

The Energy Transition from a Comparative Perspective

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Hoewel aan de totstandkoming van deze uitgave de uiterste zorg is besteed, aanvaarden de auteurs, redacteur(en) en uitgever geen aansprakelijkheid voor eventuele fouten en onvolkomenheden, noch voor de gevolgen hiervan.

ers? When public or private juristic persons are liable for duty of care infringements, given the Dutch landmark court decisions in *Urgenda* and *Shell*? Moreover, how can we benefit from comparisons with energy transitions in the past – such as the move towards natural gas in the Netherlands in the 1960s – and other historical and societal transitions, such as the industrial and the internet revolution?

This book captures the contributions on these and other issues discussed by the speakers at the 2023 Symposium. Kati Cseres⁵ provided a consumer perspective on the energy transition in the European Union and in the jurisdictions of The Netherlands and Hungary. Her contribution reads *Varieties of Energy Transition: A Consumer-focused Perspective*. Bernhard Kreße addressed transitions in German law: *Sustainability Issues in the Supply and Value Chain under German Law*.⁶ Miriam Anderson dealt with Spanish and Catalan perspectives concerning the renovation of residential property: *The Renovation Wave of Buildings:*

Spanish and Catalan Private Law Perspectives.⁷ Related to that are the core property law issues involved concerning the identity of buildings – under which conditions are solar panels considered a part of the building? Dutch law is rather strict in this regard, which is the topic addressed by Ines Hoving: *Solar Panels-on-roof Constructions as ‘Scheinbestandteile*.⁸ Niels Graaf analysed the fund subsidies behind the European energy transition and the state-aid regime: *Winners and Losers of the EU’s New State Aid Regime. Comparing National Funding for the Energy Transition*.⁹

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Varieties of Energy Transition: A Consumer-focused Perspective

Kati Cseres*

1 Introduction: the energy transition and the role of consumers

The transition to sustainable energy is a pathway towards transforming the global energy sector by reducing greenhouse gas emissions and replacing fossil fuels with renewable energy in order to mitigate the effects of climate change. It is a change in the primary form of energy consumption of societies, which involves a complex and multifaceted process with technological, social, economic and political dimensions. The energy transition is profoundly affected by the characteristics of renewable energy sources, which are different from those of conventional technologies, such as increased dependency on weather and fewer possibilities to control production. Renewable energy has the advantage of being carbon neutral during electricity generation, however, its integration into current electricity systems poses additional challenges. The physical nature of renewable energy sources means that the generation of energy becomes more variable, less predictable and decentralised compared to traditional generation.¹ One prominent solution to this challenge offered by policy-makers has so far focussed on integrating flexibilities that consumers can offer for improved matching of the variability or intermittency of renewable energy sources with electricity demand.² Hence, consumers could play a fundamental role in achieving the flexibility necessary to adapt the electricity system to variable and distributed renewable electricity generation and contribute to the transition to a sustainable energy system.

The question this article tackles is how institutions and the broader political-economic context shape the social context where consumers operate. The diversity of institutional models implemented in the national economies of the EU Member States shape the way the relationship between markets, states and consumers develops as well as the way energy transition policies and the role of consumers therein is taking place. In light of the legal, political and social complexity of energy transition, the article offers a critical analysis of how two Member States, the Netherlands and Hungary, while seemingly both converging with EU Directives, when analysed in their broader political-economy context, represent two opposing ways of using energy law to steer consumers towards or constrain them from sustainable energy consumption.

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1. I. Diestelmeier, *Unlocking Flexibility with Law: developing a Legal Framework for Smart Electricity Systems* (University of Groningen 2019) 9.
2. Dynamic prices could function as a financial incentive for consumers to adjust their demand. Demand flexibility thus becomes of essential value with an increasing amount of RES.

Consumer behaviour, both as participants in sustainable energy consumption and its production is an important aspect of the energy transformation. The technological setting of today's energy markets enables consumers to manage their consumption and thus reduce their energy bills while participating actively in the shift from fossil fuels to renewable sources. The availability of low-cost technological devices enables consumers to use technologies, such as rooftop solar panels, batteries and smart meters and directly control and manage their individual consumption patterns. This, arguably, provides strong incentives for efficient energy use if combined with time-dependent electricity prices.³ Internet-based metering and trading solutions enable even consumer households to generate and store electricity. Consumers can sell generated electricity, offer flexibilities in demand and provide balancing services for maintaining system operation which becomes increasingly valuable for integrating variable renewable energy sources.⁴ In this way, consumers become prosumers.⁵

However, the consumers' capacity to drive sustainable consumption is subject to various constraints. First, despite the fact that households often express strong support for sustainable energy consumption, for example willing to pay for green electricity, these attitudes are seldom reflected in actual behaviour.⁶ For example, Dutch citizens show a positive attitude toward making the energy supply more sustainable, however, surveys showed that sustainability is relatively low on Dutch citizens' agenda.⁷ On the other hand, Hungarian citizens do not consider climate change a central issue, even though there is a higher than average (76%) support for the common European energy policy.⁸ Hungary is lagging behind other European countries in terms of both renewable energy utilisation and community energy, as well as supporting the transition to a prosumer culture, all of which would require a more flexible and less centralised energy system.

Second, in the current electricity sector the possibility to offer demand flexibility depending on dynamic prices is mostly directed towards large consumers and po-

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3. Smart energy technology can automatically follow price fluctuations and offer accurate and frequent information to consumers on their consumption and it enables them to adjust their behaviour accordingly to the price signals.
 4. I Diestelmeier, 'Changing Power: Shifting the Role of Electricity Consumers with Blockchain Technology – Policy Implications for EU Electricity Law' (2019) *Energy Policy* 189-196.
 5. Prosumers are consumers who start generating electricity primarily for their own needs. See Directive 2018/2001 on 'renewable self-consumer'. The term 'prosumer' originally coined by Alvin Toffler (1980) refers to the development of the people's participation in markets from being passive consumers to active participants in production, maintenance and repair of consumer goods. S Eden, 'Blurring the Boundaries: Prosumption, Circularity and Online Sustainable Consumption through Freecycle' (2017) 17(2) *Journal of Consumer Culture* 265-85.
 6. C Berglund, S Matti, 'Citizen and Consumer: The Dual Role of Individuals in Environmental Policy' (2006) 15(4) *Environmental Politics* 553. A Hansla, A Gamble, A Juliusson, T Gärling, 'Psychological Determinants Of Attitude And Willingness to Pay for Green Electricity' (2008) 36(2) *Energy Policy* 768-774. C Dalhammar, 'It Is Never Too Late to Give Up, or Is It? Revisiting Policies for Sustainable Consumption' in O Mont (ed), *A Research Agenda for Sustainable Consumption Governance* (Edward Elgar Publishing 2019) 137-155.
 7. Dutch citizens also estimate the share of renewable energy to be higher than it is in reality. See *Publieksmonitor Klimaat en Energie* (Motivaction 2019) 7-8 and *Integrated National Energy and Climate Plan (NECP) 2021-2030, Netherlands* (2019) 12.
 8. I Bart, D Csernus and F Sáfíán, *Analysis of Climate-Energy Policies & Implementation in Hungary* (National Society of Conservationists–Friends of the Earth Hungary 2018).

tential flexibilities of small consumers located at the distribution grid level remain ineffective.⁹ This has been especially so in the Netherlands, where energy policies and subsidies generally aim at large corporate projects with high profitability. Citizen projects with their typically modest revenue models fit much less into this policy.¹⁰

Third, an important finding of sociological research on sustainable consumption is that individual consumers' decision making is influenced by various institutional factors such as social institutions, consumer culture or collective behaviour.¹¹ Consumption is socially embedded and is shaped by existing (unsustainable) institutional settings and infrastructures.¹²

Due to these legal, social and market boundaries, consumers are often 'locked in by circumstances' and unable to engage in more sustainable consumption practices even if they want to.¹³ This is certainly the case in Hungary, where energy law and governance have been shaped by path dependencies of wasteful energy practices that were ingrained in the institutions that for decades set central targets for energy allocation, and encouraged energy consumption and discouraged efficient energy production, use and distribution.

In an attempt to steer consumption towards sustainability national governments and supranational organisations have adopted policies and corresponding legislation that address individual consumers as rational and active choice-makers who make socially responsible choices when they receive the 'right' amount of information.¹⁴ Accordingly, legislators and policy makers have placed the responsibility for the energy transition on consumers.¹⁵

The European Commission's Clean Energy Package¹⁶ placed consumers at the *centre* of the EU's energy policy and implements a broad range of initiatives to make consumers an active part of the clean energy transition.¹⁷ Similarly, EU Member

9. Diestelmeier (2019) at 132.

10. S Akerboom, F van Tulder, 'Consumer (Co-)Ownership in Renewables in the Netherlands' in J Lowitzsch (ed) *Energy Transition – Financing Consumer Co-Ownership in Renewables* (Palgrave Macmillan 2019).

11. E Shove, 'Beyond the ABC: Climate Change Policy and Theories of Social Change' (2010) 42(6) *Environment and Planning A: Economy and Space* 1273-1285 <<https://doi.org/10.1068/a42282>>.

12. E Heiskanen, S Laakso, 'Editing out Unsustainability from Consumption: From Information Provision to Nudging and Social Practice Theory' in O Mont, *A Research Agenda for Sustainable Consumption Governance* (Edward Elgar Publishing 2019) 157. The Swedish Environmental Protection Agency, *Sustainable Consumption, research and policies*, Report (2005) 58.

13. C Sanne, 'Willing Consumers—or Locked-In? Policies for a Sustainable Consumption' (2002) 42 *Ecological Economics* 273.

14. Heiskanen, Laakso (2019)

15. O Mont, 'Introduction to a Research Agenda for Sustainable Consumption Governance' in *A Research Agenda for Sustainable Consumption Governance* (Edward Elgar Publishing 2019).

16. 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 (OJ L 158, 14.6.2019, p 125-199).

17. Commission Communication of 25 February 2015, 'A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy', Commission Communication of 15 July 2015, 'Delivering a New Deal for Energy Consumers'; New Consumer Agenda – Strengthening consumer resilience for sustainable recovery, COM(2020) 696 final.

States have also been drafting and implementing ambitious energy transition and climate change laws and policies. However, the diversity of institutional models implemented in the national economies of the Member States¹⁸ shape both the way the relationship between markets states and consumers develops as well as the way energy transition policies and the role of consumers therein is taking place.

After having assessed the complex processes and socio-technical dimension of energy transition and identified the role of consumers and their alleged responsibility in this process, the next section turns to which legislation and policies the EU has adopted as a supranational organisation to steer and facilitate the role of consumers in the energy transition. The article then moves to address the broader political economy of the energy transition, and the last two sections provide an analysis of the case studies of the Netherlands and Hungary. The article finds that political-institutional differences between countries reveal how the complex mechanisms of coordination among a large number of market and non-market actors shape the energy transition. As individual consumers' decision making is influenced by various institutional factors and consumption is socially embedded and is shaped by existing (unsustainable) institutional settings and infrastructures, the role of state remains central given its legal authority and the ability to reshape the interactions of other actors, most notably consumers. The energy transition shows how formal legal rules can seemingly converge and harmonise towards EU provisions, while the wider political economic context provides a deeper and closer imprint of the actual state of transition policies.

2 EU law

Electricity markets across Europe form part of the EU internal energy market and as such they have gone through profound changes as a result of the EU market liberalisation process from 1996. National electricity systems and policies have been transformed by the various requirements of the EU Directives over the past two decades. As the EU's renewable and decarbonisation agenda has a significant impact on national electricity policy, this section will provide a short overview of the current EU energy law and policy developments that shape national laws and policies concerning the role of consumer.

In 2015 the Commission adopted the *Energy Union Strategy* that laid out a pathway for transition to a decarbonised energy sector that delivers sustainable, secure, competitive and affordable energy. To implement the objectives of the Energy Union Strategy, the EU Commission proposed the *Clean Energy for All Europeans* package in 2016 for the internal electricity market¹⁹ and the legislation entered

18. M Varju, M Papp 'Varieties of Member State capitalisms and the European economic constitution. A folly or flexible framework?' In *Varieties of Member State capitalisms and the European economic constitution. A folly or flexible framework?* In: Achilles, Skordas; Gábor, Halmaj; Lisa, Mardikian (eds.) *Economic Constitutionalism in a Turbulent World* Cheltenham, (Edward Elgar Publishing 2023) pp. 136-160.

19. Proposal for a Directive on common rules for the internal market in electricity, COM (2016) 864 (Electricity Directive) and COM (2016) 861 (Electricity Regulation).