidding zone or a narrower area determined by the Member State.³³ Particular attention is also given to inclusiveness. Member States are required to facilitate the participation of vulnerable customers and those affected by energy poverty in energy sharing schemes,³⁴ including through mechanisms ensuring access to electricity shared under arrangements managed by public authorities.³⁵ The identification of these categories of participants reflects the broader policy objective of ensuring that energy sharing remains primarily a consumer-oriented activity. By focusing on households, SMEs and public bodies, the Directive seeks to preserve the decentralised and participatory character of these arrangements while allowing Member States sufficient flexibility to adapt the framework to national specificities.

³¹ Ibid, Art 2(1)(b) in relation to the insertion of point (10a) of the Directive (EU) 2019/944 (n 13).

³² Directive (EU) 2024/1711 (n 2), Art 2(5) in relation to the insertion of Art 15(a)(1) of Directive (EU) 2019/944 (n 13).

³³ Art 2(5) of Directive (EU) 2024/1711 (n 2) and art 15(a)(1) of Directive (EU) 2019/944 (n 13).

³⁴ Directive (EU) 2024/1711 (n 2), Art 2(5) in relation to the insertion of Art 15(a)(7) of Directive (EU) 2019/944 (n 13).

³⁵ Ibid in relation to the insertion of Art 15(a)(8) of Directive (EU) 2019/944 (n 13).

As regards the modalities through which energy sharing may be organised, the Directive allows active customers either to conclude private contractual arrangements or to operate through the creation of a dedicated legal entity.³⁶ This flexibility enables participants to structure their cooperation in different legal forms depending on the organisational and technical characteristics of the arrangement. Participants may also appoint a third-party organiser responsible for operational tasks, including communication with network operators and electricity suppliers as well as the management of tariffs and charges.³⁷ The possibility of appointing such an organiser reflects the technical complexity associated with the functioning of energy sharing schemes. In practice, these arrangements require coordination between several actors within the electricity system, including suppliers, distribution system operators and participating customers. Allowing the involvement of specialised intermediaries facilitates the operational management of energy sharing arrangements and reduces potential organisational barriers that could otherwise limit participation. The Directive also clarifies that such organisers may own or manage generation or storage facilities with a capacity of up to 6 MW without being classified as active customers.³⁸

The Electricity Market Design Directive further introduces a set of safeguards intended to preserve the legal status of customers participating in energy sharing arrangements. In particular, Member States must ensure that participation in energy sharing does not affect the rights and obligations that active customers enjoy as final customers within electricity markets.³⁹ Supplier obligations may arise only when certain thresholds are exceeded, which Member States may adapt within defined limits.⁴⁰ The framework also includes additional protective mechanisms, such as the promotion of voluntary template contracts, the availability of out-of-court dispute resolution mechanisms and information requirements.⁴¹ In this context, network operators are also assigned an important role in supporting the functioning of energy sharing schemes. They are required to monitor, collect, validate and communicate metering data and to establish dedicated contact points intended to facilitate the operation of energy sharing arrangements.⁴²

The introduction of a specific definition of energy sharing also contributes to clarifying its relationship with other forms of electricity exchange recognised under EU law, most notably peer-to-peer trading. Prior to the Electricity Market Design

³⁶ Ibid in relation to the insertion of Art 15(a)(2) of Directive (EU) 2019/944 (n 13).

³⁷ Ibid in relation to the insertion of Art 15(a)(3) of Directive (EU) 2019/944 (n 13).

³⁸ Ibid.

³⁹ Directive (EU) 2024/1711 (n 2), Art 2(5) in relation to the insertion of Art 15(a)(4)(b) of Directive (EU) 2019/944 (n 13).

⁴⁰ Ibid in relation to the insertion of Art 15(a)(4)(c) of Directive (EU) 2019/944 (n 13).

⁴¹ Directive (EU) 2024/1711 (n 2), Art 2(5) in relation to the insertion of Art 15(a)(4) of Directive (EU) 2019/944 (n 13).

⁴² Ibid in relation to the insertion of Art 15(a)(6) of Directive (EU) 2019/944 (n 13).

reform, EU legislation expressly referred to peer-to-peer trading as a mechanism allowing the sale of renewable electricity between market participants.⁴³ By contrast, the notion of energy sharing appeared only indirectly and without an autonomous legal definition, mainly in connection with certain collective arrangements such as energy communities or jointly acting renewable self-consumers.

This asymmetry in the regulatory framework generated a degree of conceptual uncertainty as to the relationship between the two notions.⁴⁴ While peer-to-peer trading was clearly framed as a form of market-based transaction involving the sale of electricity between participants, the legal nature of energy sharing remained less clearly articulated. In practice, both concepts were often discussed together in the literature on decentralised electricity systems, sometimes giving rise to overlapping interpretations.

By explicitly defining energy sharing as a form of collective self-consumption among active customers, the Electricity Market Design Directive contributes to clarifying the distinction between energy sharing and peer-to-peer trading. In peer-to-peer trading schemes, participants interact as distinct market actors who exchange electricity through contractual transactions typically governed by price mechanisms.⁴⁵ It has been noted that these arrangements therefore reproduce, albeit in a decentralised form, the logic of electricity supply relationships.⁴⁶ In this configuration, the parties maintain their respective market roles and the exchange remains fundamentally structured as a commercial transaction. Energy sharing, by contrast, is not primarily organised around the sale of electricity between separate market actors. Instead, it is rooted in the possibility for a group of active customers to consume electricity generated by installations that they own, lease, rent or otherwise control, either individually or collectively. Within this configuration, the flows of electricity between participants are not necessarily framed as market exchanges but rather as the allocation of electricity generated within a shared arrangement. The legal relationship between participants therefore differs from the traditional supply model,⁴⁷ since the arrangement is not centred on the periodic transfer of electricity against the payment of a price but on the distribution of the value associated with electricity produced within the collective framework.

The distinction also reflects different technical and organisational premises. Energy sharing presupposes a form of cooperation among participants who are connected, directly or indirectly, to the generation or storage assets that supply the

⁴³ Directive (EU) 2018/2001 (n 26), Art 2(2)(18).

⁴⁴ E Giarmanà, 'Managing Renewable Electricity within Collective Self-Consumption Schemes: A Systematic Private Law Approach' (2023) 188 *Renewable and Sustainable Energy Reviews* 113896.

⁴⁵ H van Soest, 'Peer-to-Peer Electricity Trading: A Review of the Legal Context' (2018) 19 *Competition and Regulation in Network Industries* 180.

⁴⁶ V Cappelli, *Il contratto della transizione energetica* (Pacini Giuridica 2025) 101–102.

⁴⁷ *Ibid* 100.

shared electricity.⁴⁸ Peer-to-peer trading, by contrast, does not require any shared control over generation assets and instead operates through the exchange of electricity between producers and consumers who interact through decentralised trading arrangements, often facilitated by digital platforms capable of automatically matching supply and demand.⁴⁹

These differences reveal that the two mechanisms pursue partly distinct regulatory objectives. Peer-to-peer trading seeks to enable new forms of decentralised electricity trading within the market, while energy sharing is primarily intended to facilitate collective participation in renewable electricity generation and consumption by allowing groups of active customers to organise the distribution of electricity produced within a shared arrangement, thereby extending this possibility beyond the organisational framework of energy communities and the spatial limitations that previously characterised collective self-consumption schemes.

3. The broader implications of the introduction of ‘energy sharing’

Beyond the specific provisions analysed above, the introduction of ‘energy sharing’ as a general right also carries broader implications for the ongoing transformation of the EU energy system. This recognition does not merely add a new operational mechanism within electricity markets but contributes to the broader process through which the energy transition is reshaping the structural dynamics of the energy sector. In this respect, the emergence of ‘energy sharing’ can be examined from at least two complementary perspectives. The first concerns the evolving organisation of electricity supply within the EU and the changing configuration of the actors involved in energy production, exchange, and consumption. The second relates to the increasing relevance of justice considerations within the regulatory architecture of the energy transition, particularly in light of the EU’s commitment to ensuring that the achievement of climate neutrality remains just.

3.1. ‘Energy sharing’ and the reconfiguration of roles in EU electricity markets

As for the first concern outlined above, energy sharing affects the evolving interplay between energy actors.⁵⁰ In this respect, it should be understood against the background of the progressive transformation of the structure of the energy sector.⁵¹ For

⁴⁸ Staff Working Document SWD(2023) 58 final from the Commission of 14 March 2023 on Reform of Electricity Market Design 42–43.

⁴⁹ Almeida (n 21) 5–8.

⁵⁰ For a comprehensive analysis of the historical trajectory of energy policy and law, please refer to K Talus, *EU Energy Law and Policy: A Critical Account* (Oxford University Press 2013); H Vedder, ‘EU Energy Law’ in M Roggenkamp, C Redgwell, A Ronne and I del Guayo (eds), *Energy Law in Europe: National, EU and International Regulation* (3rd edn, Oxford University Press 2016).

⁵¹ V Smil, *Energy and Civilization: A History* (MIT Press 2017).

much of the twentieth century, energy systems in Europe were organised around vertically integrated national monopolies relying on large-scale generation plants, predominantly fuelled by fossil resources, and on a centralised infrastructure designed to transport electricity from a limited number of production sites to a broad base of end-users.⁵² Within this configuration, energy governance remained concentrated within a small number of public or quasi-public actors.

This institutional and technical architecture began to change with the liberalisation reforms put forward at the EU level, which progressively opened several segments of the electricity chain to competition while maintaining regulated control over network infrastructures.⁵³ Liberalisation reshaped the governance of the sector by redistributing functions previously concentrated within vertically integrated monopolies and by introducing a more complex allocation of responsibilities between market actors, network operators, and regulatory authorities.⁵⁴ At the same time, the construction of the internal energy market gradually became intertwined with a broader set of policy objectives, particularly those related to environmental protection, decarbonisation, and security of supply.⁵⁵

The energy transition interacts with this evolving framework by further transforming both the technological configuration of energy systems and the role of the actors involved in them. The growing deployment of renewable energy technologies (especially at small and medium scales) has favoured the diffusion of distributed generation, namely generation units connected primarily to distribution networks rather than to transmission infrastructure.⁵⁶ As the contribution of these resources to the energy mix expands, energy networks increasingly host a wider range of assets, including storage technologies and demand-side management solutions. This evolution raises new challenges for system operation and coordination, as the electricity system must integrate a growing number of decentralised resources while maintaining its stability. At the same time, digitalisation plays an increasingly important role in the functioning of the energy system. As part of the broader interaction between the green and digital transitions, digital technologies act as key enablers for the management of increasingly complex electricity systems characterised by a growing presence of distributed resources.⁵⁷ In particular, digital tools support the integration

⁵² T Daintith and L Hancher, *Energy Strategy in Europe: The Legal Framework* (De Gruyter 1986).

⁵³ P Cameron, *Competition in Energy Markets. Law and Regulation in the European Union* (2nd edn, Oxford University Press 2007).

⁵⁴ P Colomo, *The New EU Competition Law* (Hart Publishing 2023).

⁵⁵ L Hancher and F Salerno, 'Energy Policy after Lisbon' in A Biondi, P Eeckhout and S Ripley (eds), *EU Law After Lisbon* (Oxford University Press 2012) 367.

⁵⁶ J Markard, 'The Next Phase of the Energy Transition and its Implications for Research and Policy' (2018) *Nature Energy* 628.

⁵⁷ E Celeste and G Dominioni, 'Digital and Green: Reconciling the EU Twin Transitions in Times of War and Energy Crisis' in F Fabbrini and C Petit (eds), *Research Handbook on Post-Pandemic EU Economic Governance and NGEU Law* (Edward Elgar Publishing 2024) 161.

of renewable generation by enabling monitoring of production and consumption patterns, facilitating real-time coordination of energy flows across networks, and enhancing system optimisation through forecasting and data-driven management.⁵⁸

These developments also contribute to a gradual reconfiguration of the role of final customers within the electricity system. Within the EU legal framework, the position of consumers has historically been shaped by the logic of economic regulation,⁵⁹ where consumer protection primarily aimed at enabling informed choice and supporting competition in liberalised markets.⁶⁰ Over time, however, the expansion of EU energy policy objectives (particularly in relation to decarbonisation and security of supply) has been accompanied by a progressive shift towards a more active paradigm of consumer participation.

In this evolving regulatory landscape, consumers are increasingly recognised not only as recipients of supply but also as potential active participants in energy markets.⁶¹ Alongside traditional consumer protection mechanisms and measures addressing vulnerable consumers and energy poverty,⁶² EU energy law has progressively introduced legal schemes that enable bottom-up participation in the energy transition, as illustrated most recently by the introduction of the right to energy sharing.

Against this background, the introduction of the right to energy sharing can be understood as part of this broader transformation of electricity markets. By enabling active customers to partake in collective self-consumption, EU law creates a legal scheme that facilitates new forms of participation in energy systems. In this sense, energy sharing reflects the broader shift towards decentralised and participatory energy markets, in which customers may engage more directly in the transition.

3.2. 'Energy sharing' and social considerations

A second dimension in which the introduction of energy sharing may have broader implications concerns social considerations within the energy transition. The regulatory foundations of the EGD emphasise the need to ensure that the transformation of

⁵⁸ The modernisation of the transmission and distribution infrastructure is essential to accommodate rising electrification and the intermittent nature of renewables. Energy grids must become decentralised, digitalised and more flexible, through the implementation of smart grids, real-time data and grid-enhancing technologies, to optimise capacity, improve resilience and integrate storage, also in light of cross-border infrastructure needs. In this respect, please consider, *inter alia*, the Communication COM(2023) 757 final from the Commission of 28 November 2023 on Grids, the missing link - An EU Action Plan for Grids.

⁵⁹ A Duterque, 'The Liberalisation of EU Energy Markets: A Consumer's Perspective' (2013) 2 *Journal of European Consumer and Market Law* 80.

⁶⁰ S Weatherill, 'Consumer Policy' in P Craig and G de Búrca (eds), *Evolution of EU Law* (3rd edn, Oxford University Press 2021) 874.

⁶¹ K Cseres, 'The Active Energy Consumer in EU Law' (2018) 9 *European Journal of Risk Regulation* 227, where this evolution is also linked to the following circumstances: *i*) increased diffusion of renewables; *ii*) technological developments; *iii*) digitalisation.

⁶² See subparagraph 3.2.

the energy system occurs in a manner that is both socially inclusive and fair, encapsulated in the commitment to ensure that ‘no one is left behind’ in the achievement of climate neutrality.⁶³ Translating this objective into concrete regulatory arrangements, however, raises complex questions concerning both the distribution of the costs and benefits associated with these regulatory objectives and the participation of affected actors in the processes through which the energy transition is implemented.⁶⁴

In the EU legal and policy framework, these social considerations have been addressed through a range of initiatives and instruments. Alongside financial mechanisms designed to mitigate the socio-economic impacts of climate neutrality,⁶⁵ access to energy is recognised as ‘essential’ in the European Pillar of Social Rights.⁶⁶ While it has been further developed through the adoption of an Action Plan⁶⁷ and has inspired a number of legislative initiatives,⁶⁸ its legal nature remains non-binding, and its implementation has largely relied on soft-law approaches,⁶⁹ thereby limiting its capacity to operate as a robust safeguard for social considerations within the

⁶³ Communication COM(2019) 640 (n 4) 4.

⁶⁴ Cf K Arabadjieva and S Bogojević, ‘The European Green Deal: Climate Action, Social Impacts and Just Transition Safeguards’ (2024) 43 *Yearbook of European Law* 1.

⁶⁵ E.g. Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 establishing a Social Climate Fund and amending Regulation (EU) 2021/1060; Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 establishing the Just Transition Fund. See also A Crespy and M Munta, ‘Lost in Transition? Social Justice and the Politics of the EU Green Transition’ (2023) 29 *Transfer: European Review of Labour and Research* 235.

⁶⁶ Point 20 of the European Pillar of Social Rights.

⁶⁷ Communication COM(2021) 102 final from the Commission of 4 March 2021 on The European Pillar of Social Rights Action Plan. See also Call for Evidence for an Initiative from the Commission on The new Action Plan to implement the European Pillar of Social Rights, at ec.europa.eu.

⁶⁸ E.g. Directive (EU) 2019/1152 of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union. In this regard, see also B Bednarowicz, ‘Delivering on the European Pillar of Social Rights: The New Directive on Transparent and Predictable Working Conditions in the European Union’ (2019) 48 *Industrial Law Journal* 604.

⁶⁹ M Eliantonio, E Korkea-aho and U Mörtz (eds), *Research Handbook on Soft Law* (Edward Elgar 2023).

energy transition.⁷⁰ Particular attention has also progressively been devoted to vulnerable categories of consumers⁷¹ and, under a more holistic approach, energy poverty.⁷² First introduced in Directive 2009/72/EC,⁷³ the notion has gradually been incorporated into the broader narrative of a fair and inclusive energy transition. EU legislation frames energy poverty as a condition in which households are unable to secure the energy services necessary to guarantee adequate living standards and health, resulting from a combination of factors.⁷⁴ Building on this understanding, recent developments have emphasised the need to address the phenomenon through structural measures capable of tackling its underlying causes. In particular, the Commission Recommendation (EU) 2023/2407 stresses the need to distinguish between structural interventions and measures of affordability,⁷⁵ with priority given to the former.⁷⁶ At the same time, Member States are encouraged to develop reliable indicators and monitoring mechanisms in order to better identify the households concerned and to design coherent responses, notably through National Energy and Climate Plans and Social Climate Plans.⁷⁷ In the same direction, the EU framework on energy sharing also requires Member States to adopt appropriate and non-discriminatory measures to ensure that vulnerable customers and those affected by energy poverty can access energy-sharing schemes.

At the same time, the social implications of the energy transition have increasingly been discussed through the conceptual lenses of the ‘just transition’ and ‘energy justice’ normative projects. While the notion of just transition⁷⁸ focuses more broadly on managing the socio-economic consequences of decarbonisation and on

⁷⁰ K Polomarkakis, ‘The European Pillar of Social Rights and the Quest for EU Social Sustainability’ (2019) 29 *Social & Legal Studies* 183; Arabadjieva and Bogojević (n 64) 16.

⁷¹ C Riefa and S Saintier (eds), *Vulnerable Consumers and the Law Consumer Protection and Access to Justice* (Routledge 2021).

⁷² The relationship between energy poverty and consumer vulnerability is asymmetrical. The former denotes a condition of material deprivation linked to access and affordability of energy services, whereas the latter refers to a broader category of disadvantage, which may also arise from factors unrelated to household income.

⁷³ Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, Recital 53 and Arts 3(7)–(8).

⁷⁴ Directive (EU) 2023/1791 (n 12), Art 2(52). See also European Commission, *Framing summer energy poverty – Insights and recommendations for a resilient future – Final report* (Publications Office 2025).

⁷⁵ Para 5 of Commission Recommendation (EU) 2023/2407 of 20 October 2023 on energy poverty; Staff Working Document SWD(2023) 647 final from the Commission of 20 October 2023 on EU guidance on energy poverty 27–55.

⁷⁶ Para 6 of the Recommendation (EU) 2023/2407 (n 75); SWD(2023) 647 final (n 75) 27–55.

⁷⁷ Para 3 of the Recommendation (EU) 2023/2407 (n 75); SWD(2023) 647 final (n 75) 8–9 and 14–15.

⁷⁸ In relation to the origins of the concept, see D Doorey and A Eisenberg, ‘The Contested Boundaries of Just Transitions’ in C Chacartegui Javega (ed), *Labour Law and Ecology* (Thomson Reuters-Aranzadi 2022) 293.

involving affected groups in the related decision-making processes,⁷⁹ the concept of energy justice offers a more specific analytical framework for assessing the regulatory arrangements of the energy system sectorally.

Although energy justice has no formal legal status within EU law, it has gained increasing relevance within academic and policy debates as a normative framework through which the social implications of energy regulation may be evaluated. In particular, energy justice scholarship commonly distinguishes between three complementary dimensions.⁸⁰ Distributive justice concerns the fair allocation of resources and benefits within the energy system, ensuring that costs and advantages are equitably distributed among different stakeholders.⁸¹ Procedural justice focuses on the inclusiveness and transparency of decision-making processes in the energy sector, where all actors, including consumers and local communities, have the opportunity to actively participate.⁸² Recognition justice, finally, focuses on the fair representation and acknowledgment of all social groups within the energy sector, with special attention to vulnerable communities that may face disadvantages due to economic, infrastructural, or political barriers.⁸³ Adopting this analytical lens, the recognition of energy sharing as a general right may be interpreted as contributing, albeit in a limited manner, to the operationalisation of these justice considerations within EU energy regulation. From a distributive justice perspective, energy sharing has the potential to reduce energy poverty by allowing consumers to access locally produced renewable energy at lower costs. As for procedural justice, energy sharing provides an opportunity to democratise energy governance. Recognition justice further highlights the need to adapt energy-sharing schemes to diverse socio-economic contexts, ensuring that vulnerable groups are not excluded due to regional disparities in infrastructure and implementation.

4. Concluding remarks. *Quo vadis*, energy transition?

The recognition of energy sharing as a general right within the Electricity Market Design Reform represents an important development in the evolving architecture of

⁷⁹ A Harrington, *Just Transitions and the Future of Law and Regulation* (Palgrave Macmillan 2022); X Wang and K Lo, 'Just Transition: A Conceptual Review' (2021) 82 *Energy Research & Social Science* 1; D Doorey, 'Just Transitions Law: Putting Labour Law to Work on Climate Change' (2017) *Journal of Environmental Law and Practice* 201.

⁸⁰ For an overview of the energy justice scholarship, refer to L Kaschny, 'Energy Justice and the Principles of Article 194(1) TFEU Governing EU Energy Policy' (2023) 12 *Transnational Environmental Law* 270. See also R Heffron, 'Applying Energy Justice into the Energy Transition' (2022) 156 *Renewable and Sustainable Energy Reviews* 1; R Heffron and D Mccauley, 'The Concept of Energy Justice across the Disciplines' (2017) 105 *Energy Policy* 658; B Sovacool and M Dworkin, 'Energy Justice: Conceptual Insights and Practical Applications' (2015) 142 *Applied Energy* 435.

⁸¹ Kaschny (n 80) 275.

⁸² Ibid.

⁸³ Ibid.

the energy transition. By extending energy sharing beyond the organisational framework of energy communities, the reform establishes a legal mechanism through which groups of active customers may participate more directly in the production of renewable electricity. In this sense, energy sharing can be understood as part of the broader transformation of the energy system associated with the energy transition, in which decentralised forms of generation and new categories of market participants progressively complement the traditional dynamics of electricity supply.

As argued in this article, the introduction of the right to energy sharing carries two main implications for the trajectory of the energy transition. First, it contributes to the ongoing reconfiguration of electricity markets by reinforcing the shift towards more decentralised forms of generation and by further blurring the traditional distinction between producers and consumers. Second, the framework on energy sharing reflects the increasing integration of social considerations within EU energy legislation. By facilitating collective access to locally produced renewable electricity and by explicitly requiring Member States to ensure the participation of vulnerable consumers, the Directive illustrates how concerns related to fairness and inclusiveness are progressively embedded within the regulatory architecture of the energy transition.

At the same time, the potential of energy sharing should not be overstated. The extent to which this legal framework will effectively contribute to a more inclusive energy transition will largely depend on its implementation and on the socio-technical conditions in which these arrangements develop. Participation in energy sharing schemes may require access to resources that are not evenly distributed across households and local communities. Without appropriate support measures, there is therefore a risk that the benefits associated with decentralised renewables generation may remain concentrated among those actors already better positioned to participate in such arrangements.

More broadly, the future trajectory of the energy transition remains uncertain. Recent initiatives, including those reflected in the Draghi Report,⁸⁴ the Competitiveness Compass,⁸⁵ and the Clean Industrial Deal, highlight the growing importance of competitiveness and resilience alongside the climate neutrality sub-objectives. In this context, the future trajectory of the energy system will increasingly depend on the capacity of EU regulation to reconcile different priorities. Decentralised arrangements such as energy sharing may contribute to this transformation by strengthening local participation in renewable energy, but their role will ultimately depend on how they are integrated within the wider strategy shaping the next phase of EU energy policy.

⁸⁴ M Draghi, 'The Future of European Competitiveness', at commission.europa.eu.

⁸⁵ Communication COM(2025) 30 final from the Commission of 29 January 2025 on a Competitiveness Compass for the EU.

