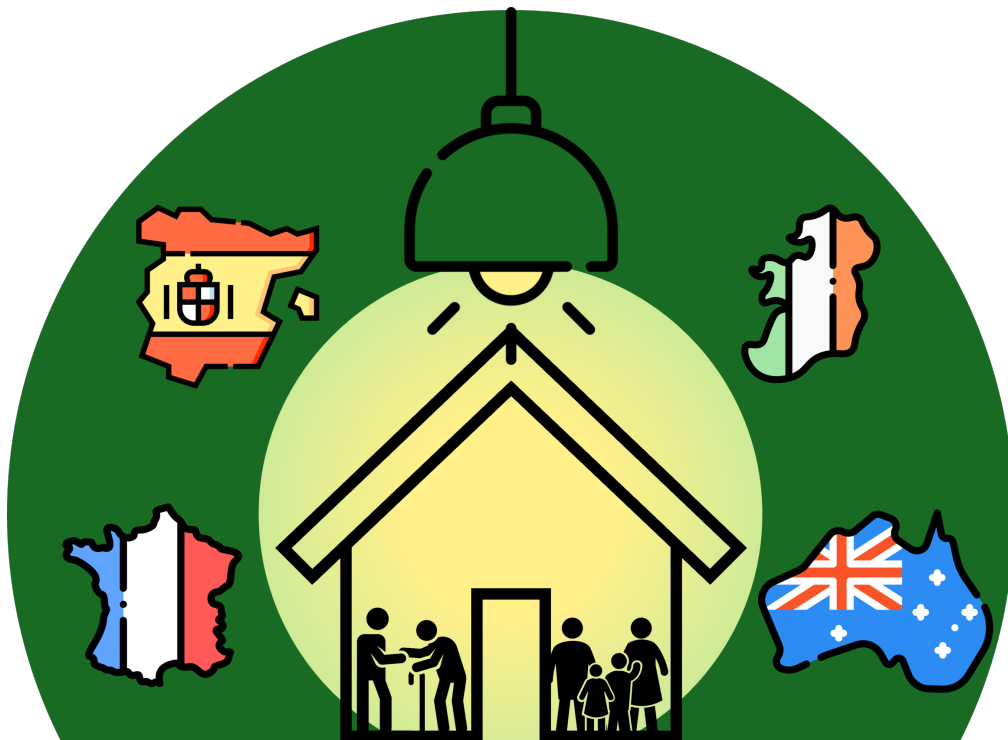


How do electricity disconnection bans work?

Lessons learnt from exemplary case studies



Dr Nicola Willand, RMIT University, Australia

Dr Sergio Tirado Herrero, Universidad Autónoma de Madrid, Spain

Dr Ute Dubois, ISG International Business School, France

Dr Nessa Winston, University College Dublin, Ireland

Orla Dingley, University College Dublin, Ireland

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Authors

Dr Nicola Willand, RMIT University, Australia

Dr Sergio Tirado Herrero, Universidad Autónoma de Madrid, Spain

Dr Ute Dubois, ISG International Business School, France

Dr Nessa Winston, University College Dublin, Ireland

Orla Dingley, University College Dublin, Ireland

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Nicola Willand

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Acknowledgement of Country

We acknowledge the people of the Woi wurrung and Boon wurrung language groups of the eastern Kulin Nation on whose unceded lands we conduct our research, teaching, and service. We pay respects to Ancestors and Elders past and present who have always been caring for Country. We honour the work of emerging leaders standing strong for Country. We pay our respects to Country, the lifeworld that sustains us all.

Our research, education, and service are already in a relationship with Country and the people of Country, here and in all the places we undertake our business. As mostly non-Indigenous people at CUR, we acknowledge our obligation in this relationship: to uphold the ngarn-ga (understanding) of Bundjil and practice respect for community and culture in all that we do. Though there is much we still need to learn, especially about ourselves, we affirm our dhumbali (commitment) to helping create shared futures grounded in recognition of First Peoples sovereignty.

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Abbreviations

ACER	European Agency for the Cooperation of Energy Regulators
ACT	Australian Capital Territory
ACCC	Australian Competition & Consumer Commission
AER	Australian Energy Regulator
AERrR	Australian Energy Regulator responsible Regions
AEMC	Australian Energy Market Commission
CEER	Council of European Energy Regulators
CCTV	Closed-Circuit Television
CNMC	Spanish National Commission for Markets and Competition (<i>Comisión Nacional de los Mercados y la Competencia</i>)
CRU	Irish Commission for Regulation of Utilities
DSO	Distribution system operator
ESB	Irish Electricity Supply Board
EU SILC	European Survey and Income and Living Conditions
FSL	Franch Housing Solidarity Funds (<i>Fonds de Solidarité Logement</i>)
FY	Financial Year
HBS	European Household Budget Survey
IRSC	Catalan Income Sufficiency Indicator
NECF	Australian National Energy Customer Framework
NEM	Australian National Energy Market
NERR	Australian National Energy Retail Rules
NSW	New South Wales
PAYG	Pay As You Go or prepayment
PVPC	Spanish Voluntary Price for Small Consumers (<i>Precio Voluntario para el Pequeño Consumidor</i>)
QLD	Queensland
SA	South Australia
SMV	Spanish Minimum Vital Supply (<i>Suministro Mínimo Vital</i>)
TAS	Tasmania
UK	United Kingdom
USA	United States of America
VIC	Victoria

Executive Summary

Problem statement

Electricity disconnections for non-payment affected over 23,000 electricity customers in New South Wales, the Australian Capital Territory, Queensland, South Australia, Tasmania and Victoria in the 2023-24 financial year. Many more householders were in debt, with potential risks to mental, social and physical health. Researchers and consumer advocates in Australia are calling for a ban on disconnections, however, little is known about the nature and mechanisms of disconnection prohibitions to guide Australian policies and practices.

The European Commission and consumer advocates point to France, Spain and Ireland as “good examples” for disconnection protections. In 2022, these countries presented lower disconnection rates than other member states. Hence, this review explored the characteristics and impacts of disconnection bans in these three countries and compared them with the regions governed by the Australian Energy Regulator and Victoria.

Project aim

The aim of this study was to explore prohibitions of residential electricity disconnections for non-payment of bills in exemplary jurisdictions to better understand how these disconnections bans were configured, to whom they applied, under what circumstances and how effective they may have been in protecting the health and wellbeing of householders. The primary question for this study was: How do the electricity disconnection bans in France, Spain and Ireland work?

Typology and scope of disconnections bans

Disconnection bans provided customers mandatory or voluntary, permanent or temporary protection from electricity debt disconnections with or without reduced power supply to protect the health and wellbeing of householders, to allow account holders more time to find payment solutions and to limit economic losses for energy companies.

Key insights

- Disconnection rates in Australia compared favourably to those in “good example” countries.
- Broad eligibility criteria ensured extensive protection against disconnection.
- Disconnection moratoria may offer temporary relief for some customers but lead to over-indebtedness for others.
- Prerequisites for certain disconnection protections restricted free choice in retailers.
- Voluntary disconnection restraints did not threaten the financial health of energy retailers.
- Large size of retailers may facilitate voluntary disconnection restraints .
- Government ownership of energy companies may facilitate voluntary disconnection restraints.
- Smart meters enabled customers in arrears to stay connected with a reduced power supply.
- Collaboration with trusted intermediaries helped protect against disconnections.
- Home energy improvements were not given priority among disconnection safeguarding measures.
- Global emergencies may trigger enhanced legal prohibitions of disconnections.
- Disconnection moratoria presented seasonal bias.
- Disconnection moratoria lacked reconnection mandates.
- Irregular electricity connections were often a last resort measure for households facing extreme energy poverty when legal protections were inadequate or absent.

Disconnection ban category/ Jurisdiction	France	Spain	Catalonia	Ireland	Australia – regions governed by Australian Energy Regulator and Victoria
Full, year-round disconnection prohibitions – by law	Customers who have applied for financial assistance through the Solidarity Fund for Housing.	Registered life support customers; *since 2022: all social bonus recipients		Registered life support and customers paying off debt; those with a formal complaint or estimated bill	Registered life support customers, 'engaged' customers, and those paying off debt; those with a debt less AU\$300, a formal complaint or pending application for energy concession/relief. VIC; water vulnerable customers.
Disconnection moratoria – grace periods prohibiting immediate cut-off with or without reduced supply	All customers: reduced supply 1kVA for at least 30 days. Smart meter customers: reduced supply 1kVA for at least 60 days. Energy Cheque beneficiaries - additional 30 days for payment and basic individual supply mechanism of 1kVA for 60 days .	Pre-2022 : Social bonus recipients (vulnerable and severely vulnerable customers): additional 2 months to settle unpaid bills followed by reduced power supply (3.5kW for 6 months (=10 months extension in total). *Since 2022: no social bonus recipient may be disconnected		All customers: no disconnections on Fridays, weekends, public holidays and the days before a public holiday.	All customers: no disconnections between 2pm/3pm and 8am, on Fridays, weekends, public holidays and the days before a public holiday, between 20-31 December and extreme weather events
Disconnection moratoria – winter truce period	All customers: with reduced supply 3kVA; Energy Cheque recipients: no power reduction	-		Vulnerable customers; *in 2025: All customers but for a shorter period	-
Voluntary continuous disconnection restraint by energy companies	Since 2022: EDF maintains a minimal power supply (1 kVA) for all their customers	-	Since 2021: Endesa is sharing debt with Catalan and local governments	Since 2014: 8 of 12 Irish retailers who have signed up to the voluntary Energy Engage Code will never disconnect an 'Engaged Customer'	-

Table 1 Overview of disconnection prohibition types and eligible groups across France, Spain (with special consideration of Catalonia), Ireland and Australia. An asterisk () indicates a temporary emergency measure.*

Conclusion

Residential electricity disconnection rates in Australia were comparable to “good example” countries, however, this measure fails to capture the human impact of disconnection threats. More adequate energy concessions and social tariffs could help improve affordability to electricity and further reduce the rate of disconnections for non-payment. For the energy industry, disconnection bans may reduce bad debt and reputational damage, however, the impact may be unevenly shared. Importantly, the finding that disconnections can be banned without significantly destabilising the energy market highlights the need for an honest and courageous discussion about the potential implementation of more extensive disconnection prohibitions in Australia.

Recommendations for Australian policy makers

Improving current rules:

- Consider broader vulnerability categories for full year-round disconnection protection including health, income, household composition and energy efficiency of the home.
- Raise the minimum debt level of AU\$300 to better match current bill amounts.
- Broaden the prohibition of electricity disconnection for non-payment if consequent lack of water would be detrimental to health from Victoria to other states.
- Enhance hardship and repayment programs to better support customers in meeting their payment obligations.
- Consider progressing collaborative approaches with social and consumer services to solve customer hardship.
- Consider putting more emphasis on improving housing energy performance for sustained reduction of energy costs.
- Consider winter and summer disconnection moratoria to protect public health.
- Acknowledge extreme energy poverty by reporting illegal connections.

Considering universal disconnection prohibitions:

- Recognise the right to energy, positioning the energy industry as a key partner in safeguarding public health and as a steward of a basic human right.
- Consider reducing power supply rather than full disconnection, ensuring households retain access to essential energy services.
- The current cost of living crisis may be a good reason to stop electricity disconnections.

Recommendations for Australian energy companies

- OriginEnergy, AGL, EnergyAustralia and Ergon Energy Retail may consider trialling a voluntary electricity disconnection restraint.
- Energy retailers may try reducing electricity instead of cutting power to regain public trust.

Recommendations for researchers

- The quantity of guaranteed or reduced power supply needs more investigation.
- Little is known about the role of intermediaries in helping customers avoid disconnections.
- Health and wellbeing outcomes of disconnection prohibitions deserve further investigation.
- Independent research is needed on the outcomes and lived experiences of disconnection prohibitions.
- Urgent research is needed to find ways of protecting customers in embedded networks and those on pre-payment meters from disconnections.
- Improved understanding of payment arrears may help develop fair approaches to sharing the risks associated with disconnection prohibitions.

1 Introduction

1.1 Purpose of the report

This literature review explores prohibitions of residential electricity disconnections for non-payment, balancing social and economic objectives. By examining legal, technical, and ethical considerations in exemplary jurisdictions, the report provides insights for implementing better protection of bill-paying residential consumers from electricity disconnections in Australia.

1.2 Rationale

Electricity disconnections for non-payment affect thousands of Australians with detrimental impacts on their health and wellbeing. In the 2023-24 financial year, over 23,000 electricity customers (0.23%) in the New South Wales (NSW), Australian Capital Territory (ACT), Queensland (QLD), South Australia (SA), Tasmania (TAS) and Victoria (VIC)¹ were disconnected (AER 2024b; ESC 2025b). At least twenty times more electricity consumers were in debt, and thus potentially at risk of disconnection (4.8% of electricity customers in arrears, with or without hardship programs) (AER 2024b). The threat of disconnection is spreading socially (PIAC 2024). Such disconnections – and even the threat thereof – pose a risk to mental, social and physical health for account holders and dependants and have proven ineffective in helping households manage their financial burdens (PIAC 2024; Strempe et al. 2015; Varo 2024). Hence, researchers and consumer advocates in Australia are calling for a ban on disconnections (ACOSS 2023b; PIAC 2024).

Disconnection prohibitions guarantee that the fundamental right to access to energy at home is ensured to protect people's health and wellbeing. This project was focused on residential electricity customers and disconnections for non-payment. Demands to prohibit residential electricity disconnections are linked to the debate if access to electricity should be a universal right to offset the power imbalance between energy companies and customers (Löfquist 2019) and how a right to energy may be configured and integrated into policies and regulations (Shyu 2021). Shyu (2021) argues that access energy and energy services are fundamental rights, with access to energy efficient products, technologies and information as well as having affordable energy being incremental rights to energy. Empowerment of customers in their choice in energy type and supplier, negotiation and rejection of “embedded” environmental and social costs of energy production and supply costs and active participation in decision-making on energy policies are grouped under the third level of supplemental level of the right to energy (Shyu 2021). The right to access to energy at home requires measures that safeguard the “accessibility, quantity, quality and adequacy of sources of energy” (Shyu 2021:8); however, this project focuses on the first principle and only one source of energy, that is the uninterrupted supply of electricity to residential customers.

Previous work has reviewed energy disconnection policies before and during the pandemic, e.g. (Bednar and Reames 2023; Flaherty et al. 2020), and research in the United States of America attest to the health and social benefits of disconnection prohibitions during the COVID-19 pandemic reduced infections and deaths (Andre et al. 2024; Jowers et al. 2021; Memmott et al.

¹ 15,624 in NSW, ACT, QLD, SA and TAS (AER 2024b) + 7669 in VIC : (ESC 2025b) =23,293 customers

2023), however much less is known about current disconnection prohibitions. Therefore, the aim of this study was to identify how current electricity disconnection bans in selected countries are configured, to whom they apply, under what circumstances and what the health and social impacts may be. The review focused on European countries with largely liberalised electricity markets that have been touted as “good examples”, namely, France, Spain and Ireland (European Commission 2023b; Fondation Abbé Pierre 2023; Housing Rights Watch 2023). The primary question for this study was:

How do electricity disconnection bans work?

This literature review is based on academic literature and other relevant secondary data, such as consumer advice websites, to better understand the jurisdictions, schedules of disconnection prohibitions, entitled groups, equity considerations, entitlement verification, cost allocations, compliance and enforcement.

1.3 Aim

The aim of this study was to identify how current “good example” electricity disconnection bans are configured, to whom they apply, under what circumstances, and how effective they are. Previous studies have reviewed electricity moratoria before (Dobbins et al. 2016; ERGEG 2009) and during the COVID-19 pandemic (Bednar and Reames 2023; Guiteras 2021; Hesselman et al. 2020; Hesselman et al. 2021). Research in the United States of America indicates that policies limiting utility disconnections during the COVID-19 pandemic reduced infections and deaths (Jowers et al. 2021), lowered the need for households to forgo other expenses, especially among socio-economically disadvantaged groups (Memmott et al. 2023) and reduced credit delinquencies (Andre et al. 2024). However, these pandemic-related emergency electricity bans have largely been lifted or taken on different forms of disconnection prohibition. In Europe, the current energy market reforms have renewed the call by consumer advocates for alternatives to disconnection. They suggest instruments like “refer[al] to social services for assistance and access to deferment plans, debt relief, and social tariffs” and suggest that “some countries, such as France and Italy, use smart meters to reduce power in these cases” (Coupechoux et al. 2024). However, clear blueprints for the implementation of such schemes are not presented. Hence, this study draws on current measures to provide insights on how to progress uninterrupted access to electricity for residential consumers to enhance health and wellbeing across developed countries.

1.4 Relevance of the study

A better understanding of current disconnection bans is of interest to policy makers, energy companies and consumer advocates in Australia and internationally. Disconnections are a topic of debate in Australia and elsewhere, as the benefits and burdens of disconnection bans are not straightforward. Disconnections are supposed to be used as a measure “of last resort “ in Australia (AER 2019) and Europe (ACER and CEER 2024), however, consumer advocates and social justice groups argue that disconnections and the threat thereof are used as a tool to “engage” customers and to get a reaction regardless of the distress this causes to householders (JEC 2024). We conducted this study as, at the time of investigation, detailed information on the conditions, mechanisms and outcomes of disconnection bans, however, was not readily available to explain potential outcomes on consumers and the electricity industry.

1.4.1 Timeliness of the review

The study is timely for an Australian and international audience. The Australian Energy Regulator (AER) has initiated a review of the payment difficulty protections in the National Energy Customer Framework (NECF) (AER 2024d). In areas governed by AER policies, electricity disconnection prohibitions are varied across jurisdictions (AER 2024d; EWOV 2024; Government of South Australia 2024). The AER acknowledges that the current NECF is not producing optimum outcomes. Issues flagged in the review document include avoidable disconnections, high debt accrual, some customers not accessing assistance from retailers and ineffective assistance. Key causes seem to be shortcomings in the identification of customers experiencing vulnerabilities, their categorisation into hardship customers or customers experiencing payment difficulties and that it is at the discretion of retailers how they engage with customers and what help they offer. The review is also interested in determining the financial burdens of any changes to the NECF to retailers (AER 2024d). The review is a mechanism to determine two key actions in the AER's *Towards energy equity* strategy:

“how to improve engagement to promote disconnection as truly a last resort the purpose and merits of the consumer energy debt threshold for disconnection.” (AER 2024d:6).

Hence, the AER review does not aim to progress a universal disconnection prohibition. The outcome of the review was expected at the end of 2024 (AER 2024d). At the time of finalising this document (13 April 2025), no report on any changes had been published yet. The review is also timely as in the context of the current housing and fuel cost crises, disconnections may rise in Australia: evidence suggest that high housing costs and transport costs exacerbate the likelihood of energy disconnections (ACOSS 2023a; CALC 2024; Daniel et al. 2020; St Vincent de Paul Society Victoria and Alvis Consulting 2016).

The study is also timely for an international audience. European legal documents do not refer to “last resort” in the context of disconnections, however, the energy industry uses this term. In the words of energy peak bodies, disconnections are “usually a last resort to encourage payment and ensure the financial stability of utility providers” (ACER and CEER 2024:52). However, new European rules may change disconnection practices across the member states. The European Union has just introduced a new regulation and directive (*Union’s electricity market design: Directive 2024*) with Article 28a of the Directive (titled ‘Protection from Disconnections’) requiring all member states to protect “vulnerable customers and customers affected by energy poverty [to be] fully protected from electricity disconnections” by 2026 (*European Parliament legislative resolution of 11 April 2024 on the proposal for a directive of the European Parliament and of the Council amending Directives (EU) 2018/2001 and (EU) 2019/944 as regards improving the Union’s electricity market design (COM(2023)0148– C9-0038/2024 –2023/0077B(COD)) 2024*). The Directive calls for new consumer protection actions by the member states’ national governments and retailers in collaboration with social services:

“to identify appropriate measures, in both the short and the long term, which should be made available to vulnerable customers and customers affected by energy poverty to manage their energy use and costs remains essential, and suppliers and relevant national authorities should cooperate closely with social security authorities. (Directive (EU) 2024/1711 of the European Parliament and of the Council of 13 June 2024 2024).

The Directive suggests that member states may take recourse to

“multiple tools and good practices available to Member States which include, but are not limited to, year-round or seasonal disconnection prohibitions, debt prevention and sustainable solutions to support customers in hardship paying for their energy bills. (European Parliament legislative resolution of 11 April 2024 on the proposal for a directive of the European Parliament and of the Council amending Directives (EU) 2018/2001 and (EU) 2019/944 as regards improving the Union’s electricity market design (COM(2023)0148– C9-0038/2024 –2023/0077B(COD)) 2024)

Measures may include a ban on disconnections and arrangements that prevent “position[s] that forces them to disconnect” (*Union’s electricity market design: Directive 2024*). Measures that may help avoid disconnections include better financial assistance from suppliers, self-reading of meters and more frequent billing (*Union’s electricity market design: Directive 2024*).

Hence, the Directive suggests, but does not mandate, “year-round and seasonal disconnection prohibitions, debt prevention and sustainable solutions to support customers in hardship paying for their energy bills” (*Union’s electricity market design: Directive 2024*). This suggests that protection from disconnections should ideally be permanent in the sense of year round (not just seasonal protection) and not linked to disconnection prohibitions due to any energy crises (European Commission 2025).² The electricity industry highlights that Article 28 is not prescriptive but suggestive, and that measures, such as the use of “equivalent actions and appropriate measures” are at the discretion of member states (Eurelectric 2024).

1.4.2 Potential outcomes of electricity disconnection bans for customers

Electricity disconnection bans may have positive and negative impacts on those customers in arrears and other electricity users. The literature on the benefits of disconnection bans refers mostly to the safeguard of health and wellbeing of vulnerable groups (Dobbins et al. 2016) through the prevention of potential harm. There is a body of literature in Australia and elsewhere attesting to the harms of disconnections to householders, e.g. (Hernández and Laird 2021; Hernández and Siegel 2019; Longden et al. 2021; PIAC 2024). Electricity cuts to households are a threat to physical, mental and social health, safety and security of account holders, their families and neighbours, and affect adults and children (Coupechoux et al. 2024; Guiteras 2018; PIAC 2024; Tirado Herrero 2020). These - sometimes long-lasting - harms to wellbeing and productivity may also occur in response to the threat or anticipation of punitive disconnections (PIAC 2024). Hence,

² “(26) Vulnerable customers and customers affected by energy poverty should be adequately protected from electricity disconnections and should, as well, not be put in a position that forces them to disconnect. Member States should therefore ensure that vulnerable customers and customers affected by energy poverty are fully protected from electricity disconnections, by taking the appropriate measures, including the prohibition of disconnections or other equivalent actions. There are multiple tools and good practices available to Member States which include, but are not limited to, year-round or seasonal disconnection prohibitions, debt prevention and sustainable solutions to support customers in hardship paying for their energy bills. The role of suppliers and all relevant national authorities to identify appropriate measures, in both the short and the long term, which should be made available to vulnerable customers and customers affected by energy poverty to manage their energy use and costs remains essential, and suppliers and relevant national authorities should cooperate closely with social security authorities.” (Directive (EU) 2024/1711 of the European Parliament and of the Council of 13 June 2024 2024)

in theory, knowing that they cannot be disconnected should help maintain the wellbeing of customers who cannot pay their electricity costs.

In addition, disconnection prohibitions may also avoid the additional financial burdens of disconnection and re-connection fees that invariably fall onto the non-paying customer (AEMC 2024b; Varo 2024) and which are counterproductive to the retailers' aims of receiving payment (PIAC 2024). Finally, disconnections bans may help reduce the prevalence of illegal electricity connections that pose threats to health and safety of customers and broader society (Fondation Abbé Pierre 2023).

Disadvantages associated with disconnection prohibitions are the accrual of interest or late payment fees which are likely to exacerbate financial stress (Eurelectric 2024). In addition, these locked-in debts with one retailer may reduce the consumer's free choice in the market (Dobbins et al. 2016:36). Further, energy disconnection bans may place undue burden on other consumers and society at large. Energy bills for other customers may rise through a cross-subsidy, and a change to disconnection rules are likely to be required for new legislations (Dobbins et al. 2016:36). The implementation of electricity disconnection bans may, therefore, attract resistance from other customers of the same retailer, who bear the burden of debt recovery and hardship management fees (Lawson and Mills 2023). In addition, disconnection bans may place financial burdens onto national, state or local governments, and thus, taxpayers, if any of these bodies cover some of the arrears (Lawson and Mills 2023).

1.4.3 Potential outcomes of electricity disconnection bans on energy retailers

The potential outcomes of electricity disconnection bans on energy retailers is a topic of debate in the European literature. In the context of a liberalised electricity market, the financial burden of disconnection bans and even actions to prevent householders falling into arrears "often falls on the energy supply companies and other customer groups thereby impacting on energy supply companies" (Dobbins et al. 2016:vi). Consequently, the electricity industry argues that disconnection bans may have detrimental effect on their competitiveness and the flow-on effect of higher electricity prices for every customer (Eurelectric 2024). By contrast, the European Commission seems to support disconnection bans as a key means of electricity customer and industry protection, arguing that disconnections include financial loss for the energy companies through bad debt and that disconnection bans may offer opportunities for at least partial debt recovery (European Commission 2022).

In general, the European energy industry resists a total disconnection ban except for life support customers. In a position paper on Article 28, Eurelectric (2024), the peak representative body for the energy industry, states:

[...] we emphasise that disconnections may be rightfully prohibited in cases of hardship based on medical certificates, for instance, for customers who are critically dependent on electric equipment due to health reasons. Suppliers want to fully comply with such regulation. (Eurelectric 2024:5)

Eurelectric (2024) concedes that disconnections mean that any outstanding balances owed are no longer recoverable and are written off. However, Eurelectric (2024:1) argues that "prohibiting disconnections is not a constructive measure to tackle nor solve the root cause", and that there are more effective measures to protect consumers. Eurelectric contends that

- Suppliers are “not interested in disconnecting their customers” and are using disconnections “as a last resort measure” (Eurelectric 2024:3). Only when all reminders and support measure have failed, do suppliers terminate the contract and instruct the distributors to cut the power supply. According to Eurelectric, “an engaged customer is a key success factor in preventing disconnections” and that “co-operative customers” are needed to find a resolution (Eurelectric 2024).
- Full disconnection prohibitions may mean that customers are not protected from accumulation of arrears, which will worsen financial hardship.
 - Full disconnection prohibitions for all may be abused by some customers, and the debt would have to be recouped from paying customers or governments, increasing energy prices or taxes.
- Full disconnection prohibitions for all customers who are categorised as “vulnerable” or in energy poverty would cover too many customers and too large a debt to manage feasibly by many retailers across Europe. This may lead to retailers pulling out of areas with low resource households, leading to a lack of competition and higher energy prices, thus affecting all customers negatively.
- Retailers with lower customers’ arrears would have a competitive advantage.

Instead, Eurelectric (2024) recommends that member states should work with retailer and consumer groups to develop effective consumer protection measures and to develop “national engagement codes” (Eurelectric 2024:6) to promote best practice customer engagement, like those in Ireland.

In addition, Eurelectric (2024) argues, effective measures might include initiatives to promote the energy efficiency of dwellings and behaviours, partnership programmes between governments and retailers, including financial support measures. Retailers should offer payment plans, offer customers “more suitable contracts”, and propose referrals to social and financial counselling services. With regards to reduction of power supply, Eurelectric regards this as a lever to force consumers to engage (Eurelectric 2024).

Eurelectric also recommends more focus on social policies and direct energy concessions that ensure that only households in need benefit from financial support:

Suppliers perceive disconnections as a less significant issue in Member States where energy poverty is incorporated into social welfare schemes. Vulnerable and/or energy-poor households that have (parts) of their utility bills covered through either direct or indirect social welfare payments are less likely to struggle with settling their bills in the first place. Social and financial assistance however should ideally be earmarked to avoid being diverted from its intended use. (Eurelectric 2024:8)

Nonetheless, the European Commission argues in favour of disconnection prohibitions. The European Commission argues that it is more advantageous to keep the customer until the debt is fully repaid:

“In general, Member States have established disconnections from electricity due to non-payment to protect vulnerable households on specific days (e.g., weekends), seasons (e.g., winter truce, summer truce) or specific circumstances (e.g., consumers critically depending on electricity for life-supporting appliances). A few countries do not apply any “truce” for disconnections, but rather use period of reminders to avoid disconnections. Overall, it is not in the interest of the supplier to disconnect a customer for debt, which would be an additional cost, but to retain it at least until the point of full repayment.” (European Commission 2023c)

In recognition of the role of energy companies, in November 2022, during the European energy crisis triggered by the Russia-Ukrainian war, the European Commission engaged with key peak consumer, retailer and distribution bodies, who agreed on voluntary measures to ease the financial pressure of energy on vulnerable and other consumers and the threat of disconnection. The collaboration achieved a “common ground for additional voluntary consumer protection measures which [went] beyond the existing regulatory framework throughout [that] winter” (European Commission 2022).

The “Guiding Principles” of the agreement were: “solidarity with all people in need; a holistic, but targeted approach to consumer challenges; avoidance of excessive risks for energy suppliers; demand reduction measures; ensure basic needs are met for all” (European Commission 2022). In line with these principles, retailers were encouraged to implement certain additional measures for the 2022-2023 winter, including

“bill deferrals using payment plans [with the assistance of] “social services, consumer associations, and suppliers”; prevent[ing] disconnection[s]; minimis[ing] unilateral contract changes of fixed prices contracts ... before their expiration; provid[ing] clear information to every consumer [on energy prices and ... how to optimise their energy use], (European Commission 2022).

Many of these “good practices” are listed in detail in European Commission documents, e.g. (European Commission 2023c). According to the European Commission, this voluntary initiative reflected the willingness of key stakeholders to help protect customers better (European Commission 2023c). However, judging from our current investigations, member states are rolling back many of these measures, even though householders are still facing relatively high energy and living costs.

1.5 Structure of this report

The following sections are structured as follows:

Chapter 2 (Literature review) provides brief background information on previous reviews on disconnection bans and explains the scope and selection of case studies.

Chapter 3 (Methodology) describes the data collection methods and the analytical framework that guided the extraction and presentation of information on each case study.

Chapter 4 (Australia) present key information on disconnections prohibitions in the Australian Energy Regulator responsible Regions (AERrR) and Victoria. For brevity, in this report, we will use the term Australia as short descriptor of ‘the Australian Energy Regulator responsible Regions and Victoria’ unless we expressly refer to other geographical areas of the nation. The information on Australia is arranged in the same way as that for the other countries to facilitate direct comparisons.

Chapter 5 to 7 present data on disconnection bans and critical information on the contexts for the three case studies France, Spain and Ireland following the analytical framework.

Chapter 8 provides a brief comparison across all four countries: France, Spain, Ireland and Australia.

Chapter 9 discusses the findings and draws some implications for policy, practice and future research before Chapter 10 offers a short conclusion.

2 Literature review

This section presents an overview of types of disconnection bans, summarises previous research on electricity disconnection bans and explains the scope and case study selection.

2.1 Definitions and typology of disconnection bans

Disconnections may be defined as the events or as the time periods in which the electricity supplier ceases supply of electricity to the customer. Disconnections may be due to varied reasons, such as illegal connections and criminal use of energy. However, disconnections for late or non-payment of bills are the most common type of disconnections and the focus of this investigation.

Disconnection ban is an umbrella term for varied forms of protection against disconnection from grid electricity supply. We distinguish between full disconnection prohibitions, voluntary disconnection restraints and disconnection moratoria.

2.1.1 Full ongoing disconnection prohibitions – by law

A full disconnection prohibition in this document denotes to a legal ban to cease the electricity supply to customers even if they are failing to pay their bills independent of the time of year or amount of debt. All retailers are obliged to adhere to full disconnection prohibitions as mandated by law.

2.1.2 Disconnection moratoria – extended payment timelines

A disconnection moratorium is a legal temporary prohibition on electricity utilities to disconnect customers from their power supply due to non-payment of bills. Disconnection moratoria afford consumers extended payment timelines. This measure is designed to protect consumers during certain circumstances or time periods of high vulnerability, or to ensure that customers in debt have access to essential services needed to pay their bills.

2.1.3 Voluntary disconnection restraints - by voluntary agreement or voluntary restraint

Voluntary disconnection restraints in this document are rules constraining retailers from disconnecting customers for non-payment which are negotiated or self-imposed. A negotiated disconnection restraint may be adopted through a voluntary agreement between a public authority and an electricity company, e.g. the agreement between the Catalan Government and Endesa. An example of a self-initiated voluntary disconnection restraint adopted by an electricity company is the disconnection stop by EDF across France.

2.2 Previous research on electricity disconnections

Disconnection bans are not a new phenomenon, however, there is no current review on these approaches that presents who should be protected from disconnection, why and how.

A review in 2010 (ERGEG 2009) revealed that sixteen European countries (incl. the UK) had disconnection bans for electricity and gas, however the review did not provide information on the nature of the prohibitions. Nonetheless, the review found that the categories of protected households varied in consideration of the age of household members, income levels, and disability:

- All households with a defined low income (Slovenia, Sweden)
- Senior citizens with a defined low income (Great Britain, Ireland)
- All senior citizens (Great Britain)
- Households with children with a defined low income (Belgium, Czech Republic, Estonia, Finland, Luxembourg, The Netherlands)
- All households with children (Great Britain, Romania)
- All households (Czech Republic)
- Disabled persons with a defined low income (The Netherlands)
- All disabled persons (Finland, Hungary, Italy, Portugal, Spain) (ERGEG 2009).

A later review in 2015 found that 10 EU Member States provided disconnection moratoria that is temporary disconnection prohibitions, for eligible consumer groups (Dobbins et al. 2016). More recent reviews have focused on energy disconnection policies and consumer protection measures in response to the COVID-19 pandemic worldwide and in the United States of America (US) (Flaherty et al. 2020).

During the COVID-19, disconnection moratoria were widely adopted (Guiteras 2021; Hesselman et al. 2020). A map of pandemic-related initiatives reveal bans on disconnections in over 100 jurisdictions, and other initiatives helping protect customers from disconnections, such as “(free) reconnection of supplies, free energy supplies, as well as tariff adjustments and freezes, delayed payment of bills, personalized payment arrangements, and support for off-grid supplies” (Hesselman et al. 2020; Hesselman et al. 2021). This map covers initiatives until 2021. Many jurisdictions have ceased or changed these measures since then (Hesselman et al. 2021).

One nation-specific review (Bednar and Reames 2023) focused on governmental policies in the US during the COVID-19 pandemic that aimed at protecting consumers from energy disconnections and reducing their long-term vulnerability. The review established a typology of measures that aimed to protect customers from energy-related hardship and disconnections:

- “Our suite of resilience responses examines and emphasizes three main categories:*
- (a) Energy Access, including disconnection prevention and reinstating disconnections;*
 - (b) Financial Burden, including the reduction or elimination of fees; and*
 - (c) Payment Assistance, including low-income and/or flexible payment programs [...] These categories frame our analysis of energy poverty recognition and responses and include seven sub categories that characterize our Resiliency Responses:*
 - (1) suspend energy service disconnections for delayed or missed payments;*
 - (2) reinstate service for customers currently disconnected for non-payment of arrears;*
 - (3) suspend accrual of late payment fees;*
 - (4) waive all reconnection fees;*
 - (5) offer low-income payment assistance programs;*
 - (6) offer flexible payment assistance; and*
 - (7) have a medical exemption policy to prohibit disconnections.” (Bednar and Reames 2023:3)*

Overall, the review found that protections varied and were unevenly distributed (Bednar and Reames 2023) .

Post-COVID-19 reviews of disconnection bans are rare. Some European advocacy reports and European Commission “staff working documents” describe some case study examples of disconnection bans in Brussels (Belgium), Catalonia (Spain), a Roma initiative in Hungary (Fondation Abbé Pierre 2023; Housing Rights Watch 2023) and “good examples” for consumer protection strategies during the European energy crisis 2022-2023 (European Commission 2022). The most recent complete list of energy disconnection prohibition types has been compiled by the European electricity industry (Eurelectric 2024), however, a recent independent review of electricity disconnection bans was not available at the time of writing (January 2025).

2.3 Scope

This review is focused on disconnection bans for bill-paying residential consumers with credit meters for non-payment of electricity. Electricity usage may be measured and charged through credit and prepayment meters. Consumers with a credit meter are receiving bills and paying their electricity use post-consumption. Disconnections of bill paying electricity customers may occur when bills are not paid by the due date. Customers with a pre-payment meter are pre-paying their usage. Disconnections of pre-payment consumers are in effect self-disconnections, as the disconnection occurs when the credit in the meter is not topped up in time. Pre-payment is common in some European countries, such as the UK and Hungary (Willand et al. 2024). However, in Australia, pre-payment meters are rare. Per-payment meters are prevalent in remote areas, particularly in the Northern Territory, where pre-payment customers may be connected to off-grid electricity (Longden et al. 2021; White et al. 2024). However, this investigation is focused on learning for disconnections within the grid-connected areas inside the remit of the Australian Energy Regulator (AER) that are covered by the National Energy Customer Framework (NECF) (AER 2024d).

This report is also focused on direct mechanisms of disconnection protection. We acknowledge that there are additional mechanisms of improving consumer resilience to energy-related financial hardship, such as information on their energy bills. The European energy industry lists information such as

“price, price breakdown, consumption and payment due date [...] switching details, links to comparison tools and consumption comparisons, [...] current prices, cancellation reminders and the type of consumption record (actual or estimated)” (ACER and CEER 2024:52).

These sets of information may reduce vulnerability to unfavourable contracts, to improve transparency in energy costs and householders’ control of their energy bills and payment details. The European Commission mandates bills to contain certain types of information, and France, Spain and Ireland include most of the billing information required by the European Commission (ACER and CEER 2024). We point to a recent review on the consumer protection measures in Ireland which includes non-financial consumer protection measures (Dingley 2023b). However, a cross-country review of these measures is outside of the scope of this project.

2.4 Case study selection

This review explored how disconnection bans have been deployed in selected countries and how they balance social and economic objectives. The study scoped disconnections bans with a focus on developed countries. It presents in-depth case studies that are put forward as “good examples”

(European Commission 2023b; Fondation Abbé Pierre 2023; Housing Rights Watch 2023), namely, France, Spain and Ireland.

According to the most recent data available at the start of this investigation (September 2024), these three countries presented comparatively low disconnection rates. According to the latest available pan-European data, in 2022 there appeared to have been no electricity disconnections due to non-payment in Spain (ACER and CEER 2023). Electricity disconnections for non-payment seemed to be very low (below 0.5%) in Ireland and France, too (ACER and CEER 2023). Although, Hungary, with a disconnection rate between France and Ireland, has not been touted as such. This may have been due to state interventions in energy prices “up to average consumption levels” (Nemeth 2023) that resulted in Hungary having the cheapest prices in Europe (Nemeth 2023) at a time when the European reforms were planned. Hungary applies regulated prices to all customers irrespective of their vulnerability status (European Commission 2023b).

The review will explore legal, organisational, technical and ethical considerations as well as impacts and outcomes of the disconnection bans in these three countries. The Australian case is presented for comparative purposes.

3 Methodology

This study conducted a qualitative case study review of residential electricity disconnection bans in the selected countries to better understand their context, nature and outcomes.

3.1 Data collection methods

Data collection was based on guiding questions posed in a review of disconnection bans in the United States (Lawson and Mills 2023), through discussions among the researchers and in an iterative fashion, as information for one country triggered investigations of that phenomenon in the other contexts.

Information was sought through conventional academic search processes and through artificial intelligence (AI) applications between December 2024 and February 2025. The conventional search process involved the combination of key words in the academic database Google Scholar, the RMIT Library digital database and the Internet using the Google search engine. Key search terms included ‘disconnections’, ‘moratorium’, ‘electricity’ and the names of the jurisdiction and key retailers using the Boolean operator AND.

AI applications used for the search for data were Perplexity.ai and Elicit.ai. Perplexity.ai is a search tool that uses advanced large language models to answer questions. Perplexity.ai provides answers in bullet form, including references to web sources that may include open access academic journal papers. Elicit.ai is an artificial intelligence application designed for literature reviews in academic research. The search process involves posing relevant questions. The response includes a paragraph that aims to synthesise the most relevant sources and a list of sources in table format with information about the source’s relevance to the question. Elicit.ai takes recourse to Semantic Scholar which is an AI-based search engine for academic papers. All AI generated responses to questions were verified. All sources provided by the AI search tools were reviewed, and only verified information from these sources was used for the authors’ synthesis.

Sources in languages other than English were translated using the online translation application Google Translate, and all translated information was verified by the native speaking researchers for accuracy and completeness.

3.2 Data analysis

Data analysis was deductive, based on a framework of themes that had been derived from the literature on disconnection protections, e.g. (Hernández and Phillips 2015; Lawson and Mills 2023) and agreed to by all researchers. First, we extracted and synthesised information for each theme for each case study. Then, we conducted a cross-case analysis to identify patterns across the jurisdictions to better understand the contextual mechanisms that have shaped disconnection prohibitions and their outcomes.

3.2.1 Analytical framework

The framework for the comparison of the case studies covered the context of energy markets, key disconnection safeguards, conditions that shaped eligibility criteria and outcomes.

3.2.1.1 Energy market

The theme of energy markets covered information on the number of residential customers, the number, nature and size of retailers and the regulatory framework that may influence disconnection prohibitions. Information on billing frequency and smart meter prevalence were also captured as these conditions can also shape the transparency of energy costs and financial wellbeing (ACER and CEER 2024).

3.2.1.2 Definition of vulnerability and energy poverty

“Restrictions to disconnection in case of non-payment” are a common measure to protect vulnerable customers (ACER and CEER 2023), however these “restrictions” may vary, ranging from warnings and information about assistance, as may the definition of vulnerability. Disconnection bans may be universal or linked to status of vulnerability or energy poverty. Vulnerability eligible for a disconnection protection may be defined in varied ways. Criteria may include

- Income level
- Medical conditions
- Reliance on health equipment that runs on electricity (e.g., ventilators)
- “Critical dependence on electrical equipment due to health, age, or other reasons” (*European Directive 2019/944* 2019)
- Energy poverty indicators such as “share of disposable income spent on energy” (*European Directive 2019/944* 2019), or
- “Energy efficiency of homes” (*European Directive 2019/944* 2019)

Disconnection bans may also be designed to counteract existing inequalities that are disproportionately affecting certain population groups, such as particular ethnic groups and older people (Lawson and Mills 2023).

In Europe, in 2023, clear definitions of vulnerability were only present in 19 of the 27 member states although a European Directive for years earlier (944/2019) had required all member states

to clearly define vulnerable consumers to protect them from disconnection during “critical times” (ACER and CEER 2023). Article 28 of this European Electricity Directive suggests adopting a broad definition of vulnerability with regards to

“the prohibition of disconnection of electricity to such customers in critical times. The concept of vulnerable customers may include income levels, the share of energy expenditure of disposable income, the energy efficiency of homes, critical dependence on electrical equipment for health reasons, age or other criteria.” (European Directive 2019/944 2019).

The criterion of “energy efficiency of homes” is of particular interest, as the thermal performance of homes does not seem to be reflected in any of the member states’ vulnerability criteria reported by the Council of European Energy Regulators (CEER) (ACER and CEER 2023). By contrast, the UK has had a long history of linking the prevalence, severity and strategies to tackle energy vulnerability to the energy efficiency of homes (DBEIS 2021; DESNZ and BRE 2023; Frontier Economics 2024; Office for National Statistics 2023). Eurelectric warns that eligibility criteria should be carefully reviewed. For example, eligibility based on age may not capture all those who experience financial difficulties (Eurelectric 2024).

In 2024, the European Union introduced new consumer protection rules for their electricity market that include electricity disconnection prohibitions for vulnerable and energy-poor customers as well as a mandate to avoid disconnections³. The Directive demands that all member states ban electricity disconnections for “vulnerable customers and customers affected by energy poverty”. These two categories of customers have their own European definitions; however, these two definitions are vague, and their interpretation is left to individual member states.

3 “Article 28a

Protection from disconnections

1. Member States shall ensure that vulnerable customers and customers affected by energy poverty are fully protected from electricity disconnections, by taking the appropriate measures, including the prohibition of disconnections or other equivalent actions. Member States shall provide such protection as part of their policy with regard to vulnerable customers pursuant to Article 28(1) and without prejudice to the measures set out in Article 10(11)3.

2. Member States shall ensure that suppliers do not terminate contracts and do not disconnect customers on the grounds on which customers have submitted a complaint in accordance with Article 10(9) or which are subject to an out-of-court dispute settlement mechanism in accordance with Article 26. [...]

3. Member States shall take appropriate measures referred to in paragraph 1 to enable customers to avoid disconnection, which may include:

- (a) promoting voluntary codes for suppliers and customers on preventing and managing cases of customers in arrears; those arrangements may concern support for customers in managing their energy use and costs, including flagging unusual high energy spikes or use in winter and summer seasons, offering appropriate flexible payment plans, debt advice measures, self-metering readings, and improved communication with customers and support agencies;
- (b) promoting customers’ education and awareness of their rights with regard to debt management;
- (c) access to finance, vouchers or subsidies to support the payment of bills;
- (d) encouraging and facilitating the provision of meter readings every three months, or where relevant for shorter billing periods, where a system of regular self-reading by the final customer has been implemented to meet the obligations of points 2(a) and (b) of Annex I in relation to the frequency of billing and the provision of billing information.” (Directive (EU) 2024/1711 of the European Parliament and of the Council of 13 June 2024 2024)

With regards to vulnerable customers, the European Commission suggests broad household characteristics that cover income, energy cost burden, the energy efficiency of homes, medical electricity needs, age of householders (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) (Text with EEA relevance) 2023.⁴ With regards to energy poverty, a 2023 European Directive offered a first Europe-wide definition of energy poverty, yet again, the European Commission allows individual member states flexibility in defining this concept and implementing specific measures. The definition of energy poverty encompasses several key aspects, such as the inability to access essential energy services, its impact on living standards and health and recognises multiple contributing factors such as low-income, high-energy prices and poor energy efficiency of homes (*Directive (EU) 2023/1791* 2023:(52))⁵

The Directive calls on member states to “fully protect” these two groups, i.e. vulnerable customers and customers affected by energy poverty,” in the sense that they should also not be “not be put in a position that forces them to disconnect” (Directive (EU) 2024/1711 of the European Parliament and of the Council of 13 June 2024 2024:Clause 26). It is not clear whether this statement means that, in addition to disconnection bans for non-payment of bills, protected customer categories should also be protected from voluntary disconnections. Voluntary disconnections may occur in pre-payment meter households or when householders stop using energy due to concerns about high bills and debt accrual. Member states must transpose these rules into national law by 2026. Consumer advocates interpret these new rules as their success in campaigning for the right to energy (EPSU 2023).

3.2.1.3 General disconnection safeguards, e.g. mandatory reminder and warning notices before disconnections – timelines

General disconnection safeguards include mandatory reminders and warning notices before disconnections, which may vary by timelines and content requirements. In Europe, all electricity suppliers are required to provide their customers

“with adequate information on alternative and appropriate measures to disconnection, sufficiently in advance of any disconnection due to non-payment, such as payment plans, assistance from social services, energy efficiency advice and financial support to manage their energy use and costs, alternative supply contracts and any other alternatives to counter disconnection, including disconnection moratoriums and bans” (European Commission 2023a:89-90).

⁴ (77) Each Member State should define the concept of vulnerable customers, which may refer to energy poverty and, inter alia, to the prohibition of disconnection of electricity to such customers in critical times. The concept of vulnerable customers may include income levels, the share of energy expenditure of disposable income, the energy efficiency of homes, critical dependence on electrical equipment for health reasons, age or other criteria. This allows Member States to include people in low-income households. (*Directive (EU) 2023/1791* 2023)

⁵ (52) ‘energy poverty’ means a household’s lack of access to essential energy services, where such services provide basic levels and decent standards of living and health, including adequate heating, hot water, cooling, lighting, and energy to power appliances, in the relevant national context, existing national social policy and other relevant national policies, caused by a combination of factors, including at least non-affordability, insufficient disposable income, high energy expenditure and poor energy efficiency of homes;” (*Directive (EU) 2023/1791* 2023:(52)).

However, implementation of payment reminders and disconnection notices varies. In Europe (ACER and CEER 2024), two warnings seem common, yet the legal minimum duration of the electricity disconnection process varies greatly. Customers in arrears are disconnected within three days with only one notice in Denmark, while customers in the Netherlands receive a first reminder to pay after ten weeks, and a final reminder two weeks before disconnection which happens after 50 days of overdue bills (ACER and CEER 2024). In Belgium, the minimum time between failing to pay the bill and disconnection in 2022 was 200 working days (European Commission 2023a), which equates to 40 weeks.⁶ In Belgium, “the disconnection can take years” (ACER and CEER 2024:52), probably because disconnections require judicial approval (Fondation Abbé Pierre 2023). According to the European Agency for the Cooperation of Energy Regulators (ACER), “most Member States implement a process involving multiple reminders and warnings to prevent premature disconnection and give consumers ample opportunity to settle overdue payments” (ACER and CEER 2024:52).

3.2.1.4 *Prevalence of smart meters*

Smart meters may exacerbate the threat and burden of disconnections but can also offer advantages in terms of control and transparency. Smart meters allow for more and faster disconnections than possible for manual meters as the power disconnection or de-energisation can be done remotely, without the need of having a person visit the premises (Chandrashekeran et al. 2020:22-23; Simshauser and Nelson 2014). Evidence in the Australian NEM suggests a positive association between the roll out of smart meters and the rate of disconnections (Labaste 2019; St Vincent de Paul Society Victoria and Alvis Consulting 2016). The possibility of remote disconnections may have indeed increased the rate of electricity disconnections.

Remote reconnection of grid electricity may also have unintended consequences in terms of safety. For example, “flammable material being placed on a kitchen hot-plate which has been left on: once power is restored the hot plate sets fire to the flammable material causing damage to the premises” (Chandrashekeran et al. 2020:24). Ideally, retailers must notify customers before reconnecting, ensuring that such hazards are removed (Chandrashekeran et al. 2020). Chandrashekeran et al. also argue that remote re-connections may place undue responsibility for safety onto the householders (Chandrashekeran et al. 2020).

On the other hand, smart meters may have benefits for customers. The remote reading of bills allows for more frequent meter readings and billings as well as bill-smoothing, which may alleviate financial and mental bill shocks, better control of bills among technologically competent customers and, ultimately, reduced risk of disconnections (Casals et al. 2020; Chandrashekeran et al. 2020:22; Willand et al. 2019). In addition, electricity reconnection may happen more quickly for customers who have resolved the issues that have led to the disconnection. In theory, smart meters may allow “faster power restoration [...] while the customer is ‘on the phone to the retailer’” (Chandrashekeran et al. 2020:22-24). Smart meters may also make dis- and reconnection cheaper for the customer, as remote dis- and re-connection removes the fee charged for time and effort of manual processes (EnergyAustralia 2025).

⁶ 200 working days at five working days per week are equivalent to 40 weeks.

3.2.1.5 Financial support for customers

With regards to financial support for customers, we considered the establishment of all measures that promise to ease the financial burden of electricity costs, including social tariffs (European Commission 2023b; Housing Rights Watch 2023), tax reductions (European Commission 2023b) as well as income support, energy vouchers and subsidies (European Commission 2023b).

3.2.1.6 Disconnection moratoria

There are no uniform schedules of disconnection moratoria across Europe. A review in 2016 (Dobbins et al. 2016) found that eight member states had electricity disconnection prohibitions for vulnerable customers during clearly defined dates in winter, ranging from three months (December to February in Belgium) to seven months (October to April in Estonia). Other criteria for disconnection prohibition schedules included outdoor temperature thresholds or made a vague reference to the ‘cold season’. The review only found one summer disconnection ban, namely for Lithuania, “when the highest daily air temperature is [...] higher than plus 30 °C” (Dobbins et al. 2016:36).

Eurelectric, who advocate for and represents the collective interests of the European electricity sector, proposes that reduced power supply as a measure to amplify the pressure of disconnection moratoria should be context specific:

The exact level of power supply reduction can be determined based on aspects such as the climate zone, number of household members, or the degree of vulnerability, but can as well be set regardless of any such factors. For instance, when applied power supply is reduced to

- 3.5 kW in Spain,
- 1 kVA (0.8 kW) in France for two months prior to the disconnection
- 0.5 kW in Luxembourg for eight days prior to disconnection
- 15% in Italy for 15 days prior to the disconnection, thus a family with 3 kW will see its power reduced to 0.45 kW. This is a mandatory step within the regulated disconnection process of low voltage customers equipped with smart meters. [...]

For instance, having a smart meter might be a pre-requirement for power supply reductions. If technically feasible and introduced, it should by default be a temporary solution. (Eurelectric 2024)

3.2.1.7 Effectiveness

What effectiveness means and how it is measured varies depending on one’s perspective. The effectiveness of disconnection bans, temporary and permanent, may be reflected in a low or zero share of customers being disconnected, in the share of customers having full access to reduced power or consumer satisfaction with the assistance given (Wodon 2000).

However, the effectiveness of disconnection bans may also be measured in how protection from disconnection has affected people’s health and wellbeing. For example, disconnection bans may remove the threat of losing access to essential electricity outcomes, but lead to an accumulation of debt, interest and dis- and re-connection fees and lower the customer’s credit score (AEMC 2024b; Hernández and Phillips 2015; Lawson and Mills 2023; Varo 2024).

In reviewing the effectiveness of disconnection bans, we also sought information on the ease or difficulty of repayments, repayment outcomes and supplementary initiatives used to help householders regain financial stability. For example, COVID-19 pandemic-related bans on

disconnections included other initiatives that aimed to protect customers from disconnections, such as “(free) reconnection of supplies, free energy supplies, as well as tariff adjustments and freezes, delayed payment of bills, personalized payment arrangements, and support for off-grid supplies” (Hesselman et al. 2020; Hesselman et al. 2021).

3.2.1.8 Compliance

The review also sought for information on the compliance of consumer protection measures. Ensuring consistent enforcement across all retailers and distributors can be challenging, as it requires robust monitoring and compliance mechanisms that respect national legal systems.

In Europe, the Council of European Energy Regulators (CEER) collects and presents compliance reports from each member state. Compliance with disconnection reporting mandates across Europe is considered low (ACER and CEER 2023). The CEER also collects and presents data on complaints in each member state. In 2023, not all member states had presented this information. Data for 20 EU member states suggest that about two per cent of European residential electricity customer complaints were in relation to “disconnection due to non-payment” (ACER and CEER 2023).

3.2.1.9 Gaps in protection

Finally, we looked for information on population groups who may be missing out on electricity disconnection prohibitions either directly or indirectly because they were not participating or included in certain prerequisites that would have made them eligible for a disconnection ban.

4 Australia

4.1 History of disconnection bans

Australia’s electricity market was privatised in the 1990s, and “the number of disconnections for non-payment of electricity or gas bills increased significantly in the years immediately prior to the sale of the Victorian electricity and gas businesses to the private sector” (Rich and Mauseth 2004:24). Social justice advocates link disconnection bans to the right to energy and energy justice in the low carbon transition (JEC 2024), however, unlike Europe, Australia does not have an agreed and clear framework shaping its commitment for a just and fair transition beyond its signature to the Paris Agreement (Chandrashekeran et al. 2022). Responsibility for a just and inclusive energy transition in Australia is shared among the Commonwealth and the states and territories (IEA 2023), and a recent press release by the Energy and Climate Change Ministerial Council (ECMC) has confirmed the ministers’ “commitment to an equitable energy transition for all Australians” (ECMC 2025:1) and expresses their agreement on the National Energy Equity Framework. However, the National Energy Equity Framework, which was opened to public consultation in 2024, has yet not been published in its final version (DCCEEW 2024b).

Australia does not have uniform, nationwide rules and prohibitions on electricity disconnections. However, the Australian Energy Regulator recognises that electricity is an essential service, and that disconnection should be a “last resort” (AER 2019). Life support customers on credit meters are fully protected from electricity disconnections in Australia’s larger urban areas (White et al.

2024). Other bill paying customers who are 'engaged' in the sense of trying to adhere to their payment plans, are shielded from debt disconnections (AEMC 2024b).

During the COVID-19 pandemic, the Australian Energy Regulator called on energy businesses to cease all disconnections voluntarily to protect consumers during the exceptional circumstances of the pandemic, which led to a decrease in disconnections across most jurisdictions (AER 2024d). Victoria has recently introduced high fines for wrongful disconnections and recognised the need to protect those customers experiencing family violence from disconnection (ESC 2024).

Self-disconnection through prepayment meters is rare in the areas of interest in this study. In 2014, the Energy & Water Ombudsman New South Wales (EWON 2014) conducted a public consultation on prepayment meter systems with mixed results. Consumer groups were divided in their opinions, while submission of the energy industry expressed support (EWON 2014; NCOS 2014). The National Energy Retail Rules (AEMC 2024b) provide the option of prepayment meter systems. Power cuts due to lack of credit may only happen after an emergency credit of at least three days of electricity consumption has been used and only on weekdays between 10am and 3pm (AEMC 2024b). However, self-disconnection through prepayment meters happens mostly in regions outside the National Energy Market. Self-disconnection through prepayment meters and continuous disconnection from any electricity grid affects a largely unknown number of households (Longden et al. 2021). Disconnections from prepayment meters are not regularly reported and not covered in this review.

4.2 Disconnection rate

In the 2023-24 financial year, over 15,500 (0.23%) electricity customers in the regulatory remit of the Australian Energy Regulator were disconnected for non-payment (AER 2024b)⁷ and almost 3 per cent of energy consumers (2.9%; excluding 1.9% hardship customers) were in debt (AER 2024b)⁸. This was lower than previous years' numbers (over 26,600 electricity customers disconnected; over 4 per cent of energy consumers were in debt (AER 2024d)) for non-payment due to several state and government energy cost relief programs (AER 2024b). Victoria presented over 7,500 residential electricity disconnections in the same period⁹. Due to the compounding financial crises of housing, energy and living costs, energy disconnections are no longer a threat to low-income Australians but increasingly affecting middle-income households (PIAC 2024).

According to the 2023-2024 statistics, the South Australian electricity disconnection rate (0.34%) was the highest in the National Energy Market (overall 0.23%), a phenomenon that the AER attributes to the South Australia's relatively high energy prices (AER 2024b). The disconnection

⁷ There were 15,624 residential electricity disconnections in NSW, ACT, QLD, SA and TAS (AER 2024b).

⁸ = Total of 4.8% of electricity customers in debt.

⁹ There were 7669 residential electricity disconnections in VIC (ESC 2025b)

rate was lowest in Victoria (0.003%) (ESC 2025b)¹⁰ (Figure 1), however, disconnections were unevenly distributed across the varied retailers (Figure 2).

Share of residential electricity customers disconnected by state (National Energy Market) 2023 - 2024

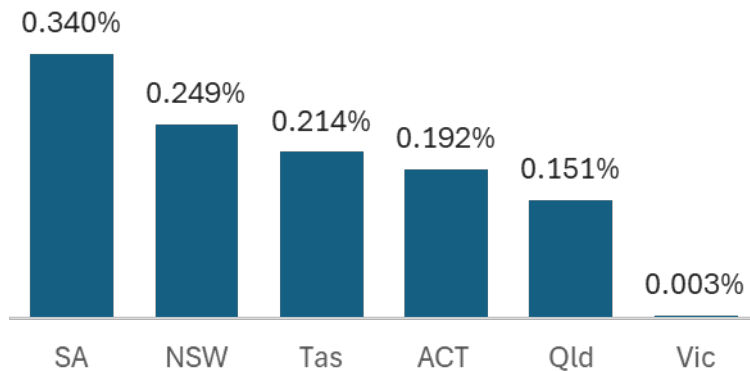
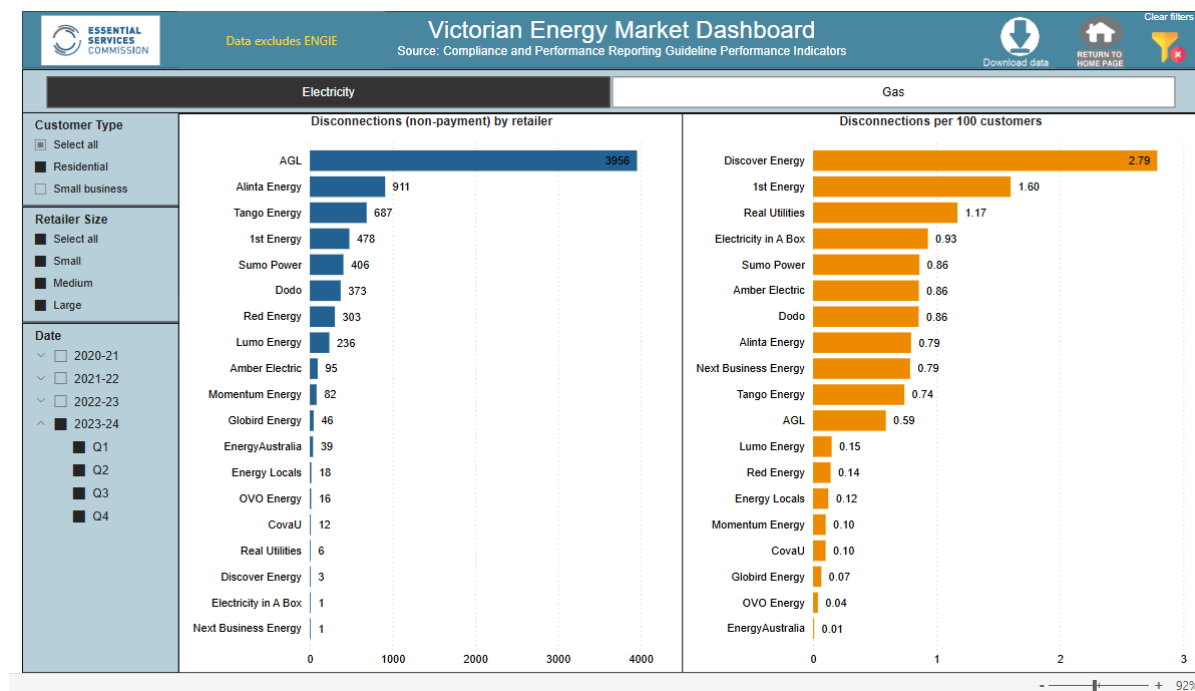


Figure 1 Share of residential electricity customers disconnected by state (National Energy Market) 2023 – 2024. Sources of data: (AER 2024b; ESC 2025b)



¹⁰ Victoria: Total electricity customers on 30 June 2024: 2,542,625. Total disconnections of residential customers for non-payment in 2023-24: 7669. This translates into an estimated 0.003% of customers having been disconnected in Victoria for electricity bill non-payments. Source of data: (ESC 2025b).

<https://www.esc.vic.gov.au/electricity-and-gas/market-performance-and-reporting/victorian-energy-market-report/energy-market-dashboard>

Figure 2 Distribution of residential electricity disconnections in Victoria 2023-24. Source: (ESC 2025b)

4.3 Energy market

Australia has a largely deregulated or liberalised energy market where multiple providers compete, and consumers have the ability to choose their energy supplier (Lee et al. 2021). The National Electricity Market (NEM) covers the six states and territories along the east coast of Australia, namely Queensland, New South Wales, Victoria, the Australian Capital Territory, South Australia and Tasmania (AER 2024c). The Australian Energy Regulator (AER) oversees the electricity and gas networks in the National Electricity Market (NEM) in all NEM states and territories as well as in the Northern Territory (AER 2024c). While most retail markets are deregulated, the electricity transmission networks and gas pipelines remain largely regulated (Lee et al. 2021), with the AER setting price caps on what network companies can charge consumers (AER 2024c).

This review focuses on Queensland (QLD), the Australian Capital Territory (ACT), New South Wales (NSW), South Australia (SA) and Tasmania (TAS). In this document, these regions will collectively be called the AER responsible Regions (AERrR). In 2023–24, the AERrR presented 6,895,249 residential electricity customers (AER 2024b). The residential electricity market in the AERrR presents three dominant Tier 1 of ‘big 3’ retailers, i.e. OriginEnergy, AGL and EnergyAustralia (Figure 3), with a total market share of 62.5% (ACCC 2024; AER 2024b). Four in five residential electricity customers had a negotiated market offer with a retailer; one in five were on standard or default offers, because they had not engaged with their retailer. Default offers tend to be higher than market offers (AER 2024b).

Residential customers electricity market share by retailer 2023–24 (AER responsible Regions)

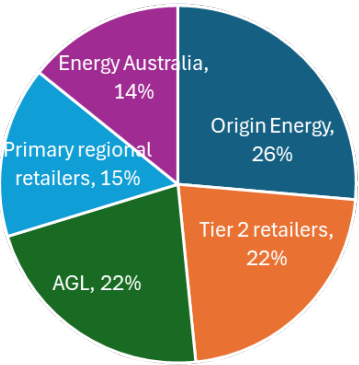


Figure 3 Residential customers electricity market share by retailer 2023–24 (National Energy Market). Source of data: AER, 2024 #4944}.

Victoria (VIC) which has its own regulatory authority, the Essential Services Commission. The composition of the retail market in Victoria is similar to the one in the AERrR. In the second quarter of the FY 2023-24, the Victorian residential energy market presented 29 retailers, with the three Tier 1 retailers covering 60.91 per cent of the accounts (ESC 2025b).¹¹

¹¹ AGL 25.57%, OriginEnergy 18.58%, EnergyAustralia 16.76% (ESC 2025b)

4.3.1 Regulatory framework

The AER has regulatory responsibility over energy retailers QLD, the ACT, NSW, SA and Tas. The AER has got a key role in consumer information and protection. The AER states its role as

- “enabling consumers to make informed choices about their energy supplier. Our role includes:
- Setting the Default Market Offer to protect consumers from unjustifiably high prices
- Approving customer hardship policies required by energy retailers
- Administering a retailer of last resort scheme, if an energy retailer fails
- Monitoring and enforcing compliance with energy retail law and rules
- Approving retailer authorisations and exemptions
- Administering the retailer reliability obligation.” (AER 2024c)

While the AER does not dictate the electricity and gas prices, the AER “require[s] retailers to provide their most up-to-date energy contract for our Energy Made Easy bill comparison website.” (AER 2024c).

In Victoria, the Essential Services Commission (ESC) regulates the energy retailers. The Australian Competition & Consumer Commission (ACCC) oversees the independence of the National Electricity Market (ACCC 2024).

The Australian energy markets in Western Australia and the Northern Territory are primarily characterized by their isolation from the National Electricity Market (NEM) (AER 2024c) and is not covered in this review.

4.3.2 Billing frequency and smart meter prevalence

In the AERrR, in general, bills must be issued “at least once every 100 days (AEMC 2024b:Rule 24) and “once every three months” in VIC (ESC 2024). Standard meters must be read manually, but smart meters transmit data regularly during the day. Customers with smart meters can arrange more frequent billing cycles, for example monthly bills, e.g. (OriginEnergy 2025). The bill frequency in the AERrR (“every 100 days” (AEMC 2024b) is eight days longer than in VIC (“every three months” (ESC)) to provide extra time for preparing and sending bills when standard meters are read manually.

The Australian Energy Market Commission (AEMC) aims for a full smart meter rollout by 2030. Victoria has an almost 100 per cent penetration of smart meters; the smart meter roll out has been slowest in NSW (39.17%) (AEMC 2024a).

4.3.3 Definitions of vulnerability and energy poverty

Key legal documents governing consumer protection in the Australian energy market do not define vulnerability or vulnerable customers. The *National Energy Retail Rules Version 42* (AEMC 2024b) do not contain the term. Instead, the *Review of payment difficulty protections in the National Energy Customer Framework. Issues paper* (AER 2024d) refers to “consumers experiencing vulnerability to access information and support” (AER 2024d:15), “acute vulnerability” (AER 2024d:23) and “consumers experiencing vulnerability” in the context of “experiencing payment difficulty” (AER 2024d:28).

Australia does not have an official definition of energy poverty, however, payment difficulties are often expressed as “energy stress” or “energy hardship” and in terms of affordability of energy (Bryant et al. 2022). In the FY 2023-24, the affordability of electricity as the ratio of annual electricity costs and income varied by jurisdiction, distribution network and household income. For average income households, the ratio of electricity costs to income ranged between 1.2 per cent (VIC) and 3.2 per cent (SA and TAS). The ratio was higher for low-income households, ranging between 2.3 percent (VIC) and 5.5 per cent (SA and TAS) (AER 2024b). The affordability of electricity tends to be higher in Victoria because many households are using gas for heating.

4.3.4 General disconnection safeguards, e.g. mandatory reminder and warning notices before disconnections - timelines

In Australia, electricity disconnection rules are set out in the National Energy Customer Framework (NECF). In legal documents, the term ‘disconnection’ is used interchangeably with the term ‘de-energisation’ are used interchangeably. Consumer advocates tend to use the term disconnections.

The Australian Energy Regulator (AER) enforces the National Energy Customer Framework (NECF) which is the main instrument that regulates electricity disconnections across the NEM. The main NECF documents are the National Energy Retail Law (Retail Law), the National Energy Retail Rules (NERR) and the National Energy Retail Regulations (Regulations) (DCCEEW 2024a).

The NECF prescribes

- *“limitations on disconnections including prohibition on disconnections for registered life support customers*
- *retailers must have hardship policies in place and offer payment plans to customers that are having difficulty paying their bills*
- *free access to dispute resolution mechanisms through state and territory energy ombudsman schemes” (DCCEEW 2024a)*

Each state and territory apply the NECF through their own state or territory laws and may make modifications to the Retail Law and Retail Rules (AEMC 2023). NSW, SA and TAS have made such modification (cf. Section 4.4). Customers in Victoria are protected by the Energy Retail Code of Practice (ESC 2024). The NECF does not have an “individual or basic supply mechanism” for non-life support customers (ACER and CEER 2023:68).

Disconnections are regarded as a “potential detriment to health, safety or wellbeing arise from having access to reliable energy (e.g. not being able to heat or cool home, cook, access hot water etc)” (Decker 2020:43). Chandrashekeran et al. identify further concerns with regards to safety in occupying the home such as tripping hazards, fire alarms, disease control, garden maintenance and longevity of appliances:

“Once de-energised anyone coming to the premises cannot turn on a light to find their way. Mains-powered fire alarms will switch to battery power, reducing the number of operational fire alarms. Lengthy de-energisation is also likely to reduce the service life of some hot water heaters, specifically those using powered anti-corrosion anodes. Pools and spas must be filtered daily to avoid quickly turning into highly unattractive mosquito breeding ponds. This becomes impossible once the house has been de-energised. Another casualty will be automated sprinkler systems used to keep gardens watered, which are also likely to stop working. It will increase costs to the new consumer to restore any pool/spa and replace plants which have died. This suggests for a

percentage of customers for whom remote de-energisation can have a significant downside. (Chandrashekeran et al. 2020:23)

Considering the increased adoption of CCTV cameras in Australia homes (Portman 2024), disconnections may also negatively affect the security of a home, its contents and occupants.

All states covered by the NECF must observe certain notification rules before disconnecting customers, including warning notices, warning periods and reminders (AEMC 2024b; ESC 2024). Customer usually have 14 days to pay their bills. If a customer fails to pay their bill, the retailer may send a reminder notice between one and 21 business days after the pay date. A disconnection warning notice is sent after the end of the reminder period and allows at least six days before disconnection (AEMC 2024b).

Victoria has got its own payment difficulty framework that recognises that

- *customers in payment difficulty often use more energy than other customers*
- *existing hardship programs were generally ineffective at preventing customers from accumulating further debt*
- *by the time help is offered, it is often too late to assist customers to manage their debt*
- *some retailers offer more help than others, but customers cannot count on a consistent or equitable levels of assistance. (ESC 2017:viii)*

The Victorian framework aims to help customers avoid energy debts through early action, make payment of any debts easier and “ensure that disconnection for non-payment of a bill is a measure of last resort.” (ESC 2017:66). The Victorian rules also include a moratorium on energy debts, as

“repayment of arrears can be put on hold while the customer pays less than the full cost of their ongoing energy use while working to lower that cost. The initial 6-month period may be extended if the extension would assist the customer to continue to lower the cost of their energy use.” “ (ESC 2017:76).

A review in 2021 found that the Victorian framework could be improved to enable repayment plans that meet customers’ capabilities, early and culturally sensitive engagement, ensure that customers receive advice on how to lower their energy costs, e.g. through tariff switches or retrofits, and on how to access government assistance in the form of concession and utility grants, (ESC 2017). In 2023, key challenges for consumers were still present due to the “complexity, inconsistency, affordability, disconnection and trust” as well as access to information and support (AER 2024d:15). Nonetheless, key consumer advocates suggest that a revision of the NECF should be modelled on the Victorian payment difficulty framework “as it is generally considered an effective and robust framework “ (Connors 2024:2; JEC 2024).

4.3.4.1 Disconnection and reconnection fees

Electricity disconnection fees in the National Energy Market vary depending on the state and the distribution network. The retailer must reconnect the customer within ten days if the customer has “rectified the matter that led to the disconnection”, paid any reconnection charges and asked to be reconnected (Clause 15) (AEMC 2024b). Retailers may terminate their energy contracts after 10

business days if the customer has not met any of the requirements needed for reconnection (Clause 15) (AEMC 2024b).

The retailer EnergyAustralia lists the disconnection and reconnection fees for varied states and distributors on their website (EnergyAustralia 2025). The manual disconnection fees between \$15.87 for Ausgrid customers in NSW to \$106.15 for Evoenergy customers in the ACT. Manual electricity reconnection fees range between \$15.87 for Ausgrid customers in NSW to \$108.30 for Evoenergy customers in the ACT. Remote disconnections and reconnections do not incur disconnection or reconnection fees, making are disconnection or reconnection linked to smart meters free (EnergyAustralia 2025).

The NERR (Rule 73) mandates that retailers do not charge their hardship customers late payment fees (AEMC 2024b). NSW, South Australia and Tasmania have modified this rule and achieved more consumer protection through their individual adoptions of the National Energy Retail Laws:

- *In NSW, late payment fees are also waived for other customers who are on payment plans, receiving rebates or other financial assistance (Low Income Household Rebate or the Medical Energy Rebate; has applied for or received voucher issued under the Energy Accounts Payment Assistance Scheme) or that have lodged a dispute about the bill with the Ombudsman (NSW National Energy Retail Law 2020:Clause 15).*
- *Customers with a dispute may also not be charged a reconnection fee in South Australia; however, all other types of disconnected customers, e.g. hardship customers, may be charged. Nonetheless, South Australian retailers are prohibited from charging a fee that exceeds “the reasonable costs of the retailer in recovering the overdue amount” (SA National Energy Retail Law 2011:Clause 24).*
- *In Tasmania, customers with pensioner and health care cards, and those on payment plans are exempt from reconnection fees. In addition, the fees has to be waived if “the customer has died, the account with the customer has been suspended or the amount owed is set out in a final account to the customer” (TAS National Energy Retail Law 2012).*
- *Reconnection in Victoria follows the same rules as the NERR (AEMC 2024b; ESC 2024). There do not seem to be prohibitions to charge reconnection fees (Clause 10.4 (ESC 2024), yet they may be waived at the discretion of the retailer (Clause 144 (4) (ESC 2024)).¹²*

4.3.4.2 Financial support for customers

Financial support for electricity customers is provided by the national and state government. Federal support takes the form of energy grants. Energy concessions and utility grants are provided by each state and territory. The type and extent of energy concessions vary across the jurisdictions (AER 2024b). In the FY 2023-24, more than half of all hardship customers were receiving concessions (52.3%) (AER 2024b), indicating that energy concessions are not high enough to meet demands of payments. National energy rebates in the FY 2023-24, named the National Energy Bill Relief Payment, were targeted towards low-income households and managed by each jurisdiction. These credits for low-income households were applied to electricity bills and varied between \$175 in the ACT to \$500 in NSW and SA (AER 2024b). The Energy Bill Relief

¹² 144 (4) Waiver of debt. Nothing in this Part prevents a retailer from waiving any fee, charge or amount of arrears for a residential customer (ESC 2024).

Fund in the FY 2024-25 involves not targeted or means tested payments, applying a credit of \$300 to all active accounts including for embedded network customers (DCCEW 2025). The more recent universal credit left low income households worse off than in the previous year (AER 2024b).

4.4 Full disconnection prohibitions

In most parts of Australia (AERrR and Vic), all households are protected from electricity disconnections as long as they are actively engaging with their retailers and adhering to any repayment plans. Full and ongoing legal protection is provided exclusively to life support customers.

The most significant instrument governing energy disconnections are the National Energy Retail Rules (NERR) (AEMC 2024b). The NERR refers to disconnections as de-energisation; energy reconnections are termed re-energisations. The NERR prescribes general principles regarding de-energisation (or disconnection), such as illegal use of energy and non-payment (Rule 111). The NERR also regulates when and for whom a retailer may “not arrange de-energisation” (r. 116). According to the NERR (Rule 116), retailers are banned from disconnecting five types of customers:

4.4.1 Registered life support customers

Under the NERR, life support customers are those who have advised that “that a person residing or intending to reside at the customer's premises requires *life support equipment*” (AEMC 2024b:Rule 124). *Life support equipment* means any of the following:

- (a) an oxygen concentrator;
- (b) an intermittent peritoneal dialysis machine;
- (c) a kidney dialysis machine;
- (d) a chronic positive airways pressure respirator;
- (e) crigler najjar syndrome phototherapy equipment;
- (f) a ventilator for life support;

(g) in relation to a particular customer—any other equipment that a registered medical practitioner certifies is required for a person residing at the customer's premises for life support; (AEMC 2024b)

Registration for life support requires a medical certificate confirming that the home has indeed a life support equipment (EWON 2022).

4.4.2 Hardship customers who are adhering to their plan

All hardship customers are protected from disconnection while they are actively participating in a prepayment program. A “hardship customer” is defined as a residential customer who is experiencing financial payment difficulties due to hardship and is identified as such in accordance with their energy retailer's customer hardship policy (AEMC 2024b). Customers with payment difficulties are those who are willing to meet their financial obligations but do not have the financial capacity to do so (AEMC 2024b). Customers can self-identify as experiencing hardship or may be identified by their retailer through indicators such as late payments, broken payment plans or disconnection warning notices. Retailers are obligated to identify customers experiencing hardship and offer appropriate support.

In addition to protection from disconnection while actively participating in the program, hardship customers are offered flexible payment options, including tailored payment plans that consider the customer's ability to pay, their current debt, and expected future energy use; access to government assistance programs like \$500 vouchers National Energy Bill Relief Payment vouchers in NSW and South Australia (AER 2024b); financial counselling and assistance with improving energy efficiency to reduce bills (AER 2024b). In Victoria, payment plans may include a repayment hold of up to six months (ESC 2024:Clause 128(g)(i))

In the financial year 2023-2024, 1.8 per cent of customers in the NEM were on payment plans and 1.9 per cent on hardship plans (AER 2024b). These customers had reached out to their retailers and, thus, have been protected from disconnection unless they defaulted on repayment schedules. The average electricity bill debt of customers on hardship and payment plans was \$1,476 (AER 2024b).

4.4.3 Customers who have initiated a formal complaint against the retailer

Customers who have initiated a formal complaint against the retailer in connection with the bill in question or disconnection may not be disconnected (AEMC 2024b). In the FY 2023-24, the number of complaints to the Ombudspersons in NSW, ACT, SA, QLD and TAS increased to 37,182 (AER 2024b).

4.4.4 Customers whose application for government-funded energy bills assistance is pending

Customers who have applied for financial assistance from a government energy support scheme (rebate, relief or concession) may not be disconnected (AEMC 2024b). It is important to note that customers are only protected if the decision on the application is pending. Once the decision on the application has been communicated, this protection is void. If the application for energy concessions or relief is granted, the concession recipient loses their protection from disconnection. The implication of this lack of disconnection protection implies that energy concessions are an effective economic support tool. However, energy concessions do not protect from energy-related financial stress. In the FY 2023-24, one in two electricity hardship customers were receiving energy concession (AER 2024b), and the share of concession holders who have been disconnected annually has varied between about 17% and 32% since the FY 2019-20 (AER 2024b:Figure 3.37).

4.4.5 Customers who have a debt that is below AU\$300

Customers who have a debt that is below a threshold set by the AER and are willing to repay the amount may not be disconnected (AEMC 2024b). The current minimum disconnection amount for electricity and gas services is \$300. The AER decided on this threshold amount in 2012 (AER 2012), confirmed it in 2017, and it has not changed since (AER 2025).

4.4.6 Victorian customers

Customers in Victoria are protected by the Energy Retail Code of Practice (ESC 2024). The full disconnection prohibitions for Victorian consumers are similar to those laid out in the NERR. Victorian households may not be disconnected from electricity

- *if someone in [the] household depends on life support equipment (electricity and gas),*

- *if water restriction would cause a health hazard*
- *if [they]’ve applied for a Utility Relief Grant and [they are] waiting on a decision*
- *if they have started a complaint with [the Energy and Water Ombudsman Victoria] and it’s not yet resolved*
- *if [they] owe less than \$300 (including GST) for electricity or gas [...] and have been paying your bills. (EWOV 2024)*

4.4.7 Effectiveness

Despite the broad protections, the disconnection prohibitions in Australia are not fully effective, and the risks of disconnection due to non-payment are not fully removed by the measures (AER 2024b).

4.4.7.1 *Inability to meet conditions in hardship and payment plans*

In the FY 2023-24, only about a quarter (26.3%) of electricity hardship customers were able to fulfil their repayment plans and exit successfully (AER 2024b). The risk of disconnection due to non-payment remains if customers cannot adhere to their repayment plans due to inadequate support. The AER recognises that hardship programs are not fully effective as customers’ bill debt is increasing while they are on the program and some are not able to pay their instalments (AER 2024b). In the FY 2023-24, the average debt of customers with energy debt increased (by 16%) (AER 2024b), indicating a shortcoming in support and a higher likelihood of defaulting on the payment terms and conditions.

In addition, in the FY 2023-24, almost half of all hardship programs (49.2%) and six out of ten payment plans (63%) were cancelled, usually because customers failed to meet obligations (AER 2024b). Because cancellation also removes disconnection prohibition, these customers were then at risk of disconnection again.

In addition, one in three customers in energy debt were not engaged in either a hardship plan or payment program (AER 2024b), and thus at risk of disconnection. Only less than half of customers who entered a hardship program (47%) self-identified as needing help and contacted their retailer. The reason for not approaching retailers for help may be due to insufficient knowledge and pride. The Australian Energy Regulator (AER 2024b) has noted several concerns that point to insufficient support and information, and consumer advocates raise concerns about the use ‘hardship’, linking it to stigma (Connors 2024).

Even though consumer advocates hold the Victorian payment difficulty framework in high regard regarding reduction of disconnection for non-payment, debt accrual and reduced energy costs, they claim that even this framework is ineffective with regards to sustained financial security. A joint submission from community and consumer groups across Australia to the AER’s ‘Review of payment protections in the NECF’ states that

an effective payment difficulty framework [...] means maintaining and restoring financial stability, and where this can’t be achieved (because the payment difficulty is based on broader structural issues and/or significant personal issues), the energy connection must be secured, and more substantial assistance provided long term.” (JEC 2024:18).

4.4.7.2 Compliance

The effectiveness of the disconnection ban for life support and ‘engaged’ customers is reduced through non-compliance, for example when

- Retailers are negligent in registering life support customers and forwarding this information to the relevant distributors. Retailers must keep updated registers of their life support customers and notify the relevant distributor within one business day to avoid high penalties. For example, OriginEnergy has breached these rules “on more than 5,000 occasions” (AER 2024a). The AER filed a suit in 2024 (AER 2024a). In February 2025, the federal court fined OriginEnergy AU\$12 million for breaches to the law governing the protection of life support customers even though there was no evidence that individual customers had been harmed (Crosswell 2025).
- Retailers fail to meet legal obligations under the NECF. For example, EnergyAustralia failed to “identify individuals as “hardship customers”, did not inform them of the hardship policy, did not treat de-energisation as a matter of last resort, and did not offer or put in place payment plans. “ (Pearson 2023:228). The retailer was fined \$1.5 million (Pearson 2023).
- Retailers are automating systems and there is no human in the loop. In 2022, OriginEnergy used an automated system to adjust customers’ repayment plans, to monitor their adherence to the new obligations and to disconnect them when they failed to meet the new conditions. The AER took the company to court, and the company was fined “penalties of \$17 million” (Pearson 2023:229). The Energy & Water Ombudsman New South Wales was instrumental in identifying this contravention of the regulations (Pearson 2023).

4.4.7.3 Gaps in protection

In the financial year 2023-2024, the average debt of customers with more than 3 months of electricity bill arrears within the NEM was \$1,148 (AER 2024b). One in three of these were not on hardship programs or receiving help through payment plans (AER 2024b). Unless these households were life support customers, these customers were at risk of disconnection.

In addition, the current rules disadvantage electricity customers in embedded networks and those who do not self-identify. Customers in embedded networks, for example in some apartment buildings, caravan parks and retirement villages, and those on prepayment meters are excluded from the NECF and have less protection and less access to assistance (AER 2024d).

4.4.7.4 Other customers who do not self-identify

Disconnection prohibitions also do not capture those who do not self-identify and, thus, are in hidden energy vulnerability (Willand et al. 2023). Customers who are in hidden energy vulnerability are those who

- Are not self-identifying as having payment difficulties and not contacting their retailer. Customers on hardship and payment plans are protected from disconnections. However, hardship and payment plans do not capture those who are under-consuming to afford their bills and those who are foregoing other essential needs, such as food and medication, to keep paying their bills (Willand et al. 2023). This issue tends to be prominent among older Australians (Middha and Willand 2023; Valente et al. 2023; Willand et al. 2019) and associated with the changes in social perception of debt as “a moral failing and a crime” to “a basis to reopen and restructure obligations” (Pearson 2023:215-216). Trusted

intermediaries may help identify these households and connect them to help (Willand et al. 2023).

- Are not registered as life support customers.
- Are not complaining about their bills even though they may have reason to do this.

The effectiveness of the disconnection bans is further inhibited by

- The lack of definition of the terms “hardship” and “payment difficulties” (Pearson 2023). The differentiation is not clear, and retailers are provided flexibility in the design of hardship policies. Although the AER reviews and approved every hardship policy in terms of identification and assistance measures, the measures may be diverse. They may include “identification of government and other assistance programmes, review as to whether a hardship customer’s contract is “appropriate, and strategies to improve energy efficiency” (Pearson 2023:227). Payment plans must be offered to

“residential customer [...] in three situations: if the customer tells the retailer they are experiencing payment difficulties; the retailer believes the customer is experiencing repeated difficulties in paying the bill or if the retailer believes the customer requires payment assistance” (Pearson 2023:227).

- The power imbalance between residential customers and the retailers that can manifest in retailers dictating payment plans that are unachievable for the household (Pearson 2023). Payment plans are at the discretion of retailers and may include debt waivers for usage charges, half of the overall debt and repayment of debt over years (e.g. over two years). It seems that interventions from financial counsellors and energy ombudspersons are required to negotiate suitable plans with retailers (Willand et al. 2023). Energy Ombudspersons are funded by the energy industry (AER 2024b), and their services are free of charge.

4.5 Voluntary disconnection restraints

To the best of our knowledge, there are no voluntary disconnection restraints by retailers in the AERrR or Victoria. Ergon Energy, a primary regional retailer in Queensland that only offers standard contracts, had placed a moratorium on disconnections in the FY 2023-24. However, as this disconnection restraint was not driven by the desire to protect householders but by an “upgrad[e] to their customer service platform” (AER 2024b:97), this stop in debt disconnections is not further discussed in this report.

Australia presents an Energy Charter that offers additional disconnection safeguards and transparency in energy assistance but does not include a commitment to refrain from disconnection altogether. The Energy Charter is a “coalition of like-minded energy organisations with a shared purpose and passion for customers and communities” (The Energy Charter 2025a). The list of 19 full signatories includes the Tier 1 retailer EnergyAustralia and the state-owned retailer Ergon Energy Retail. Energy Charter members subscribe to a ‘Knock to Stay Connected Customer Code’ that entails a physical face-to-face visit to the premise of the customer who risks disconnection because they are in arrears and not engaging with retailers (The Energy Charter 2023b). The Energy Charter claims that this initiative has avoided four out of five disconnections in 2023 (The Energy Charter 2023a).

The Energy Charter also directly engages with civil society and community organisations to reach consumers. The ‘Keep the money. It’s yours’ National Concessions Awareness + Engagement

Campaign' "collaborated with 13 community collaborators and 4 advisors" to translate key consumer information into eleven non-English languages (The Energy Charter 2023a). The campaign was moderately effective in raising awareness about energy concessions (Botha and Prakash 2024). The Energy Charter's 'Better Together' website lists a few current initiatives that involve front-line workers (The Energy Charter 2025b), some of which are evaluated independently, e.g. (Wilson et al. 2023).

4.6 Disconnection moratoria

Australia presents prohibitions in disconnecting residential electricity customers during protected periods. References to the "festive season or heatwaves" (EWOSA 2025) suggest that the reason for these periods may be an extraordinary detriment of a power cut to health and wellbeing. Additional reasons may be to ensure that customers have access of customers to their banks or post office to pay their bill.

According to the NERR (Rule 116), retailers are banned from disconnecting customers when

- 1) the disconnection would happen during a protected period (AEMC 2024b). Protected periods defined in the 'Model terms and conditions for standard retail Contracts' (AEMC 2024b:Schedule 1):
 - (i) on a business day before 8.00am or after 3.00pm; or*
 - (ii) on a Friday or the day before a public holiday; or*
 - (iii) on a weekend or a public holiday; or*
 - (iv) on the days between 20 December and 31 December (both inclusive) in any year; or*
 - (v) if you are being disconnected under clause 14.1(a), during an extreme weather event. (Clause 14.3) (AEMC 2024b)*
- 2) the disconnection would happen during an extreme weather event (AEMC 2024b). An extreme weather event' is defined as "an event declared by a local instrument as an extreme weather event in the jurisdiction in which the customer's premises are located" (Rule 108) (AEMC 2024b). The extreme weather rule only seems to be applicable to South Australia, where electricity and gas disconnections are prohibited "during an extreme weather event, such as a heatwave or bushfire" (Government of South Australia 2024).

The protection periods in Victoria are slightly different from those in the NERR. The protected period for households in Victoria is before 8:00am or after 2:00pm (ESC 2024:Clause 14.13), ending an hour earlier in the afternoon than stipulated in the NERR (AEMC 2024b).

Victorian customers are not protected from energy disconnections during extreme weather events (ESC 2024). On days of a total fire ban, customers may not be disconnected from water but from electricity and gas (EWOV 2024). Customers who rely on electricity to run their water pump, for example to fight fire, may, thus, be disadvantaged.

5 France

5.1 History of disconnection bans

In France, the desire to protect consumers from electricity disconnections has its roots in labour activism and social movements. In around 2004, in the lead up to the privatisation of energy, employees of the French state owned EDF (Électricité de France) took it upon themselves to refuse disconnecting households and to restore electricity to those who had been cut off as an act of solidarity (Dubois 2020; Taïbi 2009). The actions of these “Robin Hoods of Energy” went unpunished (Taïbi 2009). Afterwards, disconnections, energy poverty and the right to energy were subject of debates in the public and in parliament, until the rules around non-payment were decreed with the privatisation of energy in 2008 (Dubois 2020)

The recent industrial action of energy workers across France has led to the resurgence of such Robin Hood-style actions (Haynes 2023; York 2023). To maintain public support, workers engaged in “positive” actions by secretly tampering with or removing smart meters from apartment buildings, schools, and hospitals, causing their usage to be underreported. Workers secretly cut electricity to the wealthy and provided it free for low-income and disconnected households to highlight that they hold substantial power in the energy economy (Haynes 2023; York 2023)

5.2 Disconnection rate

The latest information on electricity debt disconnections for residential customers in France suggests a rate below 0.5 per cent (ACER and CEER 2023). Later reports do not differentiate between the type of customers. According to the latest statistics by the French National Energy Ombudsperson (Le Médiateur national de l'énergie 2024), in 2023, 178,015 customers (residential and commercial) were disconnected from electricity and 735,596 experienced a reduction of power supply. The Ombudsperson reported a shift by retailers to reduce rather than to cut power during 2023 in line with legislative changes (cf. Section 5.7.2) (Le Médiateur national de l'énergie 2024).

5.3 Energy market

The French electricity market has been fully open to competition since July 1, 2007, allowing consumers to choose their energy supply conditions. Consumers may select between two types of contracts: free market offers with prices set freely by the retailers, and contracts with regulated tariffs that are set by the government and regulator. According to the latest annual statistics published by the French Energy regulator, in September 2024, there were 34,696,000 residential electricity customers in France, with 20,391,000 (58.77%) of residential customers being supplied electricity under a regulated price offer (CRE 2024a).

Regulated tariffs are proposed to the Minister for Economy and Energy by the French Energy Regulator (Commission de Régulation de l'Énergie) and can be met or undercut by open market tariffs (CRE 2024d). During the energy price crisis of 2022 and 2023, the French government used the system of regulated tariffs to impose a limitation on the increases in electricity tariffs paid by households. This policy, called the “tariff shield” (*bouclier tarifaire* in French) took the form of a

reduction in the taxes paid by consumers on their electricity bills¹³. This has resulted in a limitation of the increases in energy bills (including taxes) to 4 per cent in February 2022 and 15 per cent in February 2023 (CRE 2024a). Thus, the overall increase in energy bills which was less than the increases in wholesale electricity prices¹⁴. Since September 2022, the number of market offers at prices higher than the regulated tariff has decreased, while the number of market offers at a price lower than the regulated tariff has increased (CRE 2024a:6)¹⁵.

France presents 31 residential electricity suppliers at the national level (proposing offers on at least 90% of the French territory) (Le Médiateur National de l'Énergie 2025b). About 5 per cent of French customers are supplied by local distributors and do not have a free choice in electricity suppliers (Le Médiateur National de l'Énergie 2025b). EDF (Électricité de France), the former state monopoly, is dominating the market. The EDF Group is “an integrated energy company active in all businesses: generation, transmission, distribution, energy trading, energy sales and energy services” (EDF 2021). In June 2024, EDF was supplying 23,032,000 residential customers with electricity (EDF 2025), which amount to 66.54 per cent of all electricity customers in France. EDF offers both regulated tariffs (“blue tariff”) and market-priced deals. According to the consumer contract compare website Selectra (Selectra 2025), in January 2025, EDF offered the cheapest free market offers which were 28.5% cheaper¹⁶ than the regulated tariff contracts (Selectra 2025).

5.3.1 Regulatory framework

The French Energy Regulator (Commission de Régulation de l'Énergie) sets the rules for the operation and consumer engagement for electricity retailers (CRE 2024d). Customers can choose between a fixed and variable price offers, offers with a peak and off-peak rate, and green electricity offers (CRE 2024d). Energie-info.fr, a website operated by the National Energy Ombudsperson, allows customers to compare prices and gain more information (CRE 2024d). In contrast to most European member states, monitoring of energy customer complaints does not rest with the energy regulator (ACER and CEER 2024), but with the National Energy Ombudsperson. Complaints about “disconnections due to late or non-payment “make up 2% [of complaints] in France” (ACER and CEER 2024:74).

5.3.2 Billing frequency and smart meter penetration

Billing frequency in France varies according to the type of electricity meter. In contrast to many European countries that offer monthly bills as a default (ACER and CEER 2024), in France, electricity billing frequency may range from monthly to annual invoices (Le Médiateur National de

¹³ This tariff shield has impacted the French regulated tariffs until December 2024 (<https://www.service-public.fr/particuliers/actualites/A18001>).

¹⁴ According to the French energy regulators (CRE, 2024, observatoire des marches de detail) the of the electricity tariff for households before taxes have been of 24,29% in February 2022, 20% in February 2023 10,05% in August 2023 and 0,18% in February 2024. In February 2025, the tariff had decreased by 15% on average (<https://www.service-public.fr/particuliers/actualites/A18001>).

¹⁵ The numbers are for offers for a residential customer with a supply of 9KVA with a peak-off-peak rate.

¹⁶ Based on EDF Zen Fixe (fixed rate throughout the day) with an estimated annual costs of EURO 1817, which is EURO 725 cheaper than the regulated tariff (Selectra 2025).

l'Energie 2025a). In general, customers receive bi-monthly bills that may reflect estimated or actual consumption (Le Médiateur National de l'Energie 2025a). Standard - that is manual - electricity meter readings are conducted at least once a year, although customers have the option to arrange their own readings on occasion (Le Médiateur National de l'Energie 2025a). Retailers are encouraged to provide monthly bills based on actual consumption to customers equipped with a smart meter (Le Médiateur National de l'Energie 2023a).

Despite initial social protests (Danieli 2021), France boasts one of the highest smart meter penetration rates in Europe at 94% (ACER and CEER 2024). Linky's are installed free of charge to customers. Customers may refuse to install Linky's or have them de-installed and reverted back to manually read credit meters, for example due to electrosensitivity, yet they face a surcharge of EURO \$64 (Lilley 2025). Organised, widespread illegal tampering of the smart meters, reducing the recorded energy use up to 70 per cent, seems widespread, and has cost the electricity distributor Enedis, a subsidiary of EDF, EURO 250 million in the last two years (Lilley 2024; Thompson 2024). Nonetheless, this investigation found no evidence of illegal electricity connections as observed in Spain.

A recent report by the French Court of Auditors (Cour de Comptes 2024) concluded that the deployment of smart meters had a positive impact in terms of efficiency gains, such as the reduction in the cost of metering, the costs of small interventions which could be done remotely, as well as in the reduction in the errors of metering and billing. Linkys also contribute to a better management of the distribution system in terms of network stability, particularly in terms of a better management of the equilibrium between supply and demand through the possibility to disconnect certain types of consumption during demand peaks. However, the impact was less positive in reducing fraud and demand, despite the ability to inform consumers of their usage in real-time (Cour de Comptes 2024).

5.3.3 Definition of vulnerability and energy poverty

In France, the official definition of energy poverty exists since 2010, stating that "individuals are in a situation of energy poverty when they encounter particular difficulties ensuring the necessary energy supply in their home and satisfying their primary needs due to inadequate resources or living conditions" (Legros and Martin 2022). Energy poverty is measured through varied indicators (ONPE 2024). However, the precise estimation of energy poverty is complicated by the limited data available. Current estimations still rely on the national housing survey of 2013, the data being adjusted annually based on simulations. In 2022, 3.2 million French households in the lowest three income deciles, that is 10.8% of the population, spent more than 8% of their income on paying their home energy bills (ONPE 2024). An annual survey (ONPE 2024) of approximately 2000 respondents commissioned by the National Energy Ombudsperson found that, during the winter 2023-2024, three out of four respondents reported that they compromised on heating to avoid high bills, and three out of ten people reported to have suffered from the cold for at least 24 hours. Almost half of respondents said that they suffered from excessive heat in summer (ONPE 2024).

5.3.4 General disconnection safeguards, e.g. mandatory reminder and warning notices before disconnections – timelines

In France, disconnection prohibitions are laid out in the law 'Décret n° 2008-780 du 13 août 2008' (Decree No. 2008-780 of August 13, 2008) (Décret n° 2008-780 2023). This French decree

outlines the procedure for handling unpaid electricity, gas, heating and water bills. It establishes a series of steps that utility providers must follow before disconnecting services due to non-payment.

France has mandatory reporting of disconnections and related measures. Suppliers must transmit detailed information on hardship measures every quarter to the French Energy Regulator (CRE) and to the National Energy Ombudsperson (CRE), and once a year to the Ministry responsible for energy. The information includes power cuts, power reductions and transfer of customer in hardship information to the social services (*Décret n° 2008-780 2023*). The National Energy Ombudsperson (*Médiateur National de l'Energie in French*) publishes annual Best Practice Guidelines aimed at establishing good practices for energy sector actors in their relationships with consumers (Le Médiateur National de l'Energie 2023b).

5.3.4.1 *Timelines of warnings, notice of disconnection and disconnections*

The procedures of the *Décret n° 2008-780 du 13 août 2008 (Décret n° 2008-780 2023)* outlines a series of steps that utility providers must follow before disconnecting services due to non-payment. Customers must pay their bills within 14 days of its issue date or payment deadline (Service-Public-Fr 2023b). The first reminder of the bill is sent 14 days after its issue date. The customer is given a grace period of an additional 15 days to pay the bill. If the customer fails to pay within this grace period, then the retailer must send a disconnection warning at least 20 days before any potential service reduction or disconnection. This second reminder must inform the customer that they can contact social services if they believe their situation falls under the provisions of Article L. 115-3 of the Code of Social Action and Families.

Outside the winter truce period (1 November to 31 March), during which no French household may be disconnected, electricity suppliers still cannot immediately disconnect service for non-payment. They must first implement a power reduction period of at least one month, allowing households to meet basic daily needs (Le Médiateur National de l'Energie 2023a).

For customers who have informed their supplier that they benefit from the energy allowance called Energy Cheque (*cheque énergie in French*), or that they have benefited from financial assistance through the Housing Solidarity Funds (FSL – *Fonds de Solidarité Logement in French*), are given a longer grace period after the first payment reminder of 30 days (instead of the usual 15 days).

For customers equipped with a Linky smart meter (*compteur intelligent in French*), the electricity supply is reduced to 1 kVA for at least 60 days before a possible interruption, instead of an immediate cut-off (*Décret n° 2008-780 2023*). Within five days of power disconnection or reduction, the retailer must inform the local social services department of the customer's details and debts, however, the customer has the possibility to object to the transfer of this information to social services (*Décret n° 2008-780 2023*). Finally, for customers who have applied for financial assistance through the FSL for the payment of their energy debts, the power supply is maintained (Dubois 2020).

5.3.4.2 *Obligation for suppliers to name a "solidarity correspondent"*

Article 11 of Decree No. 2008-780 (*Décret n° 2008-780 2023*) relating to the procedure applicable in the event of non-payment of electricity, gas, heat and water bills provides that "each supplier shall appoint a solidarity-precary correspondent for relations with the departmental social services, the municipal social services and any user or consumer protection associations that request it". According to the National Energy Ombudsperson, "the aim is to help social workers in

their mission to support people in situations of energy poverty” (Le Médiateur National de l’Energie 2021).

The rationale for this measure was the understanding that collaboration between suppliers and local public administration social services is necessary to identify and assist households facing hardship. The decree specifies that

“The solidarity-precarity correspondent shall make available to the departmental social services and municipal social services the information [...] to customers whose supply is reduced or interrupted. The solidarity-precarity correspondent may be common to several departments and several suppliers.” (Décret n° 2008-780 2023).

Suppliers regularly must send lists of customers who have not paid their bills to the local social services, who check whether these households are already receiving social assistance. The social services then inform the suppliers about who is on their list. These identified households are then contacted by the suppliers so-called solidarity department to implement personalised solutions to help them pay their bills. All suppliers are supposed to have an activity in the field of solidarity – this activity being financed through the bills of all households. In general, assistance takes the form of a continuation of supply (when the household enters a process of debt management by the solidarity department) and of a debt repayment plan. However, as the National Energy Ombudsperson indicates, this obligation is not always fulfilled” (Le Médiateur National de l’Energie 2021).

5.4 Financial support for customers

Article L. 115-3 of the French Code of Social Action and Families (*Code de l’action sociale et des familles. Article L115-3 2022*) is a law that protects vulnerable individuals and families from having their essential utilities cut off due to non-payment. Households experiencing financial difficulties in paying their bills have the right to apply for support from social services to maintain access to utilities including energy and to be protected from disconnections until a decision is made. The main financial support measures are the Energy Cheque and the Solidarity Fund for Housing (FSL), which provide income support. Households on low incomes who are beneficiaries of the Energy Cheque or households who have applied or received assistance through the Solidarity Fund for Housing (FSL) are also protected from disconnection beyond the winter moratorium period by longer grace periods.

5.4.1 Energy Cheque or energy vouchers

The Energy Cheque (*chèque énergie* in French) is an energy concession in the form of a voucher that is awarded to almost 5.6 million French households every year (Service-Public-Fr 2024a). The Energy Cheque offers a grant that can be used to pay for electricity, gas and solid fuels, like wood, as well as for housing retrofit and upgrade expense eligible under the MaPrimeRenov’ scheme.

The amount of the grant is calculated based on the household composition (number of adults and children) and income (Service-Public-Fr 2024a). The income threshold is “households whose

annual taxable income per Consumption Unit¹⁷ is less than €10,700” (CRE 2024d). When household circumstances change, then a new application must be submitted. The Energy Cheque is physically delivered in April and valid for 12 months (until 31 March of following year). Recipients can use it to pay for their bills directly or ask for the amount to be deducted from their bill automatically. The Energy Cheque may be used in combination with retrofit subsidies through the *MaPrimeRenov'* scheme¹⁸ (Service-Public-Fr 2024a, 2024b).

France used to have social energy tariffs like Spain but switched to energy vouchers in 2018 with the aim “of creating a fairer, simpler system than the social tariffs, making it possible to reach the target of four million households more effectively, at reduced management costs” (European Commission 2023b).

The grant amount ranges between EURO 48 and EURO 277 year (Service-Public-Fr 2024a). This amount has not changed since 2018 (Cludius et al. 2018). According to the National Energy Ombudsperson (Le Médiateur National de l'Energie 2024), these vouchers typically amount to EURO 150, which constitutes about 10-12% of the average yearly bill (Eurelectric 2024). In the context of the recent energy price crisis, these annual energy cost relief grants have been supplemented by several extraordinary Energy Cheques between December 2021 and 2022.

5.4.1.1 Effectiveness

The Energy Cheque scheme promises immediate and equitable financial relief, however, grant under-utilisation limits its effectiveness. Eurelectric claims that in 2022, 5.6 million households received an energy cheque, out of which over 82 per cent used it (Eurelectric 2024). Non-usage occurred among households who did not understand how to use it and households who had lost the Cheque, which is sent in paper form, etc. (ONPE 2024). Qualitative research also suggests that some householders may be sceptical towards institutions or worry about being judged or having to return the assistance (Stojilovska et al. 2021). As such, the energy voucher scheme fulfilled its aim to reach “four million households” (European Commission 2023b). If all energy

17 Consumption units (CU) are a scale initially developed by the OECD to allow for comparisons of households with different sizes, by taking into account the “economies of scale” inside the household. Consumption units are calculated as follows:

- 1 CU for the first adult in the household,
- 0.5 CU for the other persons aged 14 years or older,
- 0.3 CU for the children under 14 years (INSEE 2022)

18 MaPrimeRenovate (*MaPrimeRénov'* in French) (Service-Public-Fr 2025a) provides financial assistance for energy efficiency improvements that - as a minimum - include the insulation of two dwelling elements. The subsidy amount depends on the number of household members, household income and location of dwelling (within the Île-de-France around Paris or outside). The amount ranges between EURO 23,768 and EURO 94,844 or more within the Île-de-France around Paris and between EURO 17,173 and to EURO 700 or more outside. The grant is available to owner occupiers and landlords (Service-Public-Fr 2025a). According to the French Energy Poverty Observatory, in 2024, 71,613 households received support for their renovations through this or other retrofit schemes (ONPE 2024), which estimates to 0.2 per cent of residential electricity customers (based on 34,610,000 electricity customers (CRE 2024b)).

vouchers were used for electricity, the grants would have benefited an estimated 16.27 per cent of residential customers.¹⁹

European researchers (Cludius et al. 2018) argue that Energy Cheques offer an immediate and equitable approach for assisting with bill payments, targeting individuals based on their income. The calculation method of the amount of the Energy Cheque each household receives is based on the number of consumption units (see above) and thus acknowledges that larger households have higher energy needs.

By enabling the use of the Energy Cheque for energy renovations, the Cheque also aims at encouraging sustainable long-term changes and addressing the root causes of energy poverty (Cludius et al. 2018). However, with an average annual amount per household of EURO 150, the grants' contribution to retrofits appears very limited (Cludius et al. 2018).

5.4.1.2 Gaps in protection

To identify the number of consumption units of a household, the French administration used the information collected through the housing tax declarations (Taxe d'habitation in French). Following the removal of this tax, certain newly eligible households such as young adults who get their first employment and pay taxes for the first time, households who experienced an income reduction since 2021, or households that have had a birth from 2022 on can no longer be identified (Ministère de l'Économie 2024). To address this gap in identification, the government has set up a website that allows these households to apply online for the Cheque. However, in practice, only 10 per cent of the eligible households have actually applied online, de facto excluding 900 000 potential beneficiaries from the Cheque énergie (Boitel 2024).

The main challenge ahead is to re-establish the automatic payment of the Energy Cheque. One positive aspect of energy vouchers until 2023 has been that consumers did not need to apply for support, as the tax administration automatically identified and assisted the lowest income households (Cludius et al. 2018). However, with the progressive removal of the housing tax, from 2023 onwards, the information on the place of residence of low-income households is no longer available to the French administration, resulting in a progressive reduction of the basis of beneficiaries of the Cheque. Recently, the French government has announced that new eligibility criteria would be set up for the Cheques that will be sent in 2025.

5.4.2 The Solidarity Fund for Housing (FSL)

The Solidarity Fund for Housing (FSL, which stands for "*Fonds de Solidarité Logement*" in French) (Service-Public-Fr 2023a) provides financial assistance to applicants who have difficulty with housing costs in the forms of grants or loans. These costs may be rents, utility bills, or certain costs borne by households during their installation in a new dwelling, such as insurance costs, and the costs of essential appliances such as a fridge. Eligibility is determined based on tenure and on the household's income. The financial assistance is tailored to the financial capabilities of the applicants (Service-Public-Fr 2023a).

19 There were about 34, 418, 000 electricity customers in 2023 in France (CRE 2024c).

The Solidarity Fund for Housing is implemented at the level of the French Départements, which are the highest level of local authorities (France has 100 départements). Households generally apply to financial assistance from this fund through the social services at the local level. Each month, the demands are examined by commissions at the level of the Départements, which decide who will get assistance based on an evaluation of households' difficulties and on the budget that is available.

The Solidarity Fund for Housing is mainly financed by the Départements, as well as by several voluntary contributors which include the energy suppliers (in particular EDF). These contributions are formalised at the Département level through conventions between the suppliers and the Département.

5.4.2.1 Effectiveness

Eurelectric claims that “in 2022 “around 122 000 households benefited from the Fonds de Solidarité Logement to help pay energy bills among customers of the three main energy suppliers in France” (Eurelectric 2024:14). According to the French Energy Poverty Observatory, in 2022, 148,626 households received Solidarity Fund for Housing benefits through the three major energy (gas and electricity) suppliers (ONPE 2024), which estimates to 0.43% of residential customers.²⁰

5.4.2.2 Challenges

The FSL is a social welfare tool designed to help vulnerable households remain in their homes. It helps with housing costs in general, but it includes an “energy” part. While EDF is the main energy company contributing to the fund, the beneficiaries of energy assistance through the FSL are all French electricity customers, regardless of who their energy supplier is. Hence, EDF customers are carrying a larger burden of this housing support scheme than customers of other retailers.

5.5 Full disconnection prohibitions

In France, there is no full legal prohibition of debt disconnections for electricity outside of the winter moratorium and temporary protection of applicants for the FSL, not even for customers with life support equipment. People who need access to electricity from disconnection for medical reasons, for example people who need an electrical respiratory assistance device can register to receive additional information on scheduled power cuts (Service-Public-Fr 2025b). The registration process, which requires a medical certificate, is coordinated by the regional health agencies (Agences Régionales de Santé), who inform the electricity distributors of these cases (Service-Public-Fr 2025b). By contrast, France presents a universal water disconnection prohibition for all customers since 2013.²¹

5.6 Voluntary disconnection restraint by EDF

Since 1 April 2022, EDF, a major French electricity supplier, has chosen not to disconnect any consumers after the grace or reduced power supply period that is provided to customers in

²⁰ There were about 34, 418, 000 electricity customers in 2023 in France (CRE 2024c)

²¹ Law n° 2013-312 of the 15th March 2013, Article 19 (the so-called loi Brottes).

general.²² Instead of disconnecting households, EDF maintains a minimal power supply (1 kVA) to “continue several essential uses of electricity, such as lighting, running kitchen equipment (refrigerator, freezer, etc.), or recharging electronic devices” (EDF 2021). The initiative aims to encourage customers to reconnect with their supplier and social services to resolve their payment issues (Eurelectric 2024).

This approach by the French retailer EDF dates to the 1990s. Between 1994 and 1996, EDF engaged in several consumer segmentation studies to better categorise consumers’ ability to pay their bills, their responses to payment difficulties and the conditions that contributed to payment difficulties (Wodon 2000). EDF then tailored their customer assistance programs - at least in part – to these customer profiles. The programs included financial support, help with finding the best suited tariff, partnerships with local public and community-based social service organisations and a limited electricity supply service. Wodon explains:

The service limiter allows EDF to help the poor while not encouraging default among clients who are solvent but may want to pay their bills late. When faced with the prospect of having to reduce their consumption under the service limiter policy, the clients who can pay tend to settle their debt. The threat of disconnection would of course have the same effect, but a policy of disconnection without the offer of the service limiters would have serious consequences for those customers who wish to pay their bill but are not able to do so. The advantage of the service limiter is that it allows these consequences for the truly poor to be avoided while calling negligent clients to order.
(Wodon 2000:232)

EDF claims that they trialled this approach prior to the full commitment and that it “reduced the number of disconnections by one third in five years (EDF 2021). According to more recent sources, EDF claims that the reduced power supply “allows them to manage to solve 8 cases out of 10 and to find financial solutions to bring back customers to regular contract.” (European Commission 2023b). However, effectiveness may also be measured in consumer satisfaction with the assistance given (Wodon 2000). The outcome of this voluntary disconnection restraint on consumer satisfaction deserves investigation.

The effectiveness of the reduced power supply on financial health is debated. A 1 kVA supply permits only the basic operation of essential items like a refrigerator, a lamp, or a phone charger, which are crucial for reaching out to social services or the electricity provider. However, a 1 kVA supply is insufficient for electric space and water heaters, which significantly restricts everyday activities (Energynews 4 November 2024). Advocates for the right to energy put forward that these power reductions are preferable to power cuts, but that they have unintended consequences such as not being able to cook food and having to use a laundromat instead of a private washing machine, adding to the living costs (Energynews 4 November 2024).

²² For ordinary customers: minimum of 49 days before disconnection outside the winter moratorium period - 14 days payment due date, followed by a reminder to pay within an additional 15 days, and then another 20-day period before disconnection may happen. For customers that are eligible for an Energy Cheque or FSL support: minimum of 74 days before disconnection outside the winter moratorium period - 14 days payment due date, followed by a reminder to pay within an additional 30 days, and then another 60-day period of reduced 1kVA supply before disconnection may happen (Service-Public-Fr 2023b).

In the latest report, EDF prides itself on “390,376 energy support” interventions for customers with payment difficulties” (EDF 2024a:26). EDF engages in mandatory and voluntary, direct and indirect customer support activities (cf. Appendix). Nonetheless, EDF states that they provided fewer energy support services than expected (390,376 instead of at least 600,000) (EDF 2024b). EDF attributes this gap to more energy efficient householder energy practices, partly supported by the real-time energy use monitoring available through their smart meters (EDF 2024b).

Eurelectric (2024) cautions that although the EDF approach seems effective for now, it should be reviewed over time, especially focusing on customers who remain on limited power. Energy supply reductions appear to be a less forceful measure than disconnections, aiming to encourage dialogue between both parties to find a payment solution.

It appears that EDF’s voluntary restraint from disconnecting households for non-payment is limited to France. Based on an extensive Internet search, there is no evidence that EDF has introduced a similar voluntary, general restraint from electricity disconnection in its United Kingdom operations. In the UK, as of January 2024, EDF has been given permission by Ofgem (the energy regulator) to restart involuntary prepayment meter (PPM) installations for customers in arrears (Ofgem 2025).. PPM customers may self-disconnect if they are experiencing difficulties to pay for their electricity use in advance.

5.7 Disconnection moratoria

In France, disconnection moratoria vary by time of the year, the type of customer and type of electricity meter. France presents a universal, national disconnection ban during the winter months (Housing Rights Watch 2023; Le Médiateur National de l’Energie 2023a) (European Commission 2023b) and an extended timeline with basic supply mechanism for Energy Cheque customers with a smart meter (European Commission 2023b:37; Le Médiateur National de l’Energie 2023a).

5.7.1 Winter moratorium for all customers

Since 2014, French electricity suppliers may not disconnect households for non-payment between 1 November and 31 March in any given winter; however, during this winter truce period (*trêve hivernale* in French), the electricity amount may be reduced to 3 kVA for ordinary customers. Customers who are eligible for the energy voucher scheme are protected from such power reductions during winter. Power cuts can only occur between April and October inclusive (*Décret n° 2008-780* 2023; Eurelectric 2024).

Little is known about the outcomes of the winter moratorium on French customers. However, Eurelectric claims that power supply reduction are an effective strategy to encourage customers to re-engage with the retailer and restore their full power supply:

A study conducted by a French supplier found that two out of three customers either re-engage or pay their bills shortly after such power limitation has been announced or applied, making it an effective instrument to nudge non-engaging customers. The same study showed that the length of the power limitation prior to re-establishing full power remains short (with a median duration of 11 days and less than three days for 30% of the affected households) which underscores the effectiveness of this measure. (Eurelectric 2024:7)

Eurelectric does specify the supplier who conducted the study and fails to provide a reference.

5.7.2 Energy Cheque recipients – Extended timelines and basic individual supply mechanism for smart meter customer for 60 days before disconnection

Since 2023, all retailers in France are obliged to enact reduced power supply of 1kVA for 60 days before disconnection for protected Energy Cheque recipients with smart meters (European Commission 2023b:37; Le Médiateur National de l'Energie 2023a).

Electricity customers who are recipients of the Energy Cheque must also pay their bills within 14 days of its issue date or payment deadline. The first reminder of the bill is sent 14 days after its issue date. The customer is given a grace period of an additional 30 days to pay the bill. This period is 15 days longer than for other customers. If the customer fails to pay within this grace period, then the retailer must send a disconnection warning at least 20 days before any potential service reduction or disconnection. Suppliers must notify consumers by mail about the deadline and conditions under which supply may be reduced, suspended or the contract terminated if payment is not made (Service-Public.fr 2023).

For Energy Cheque customers equipped with a 'Linky' smart meter, the electricity supply is reduced to 1 kVA (kilovolt-ampere) for at least 60 days before a possible interruption, instead of an immediate cut-off. These provisions allow vulnerable individuals and families to maintain access to essential services while seeking financial assistance or resolving payment issues (Service-Public-Fr 2023a).

During the 60-day power reduction, the electricity supplier must contact the customer twice—once in writing and once orally—to arrange bill payment. If no response or agreement is made, the supplier can disconnect the electricity or end the contract, notifying the customer by post at least 20 days beforehand (Eurelectric 2024).

The French National Energy Ombudsman considers the extended disconnection moratoria with reduced power supply for the protected groups of Energy Cheque or housing solidarity fund recipients to be effective in reducing electricity disconnections by 30 per cent compared to 2021 and 13 per cent compared to 2022²³ (Le Médiateur national de l'énergie 2024). As a result, the National Energy Ombudsman has called for a right to a minimum electricity supply (*droit à une alimentation minimale en électricité* in French), that is a power reduction for **all households** without cutting the supply (Le Médiateur national de l'énergie 2024)[emphasis added by authors].

²³ Based on 279,950 electricity disconnections in 2019 (pre-COVID 19 pandemic), 254,422 in 2021, 205,576 in 2022 and 178,015 in 2023 (Le Médiateur national de l'énergie 2024).

6 Spain

6.1 History of disconnection bans

In Spain, energy disconnections have been in the public debate since the early 2010s, coinciding with increased media coverage and public debate about energy poverty following the impact of global financial crisis in Southern European nations. Disconnections as energy exclusions have gained considerable media attention after the tragic death of an older woman in Reus, Catalonia, who had her electricity cut off due to unpaid bills in 2016 (Tirado Herrero 2020); the collective disconnection of several thousands of residents in the informal settlement of Cañada Real, Madrid (Ruiz-Rivas et al. 2023); and the recurrent daily power cuts experienced by tens of thousands of residents in low-income neighbourhoods in the cities of Granada, Seville, Sant Adrià del Besos, Figueres or Girona, who face daily power cuts allegedly due to poor maintenance of local distribution networks by the incumbent distribution system operators (DSOs) in those areas (Jacobs et al. 2024; Varo 2024).

Spain also presents an increasing number of irregular electricity connections and smart meter tampering, only some of which are associated with cannabis cultivation, amounting to revenue losses for electricity distributor of several million Euros a year (Naturgy 2024). Some illegal connections to the grid occur in situations where households facing homelessness have irregularly reoccupied and where a regular connection may not be possible (Tirado Herrero 2020). Such occurrences highlight the severe consequences of energy deprivation in Spain and have motivated in some cases energy poverty activism, media coverage and stricter regulations (Guiteras 2018). A prime example highlighted below, is the case of the Autonomous Region of Catalonia, where since 2015 energy companies are required to contact social services before disconnecting a household to verify if the household is at risk of social exclusion and, thus, protected from disconnection (Tirado Herrero 2020).

In Spain, assistance to vulnerable energy consumers is primarily provided through public policy instruments such as the social bonus or Barcelona and Valencia's energy city advisory offices but is also subject of voluntary efforts by local energy community and social justice groups (Antepara et al. 2020; Tirado Herrero 2020). These organisations arrange meetings with households in energy deprivation to help them navigate the complexities of retail energy markets, apply for the social bonus and mediate with social service organisations and energy suppliers in case of debt and disconnection (Antepara et al. 2020; Tirado Herrero 2020). In Catalonia, a key player is the Alliance against Energy Poverty (APE for the Spanish *Aliança contra la Pobresa Energètica*). The APE is a social movement founded in 2014 as a coalition of social and environmental activists and people affected by energy poverty. The APE advocates for universal access to domestic water and energy, fights against supply cuts and pushes for a utility debt waiver for vulnerable households (Ortiz et al. 2021; Tirado Herrero 2020).

6.2 Disconnection rate

Even though, in 2022, residential electricity disconnection due to non-payment rate in Spain seemed to be close to zero (ACER and CEER 2023), current information on the rate of electricity disconnections or the number of households who have lost power due to non-payment in Spain was not available.

National energy poverty indicators are regularly reported by the Spanish Ministry for the Ecological Transition (MITECO 2022), however they do not include statistics on disconnections.

Disconnections are also not reported as part of the European-wide indicators of the Energy Poverty Advisory Hub (EPAH), as these variables are not captured in the national surveys from which data for such indicators are sourced, including the European Survey and Income and Living Conditions (EU SILC) and the Household Budget Survey (HBS). Nonetheless, between 2016 and 2021, the Spanish Survey on Income and Living Conditions included a question about energy supply disconnections, revealing that, annually, between 500,000 and 900,000 people lost access to at least one of their usual domestic energy sources due to household financial difficulties (ACA 2020). These numbers accounted for self-reported disruption in the domestic energy supply for all energy carriers (not just electricity), including natural gas and various forms of prepaid energy such as bottled gas and firewood. Disconnections in Spain are allowed except for customers deemed vulnerable.

6.3 Energy market

The Spanish electricity market was liberalised in 2009 (Marin et al. 2023), however, a regulated price as a last resort tariff has been maintained for low usage consumers with a contracted power supply of 10kW or less²⁴, accounting for a large majority of residential electricity users. According to the latest statistics, Spain has 243 electricity retailers, with 174 retailers operating in more than ten Autonomous Regions (CNMC 2024d).

Statistics on the residential electricity retail market indicate that, in 2023, Endesa held a 34 per cent market share, Iberdrola 32 per cent, and Naturgy (formerly Gas Natural Fenosa) 14 per cent (CNMC 2024e). These three companies dominate the residential electricity market, which, in 2019, supplied a total of 28.5 million residential consumers (CNMC 2020).

Electricity customers chose a certain power supply amount (contracted power) that determines the costs of the bill's fixed charge (Antepara et al. 2020). More importantly, they can choose between two types of electricity supply contracts: a government-regulated tariff and a market-rate tariff.

The government-regulated tariff called 'Voluntary Price for Small Consumers' (*Precio Voluntario para el Pequeño Consumidor* or PVPC, in Spanish) is based on prices that fluctuate hourly based on the wholesale electricity market. The PVPC is only available for consumers with a contracted power of less than 10kW and is a prerequisite for accessing the social bonus or social discount on the costs of electricity. The PVPC's variable pricing, which is largely based on the wholesale electricity market (MITECO 2025), rewards consumers who can adjust their usage to off-peak hours, such as nighttime (Roldán Fernández et al. 2017). Free-market tariffs are fixed or time-of-use price plans offered by all electricity suppliers operating in the country.

Customers are encouraged to identify and switch to the best market offer, yet awareness of best offers and contract type (free market versus regulated PVPC) is typically low among average and vulnerable consumers, including the elderly and disabled (Antepara et al. 2020; Defensor del Pueblo 2017; HISPACOOOP 2021). In addition, there have been complaints on improper conduct of

²⁴ Dwelling electrical panels may also not have more than 4 busbars (Marin et al. 2023). A typical Australian dwelling would have only one busbar (Hager 2025).

suppliers pushing customers onto their most expensive free-market contracts (CNMC 2017 cited in (Antepara et al. 2020)). Investigations by the Spanish energy regulator have also revealed some cases in which electricity and gas companies failed to fully verify consumer consent in supplier or contract switches and instances of vulnerable consumers losing access to the social bonus due to unauthorized changes in supply contracts (CNMC 2022). Another key allegation is that retailers very often include superfluous extra charges in their free-market supply contracts, e.g., installation maintenance services, non-payment insurance, appliance breakdown insurance, emergency repair services or boiler inspection or maintenance contract. These can add up to EURO 30 a year to an average free-market contract (Antepara et al. 2020).

6.3.1 Regulatory framework

The Spanish Law 24/2013, of December 26, of the Electric Sector (Ley 24/2013, de 26 de diciembre, del Sector Eléctrico) (Ley 24/2013 2013), which regulates the electricity sector, introduced measures to protect vulnerable consumers in the electricity market and to ensure their access to essential electricity services. The law was updated in the Royal Decree 897/2017 (Gallego and Cabrero 2018), which defined vulnerable consumers and introduced the electricity and thermal social bonus schemes. This law also established that electricity supply cannot be suspended for consumers with the most severe vulnerability level (Ley 24/2013 2013). The Royal Decree-law 17/2021 subsequently introduced the Minimum Vital Supply (*Suministro Mínimo Vital*, SMV in Spanish). The SMV is a guaranteed energy supply for six months, during which their service cannot be interrupted, limited to a power supply of 3.5 kW to ensure basic comfort conditions for those benefiting from the social bonus (MITECO 2022).

The Spanish energy regulator National Commission for Markets and Competition, known as the "Comisión Nacional de los Mercados y la Competencia" (CNMC), oversees electricity supply and has regulations regarding disconnections, particularly protecting vulnerable customers from being cut off due to non-payment. The CNMC oversees the transmission and distribution of electricity. The Spanish 17 autonomous regional and two autonomous city governments may oversee their own renewable electricity projects and impose additional requirements within their territories.

Spain, like Ireland, is one of nine European countries where complaints data is not collected by the national energy regulator but by "other public bodies, such as alternative dispute resolution bodies or ombudsmen" (ACER and CEER 2024:53). Spanish customers can also make complaints directly to suppliers and DSOs [distribution system operators]" (ACER and CEER 2024:53). If ordinary consumers have issues or complaints regarding their energy services, they must attempt to resolve the matter with their retailer first. Retailers must provide a free telephone contact number. If discussions with the retailer fail, then customers may contact an accredited alternative dispute resolution entity or Ombudsperson. These entities are listed on the CNMC website, yet there does not seem to be a requirement for retailers to join in such dispute resolution mechanisms (CNMC 2024d:91).

Complaints about "disconnections due to late or non-payment "make up 1% of complaints in Spain" (ACER and CEER 2024:74). The CNMC argue that claims procedures should be mandatory for all retailers, free of charge to customers and independent of the retailers to ensure adequate consumer protection (CNMC 2024d).

The CNMC also overlooks the "market energy offer comparison tool" (Spanish Government Directorate-General of Public Governance 2024) and sets measures like the Spanish Minimum

Vital Supply (SMV - *Suministro Mínimo Vital*). Complaints by PVPC customers on regulated tariffs are handled by the Autonomous Communities (regions and cities). This distinction in responsibility between regulated (PVPC) and free market conditions does not seem to be clear to many customers (CNMC 2024d:91).

Energy prices are predicted to increase significantly in Spain in 2025. The value added tax (VAT or GST in Australia) on electricity will return to 21%, concluding a three-year period of reduced rates that were implemented to ease the cost-of-living crisis. This change comes after a series of reductions, where VAT was first decreased to 10% in June 2021 and then further reduced to 5% in July 2022. In addition, the social bonus rates that protect vulnerable customers from high energy bills will be lowered (Mokrani 2024).

6.3.2 Billing frequency and smart meter prevalence

Residential electricity customers in Spain receive their bills monthly or every two months (ACER and CEER 2024; Spanish Government Directorate-General of Public Governance 2024). Residential electricity customers have supply contracts with a maximum duration of one year that can be automatically renewed for additional one-year periods (Spanish Government Directorate-General of Public Governance 2024). Practically all residential electricity consumers have had a smart meter installed since 2020 (CNMC 2020).

6.3.3 Definition of vulnerability and energy poverty

The Spanish government recognises three levels of vulnerability - vulnerable customer, severely vulnerable customer, or severely vulnerable customer at risk of social exclusion (Endesa 2025). The level of vulnerability determines the customer's disconnection protection. Customers who are considered vulnerable are eligible for the electricity social bonus (*bono social eléctrico*), which provides discounts on their electricity bills, and the thermal social bonus (*bono social térmico*), which offers an annual financial aid to help cover non-electric heating, hot water, and cooking costs, making their overall energy expenses more affordable (Endesa 2025).

Vulnerable customers hold a regulated tariff contract (PVPC) and fulfil at least four of the criteria (Endesa 2025) with regards to

- Annual household income below a thresholds that is calculated in recognition of household composition (number of children and adults, family relationship, members with recognised disability of 33% or more, and/or needing help at least two to three times/day, victims of gender violence or terrorism)
- Receipt of minimum pension through the social security system
- Large family size, which is recognises the number of parents and children as well as their disability status (BIW 2025).
- Receipt of minimum wage

'Severely vulnerable customers' also hold a regulated tariff contract (PVPC), like vulnerable customers, and fulfil at least three criteria (Endesa 2025) regarding

- Annual household income that is equal or less than half of the thresholds calculated to establish the vulnerability (see above).
- Receipt of minimum pension through the social security system
- Receipt of minimum wage

- Large family size with an income under a defined threshold.

‘Severely vulnerable customers at risk of social exclusion’ are the third severity category of vulnerability recognised by the Spanish government. These households are a subcategory of ‘severely vulnerable customers’ who are permanently protected from debt disconnections. ‘Severely vulnerable customers at risk of social exclusion’ are recipients of social welfare from a regional or municipal government that is paying at least half of the customers electricity bill. In case of temporary inability to pay bills, the electricity supply of these customers cannot be interrupted.

Recipients of the electricity social bonus are the designated vulnerable consumers in the Spanish energy poverty framework.

6.3.3.1 *Catalonia: households “at the risk of housing exclusion”.*

Catalonia distinguishes an additional category of vulnerability, namely households “at the risk of housing exclusion”. Energy poverty is more severe in Catalonia than in the rest of Spain (Síndic 2023). For example, in 2022, 1.2 per cent more Catalan households reported to be late with utility payments than households across Spanish, (12.8% in Catalonia versus 11.6% in Spain) (Síndic 2023). Based on 2015 and 2020 data, Catalan households pay more than other European regions considered in this review. Catalonia had the second most expensive utility bills (EURO 1,488) among all Spanish regions (average EURO 1,282) (Síndic 2023), which were also higher than in France (EURO 1,318) and in Ireland (EURO 1,166) (Síndic 2023).

Spanish Law also applies to the Autonomous Region of Catalonia, located in the northeastern region of Spain. However, the Catalan Law 24/2015 (*Ley 24/2015* 2015) introduced a further category of vulnerability, that is households **“at the risk of housing exclusion”**. Criteria for this category are based on household composition, characteristics and income. Income thresholds are calculated with reference to the Catalan Income Sufficiency Indicator (IRSC). In 2024, the IRSC was EURO 778.49 per month, that is EURO 9,341.92 per annum (Gencat 2024).

The criteria for households “at the risk of housing exclusion” are:

- For single households, an income less than twice (2) the income sufficiency indicator (IRSC),
- For shared households, an income less than two and half times (2.5) the income sufficiency indicator (IRSC),
- For households that include a person with disability or high dependency needs, an income less than three times (3) the income sufficiency indicator (IRSC),
- If the income is more than 1.5 the income sufficiency indicator (IRSC), then the risk of social exclusion must be confirmed by social services.

The Catalan Law introduced additional protections in response to “social emergency situation” (*Ley 24/2015* 2015:Preamble), that is the perceived unfairness between high levels of social and financial hardship and the high profits achieved of banks and energy companies. The premise of the Law was that people were being “exploited[ed] and abused” (*Ley 24/2015* 2015).

The Law introduced extra protections for households “at the risk of housing exclusion”. The Law puts legal responsibility onto utility companies to communicate with the social services on the vulnerability status of customers at risk of disconnection. The Law also puts responsibility onto local governments. Article 6 (*Ley 24/2015* 2015) calls for “public administrations [to] guarantee the

right of access to basic supplies of drinking water, gas and electricity to persons and family units at risk of residential exclusion” . Article 6 also demands that “public administrations” must enter into agreements with energy (and water) companies that entail debt waivers and large discounts (*Ley 24/2015* 2015:Article 6).²⁵

6.3.4 General disconnection safeguards, e.g. mandatory reminder and warning notices before disconnections – timelines

In Spain, disconnection safeguards differ based on the type of contract and the vulnerability status of customers.

6.3.4.1 Ordinary electricity customers in Spain

Ordinary electricity customers in Spain must make their payments within 20 days of the issuing of the bill, however, electricity customers with a free-market contract may negotiate payment schedules with their retailers (Spanish Government Directorate-General of Public Governance 2024). The usual payment period is five to ten days (Eurelectric 2024:27-28). If a customer fails to pay, the retailer can ask the distributor to cut the power supply (Spanish Government Directorate-General of Public Governance 2024). Longer payment periods are regulated for low-usage and PVPC customers on the government-regulated tariff.

6.3.4.2 Electricity customers with a free market contract of 10kW or less

Electricity customers with a free market contract of 10kW or less²⁶ have two months after the due date, at which point the retailer will remind the customers who must acknowledge receipt. Disconnection can then take place after a two-month period if payment has still not occurred (Spanish Government Directorate-General of Public Governance 2024).

6.3.4.3 Customers on the regulated Voluntary Price for Small Consumers (PVPC)

Like free market electricity customers with 10kW or less contracted power supply, PVPC customers also have a grace period of two months after the due date displayed on the bill. These PVPC customers face disconnections if they have not paid within another two months (Spanish Government Directorate-General of Public Governance 2024).

6.3.4.4 Electricity customers in Catalonia – additional requirement for vulnerability verification

Provisions established by the national (Spanish) legislation also apply to Catalan consumers: Severely vulnerable customers at risk of social exclusion’ cannot be disconnected, and vulnerable consumers benefit from the extended grace periods of up to 10 months established by the

²⁵ “Public administrations must establish the necessary agreements or conventions with companies supplying drinking water, gas and electricity to ensure that they grant non-repayable aid to persons and family units at risk of residential exclusion or apply very significant discounts on the cost of minimum consumption” (*Ley 24/2015* 2015:Article 6.3).

²⁶The average electricity consumption of Australian households ranged between 13.6kWh/day in Victoria (4,953 kWh/a; many Victorian households use gas for heating and cooking) and 19.8kWh/day in Tasmania (7,229 kWh/annum) (Frontier Economics 2020).

Minimum Vital Supply. However, Catalonia has introduced additional consumer protection measures for households “at risk of housing exclusion” and a mandatory vulnerability verification.

The regional Law 24/2015 established the precautionary principle that requires utility (electricity, gas and water) companies to determine the vulnerability status of households that are at risk of disconnection for non-payment. The Catalan law, thus, applies a “so-called precautionary principle: before cutting off supply, utility companies must first contact social services in order to verify whether or not the customer is energy vulnerable.” (Guiteras 2018). If the verification process establishes that the relevant household is severely vulnerable and ‘at risk of housing exclusion’, as determined by social services, then this household is fully protected all year round from disconnection (Tirado Herrero 2020).

However, this law has also resulted in benefits to other householders experiencing less severe vulnerabilities. According to an article by the Alliance against Energy Poverty (Fondation Abbé Pierre 2023), the verification of any level of vulnerability requires the retailer to offer the household to revise the contract to more favourable conditions, such as the regulated PVPC tariff, applying the social bonus and removing any additional charges that consumer advocates have interpreted as superfluous and profit driven. In addition, the verification of vulnerability through social services entitles householders whose accounts are managed by the landlords or who are unlawfully occupying a dwelling to a “social meter” in some cases (Fondation Abbé Pierre 2023:27), reducing the need of an illegal connection and associated risks (Fondation Abbé Pierre 2023). A clear definition of “social meter” was not readily available. However, considering the statement that “the widespread installation of social meters [is] essential to avoid the risks associated with irregular connections” (APE 2024), a “social meter” may be a smart meter that automatically applies the cheapest tariff.

Illegal activities using electricity and electricity fraud, for example, in response to unaffordable electricity costs and in connection with the cultivation of marijuana, have been on the rise in Spain for the last decade and become characterised by “professionalisation” (CNMC 2024d:89). The CNMC claims that “organised fraud [has] proliferated [and] encouraged by the absence of economic risk that committing fraud entails today” - presumably with reference to a lack of financial responsibility of the retailer towards the distributor (CNMC 2024d:89). The CNMC proposes that electricity distributor should have the right to immediately cease supply when unsafe, irregular activities, including tampering with the meters, is identified, and that there need to be more effective tools to identify such cases (CNMC 2024d). The installation of ‘social meters’ would, thus, also have benefits in costs coverage for retailers and distributors.

The Catalan law 24/2015 has been called “pioneering” by numerous Spanish and overseas sources (Síndic 2023:10). While this additional protection is based on the premise of access to electricity as a human right (Hesselman et al. 2019) and innovative, it does not guarantee indefinite protection for vulnerable households other than those classified as “at risk of housing exclusion”. Householder debt still accumulates while the disconnection ban is in place (Fondation Abbé Pierre 2023).

With regards to agreements between the local government and energy companies, at the time of writing (January 2025) enhanced protection was only available to Endesa customers (cf. Section 6.6). Importantly, though, the Catalan law seems to have affected a significant shift in the protection of Spanish customers experiencing vulnerability:

While the implementation of Law 24/2015 is restricted to the territory of Catalonia, it is likely influencing national decision making as shown in the latest reforms of Spain's social tariff for electricity, subsequently approved as Royal Decrees 897/2017 and 15/2018. These national laws established for the first time a prohibition to cut off vulnerable households with children up to the age of 16 or with disabled persons. In 2019, the National Energy Poverty Strategy explicitly recognized access to domestic energy as a 'citizen right' on the basis of articles 47 (right to decent and adequate housing) and 43.1 (right to health protection) of the Spanish Constitution even if it did not take any further legislative steps in this direction. (Tirado Herrero 2020)

With regards to the effectiveness of the precautionary principle introduced in 2015, official statistics were not available (Síndic 2023). The Catalan Ombudsperson cites estimates by the Alliance against Energy Poverty, claiming that due to this precautionary principle, 200,000 power cuts have been avoided between 2015 and 2020 (Síndic 2023). Spanish researchers suggest that the Catalan Law 24/2015 law that established the precautionary principle has been more effective in reducing the number of water than electricity disconnections (Casals et al. 2020).

Not all electricity companies adhered to this law straight away, as demonstrated by the death of a vulnerable woman Rosa Pitarch in 2016, one year after implementation of the full disconnection ban. This disabled woman, who had been supported by social services for five years prior to her death, died in a fire caused by candles after her electricity had been disconnected by the retailer (Guiteras 2018; Tirado Herrero 2020). The Catalan Government imposed a EURO 500,000 fine on the electricity distributor Gas Natural Fenosa (now Naturgy) (Guiteras 2018). However, the penalty was controversial as the law had not been accompanied by clear regulations and may have contravened the energy companies' constitutional rights to disconnection for non-payment (Puente and Sanchez 2017). Our search did not reveal any information about the company's appeal (Casals et al. 2020) and whether they paid the fine.

Although the death of Rosa Pitarch was an exceptional case, other incidents of unlawful disconnections have been recorded. In 2016, protected households could still be subscribed to contracts in the free market and likely to be paying a higher energy price²⁷. In many of these cases, the municipalities engaged in mediation between the energy companies and customers and sometimes contributed to the payment of bills (Puente and Sanchez 2017).

Furthermore, local authorities sometimes lack a register of vulnerable individuals within their area. As a result, energy companies find it challenging to ascertain if those customers who are behind on payments are classified as consumers at risk of losing their homes (Síndic 2023).

In addition, it seems that the effectiveness of the 2015 law is still hindered by insufficient regulations on its implementation, in particular "the regulation of the communication protocol between basic social services and utility companies" (Síndic 2023:14). The Ombudsperson calls for prescriptions for "the documentation, format and length of the report issued by social services" (Síndic 2023:17) to provide clarity for householders, social service organisations and the electricity companies .

²⁷ At the time of writing in 2025, all such households considered vulnerable had to be on a regulated price contract.

Finally, the Catalan law places additional and, as has been argued, unfair and unsustainable burden onto the social service providers. The Alliance against Energy Poverty (Fondation Abbé Pierre 2023) argues that the law shifts the work of contacting and engaging with customers onto social services workers, who also have other tasks. The Alliance against Energy Poverty suggests that the Catalan Government should create energy advice officers who are knowledgeable in the legal and technical aspects of energy poverty (Fondation Abbé Pierre 2023).

6.4 Financial support for customers

Spain presents financial support to customers primarily through their tariff structures and energy discounts.

6.4.1 The Voluntary Price for Small Consumers (PVPC)

Low usage customers with a contract of less than 10kW can subscribe to a regulated price contract (Antepara et al. 2020). The Voluntary Price for Small Consumers (PVPC, for Precio Voluntario para el Pequeño Consumidor in Spanish) is a regulated electricity pricing system designed for residential customers and small businesses connected to low-voltage networks with a contracted power equal to or less than 10 kW. 'Contracted power that does not exceed 10kW' refers to the maximum amount of electrical power a customer can draw from the grid at any given time, as specified in their electricity contract,²⁸ with most residential consumers in Spain using less than 10kW/day (Endesa 2024b). The PVPC has variable pricing that changes hourly based on supply and demand in the daily energy market. Customers can switch between the regulated PVPC and the free market without penalties (Spanish Government Directorate-General of Public Governance 2024). Only selected large retailers (*comercializadoras de referencia*, in Spanish) offer the regulated Voluntary Price for the Small Consumer (PVPC) scheme (Antepara et al. 2020).

In 2024, about one third (approximately 8.5 million residential customers) had opted into the regulated Voluntary Price for the Small Consumer (PVPC) scheme (European Commission 2024). In 2020, the regulated contract was 10 per cent cheaper than that on the free market (Antepara et al. 2020), however that was before the price setting reforms that linked the regulated price to hourly prices in the market. Having a PVPC contract is a prerequisite for the receipt of the electricity social bonus.

6.4.2 Electricity social bonus, discount or tariff

The electricity social bonus (*bono social eléctrico*) is a discount applied to electricity bills (Marin et al. 2023) and only available through electricity companies that offer regulated contracts. Only customers who are considered vulnerable, have a regulated PVPC contract and have a power

²⁸ With a 10kW limit, a household could typically run multiple appliances simultaneously, such as a refrigerator, a washing machine, a dishwasher, an oven or multiple heaters and several televisions and other electronic devices (Poupa Energia 2025). In Australia, the concept of "contracted power" for residential electricity customers is not commonly used. Instead, Australian residential electricity contracts typically focus on tariff structures and pricing plans rather than a specific power limit. Nonetheless, Australian residential electricity connections typically have between 3 kVA (e.g. apartments) and 7.5 kVA (large rural properties) capacities (PowerWater 2024).

contract of 10kW or less are entitled to the electricity social bonus (Endesa 2025). The electricity social bonus provides significant cost savings up to a calculated consumption threshold based on the household's composition, and the discount rate is adjusted to the household's vulnerability level.

The electricity social bonus is only applied to a defined upper threshold of electricity consumption. This maximum amount depends on the composition of the household in terms of number of children and adults. In 2024, this upper limit ranged from 1,587 kWh (4.35 kWh/day) to 4,761 kWh (13.04 kWh/day) (Endesa 2025). Electricity used above these thresholds is charged at the regulated tariff (Endesa 2025).

In 2024, the leading Spanish electricity retailer Endesa (Endesa 2024a) reported that customers on the social bonus discount received discounts ranging from 40% to 80% on their electricity bills based on the regulated Voluntary Price for Small Consumers (PVSC), depending on their vulnerability level.

However, the electricity social bonus for vulnerable households is being pared back.

- *For vulnerable customers, a discount of 50 per cent will be applied in the first six months of 2025, then be reduced to 42.5 per cent for the next six months before reaching 35 per cent on 1 January 2026 (Endesa 2025).*
- *Severely vulnerable customers receive a slightly higher discount than vulnerable households, but this concession is being diminished, too. The maximum discount in 2023 was 80 per cent (Marin et al. 2023). At the time of writing, this rate had been reduced. A discount of 65 per cent will be applied in the first six months of 2025, then be reduced to 57.5 per cent for the next six months before reaching 50 per cent on 1 January 2026 (Endesa 2025).*
- *The electricity costs for very severely vulnerable customers at risk of social exclusion is equally shared between all Spanish electricity companies and the local or regional social service authority (Gallego and Cabrero 2018). The national government does not cover any of the costs of bills that cannot be paid by these low-income and highly vulnerable consumers.*

According to the regulatory body responsible for overseeing the energy market and its consumer protection CNMC (2024b:67), in July 2024, the total number of social bonus beneficiaries was 1,660,869 households (769,946 vulnerable consumers plus 890,923 severely vulnerable consumers).

With regard to effectiveness of the electricity social bonus, advocates and the media suggest that the cheaper social tariffs alone are insufficient to protect households from disconnections or the harms of energy disadvantage while shifting the financial burden on local governments. The effectiveness of the social electricity tariff on the householders' ability to pay electricity bills by the due date seems to be sensitive to the severity of winters (García Alvarez and Tol 2021). Advocates agree that the discount is "insufficient" to ensure adequate protection against electricity disconnections (Guiteras 2018). In addition, the lowering of the discount rates (65% and 80% in 2022, and 35% and 40% in 2023) has increased the burden of electricity costs above the – in Spain deemed - acceptable rate of 2.65% of income (Sindic 2023). The Catalan Ombudsperson (Sindic 2023) calls for a continuation of the reduced VAT of 5% (down from 21%) for all vulnerable households which had been introduced as an emergency measure in 2022.

Cost allocation has been another contentious aspect of the Spanish social tariff for electricity. The discounts are not financed through the state budget or public cross-subsidies but by energy companies and consumers. Until recently, the sole responsibility for funding fell on retail companies that were “not allowed to pass these costs through to consumers” (Mastropietro 2022:3). Energy retailers challenged this rule in both Spanish and European courts (Mastropietro 2022). The Royal Decree Law 6/2022 changed the funding mechanism so that the costs are now shared by the electricity generators, distributors, retailers and electricity consumers (Heller et al. 2024). All electricity consumers in Spain contribute to the financing of the Bono Social through a daily charge on their bills. In 2025, this contribution was EURO 0.012742/day (Evergreen Electrica 2025) or EURO 4.65/year. The administrative burden falls on the local governments (Guiteras 2018; Mastropietro 2022).

In addition, blunt criteria have been controversial. Until recently, large families were eligible for the social discount even if they did not present a low income (Síndic 2023), which led to inequities in the distribution of the discount (Cadaval et al. 2022). The introduction of this limit (Endesa 2025) would have improved the equity of this energy concession (Síndic 2023). Differences in dwelling type and energy efficiency, however, which can also influence the effectiveness of the discount (Cadaval et al. 2022), are still not considered.

In addition, energy bills should be simplified so that all households are able to understand the terms and conditions. The Ombudsperson demands that utility companies should be transparent in their pricing mechanisms and inform their customers about assistance programs (Síndic 2023). Current energy assistance (Desvallées et al. 2020; Willand et al. 2024) is carried out via charities and non-governmental organisations that provide immediate practical help with switching to cheaper, lower capacity and regulated contracts, applications for the social bonus and establish the vulnerability status that may provide legal protection against disconnections. In addition, these trusted energy advisors help people understand their energy consumption and offer low-cost energy retrofits (Desvallées et al. 2020; Willand et al. 2024).

Accessing the social electricity bonus if eligible is key for enhanced disconnection protection. However, the electricity social bonus does not reach all those who would benefit from this concession (Collado Van Baumgrghen and Martinez Jorge 2024; Gallego and Cabrero 2018). The responsibility for applying for the social bonus lies with the customer. There seem to be a significant number of vulnerable households who are eligible but do not apply for this energy concession. Estimates in 2016 suggest that two out of five eligible households were missing out.²⁹ An analysis by the EsadeEcPol think tank (Collado Van Baumgrghen and Martinez Jorge 2024) in 2024 confirms an ongoing low coverage rate of the social bonus (24.5%), especially among low-income households (20%) and just 9.2% for retirees receiving the minimum pension.

The literature suggests several reasons, including lack of awareness and information about the scheme and the application process, stigma, limited digital literacy, reluctance of customers to change and refusal of landlords to permit a change in contract (Antepara et al. 2020; Gallego and Cabrero 2018). The application for the social bonus is free, however, there is evidence of

²⁹ In 2016, 4.5 million people were considered to be in energy poverty in Spain by the varied measures, but only 2,414,507 customers (equal to 5.365%) received the social electricity bonus (Gallego and Cabrero 2018).

fraudulent services that demand fees for the handling of the application (Endesa 2025). Such service offers may reflect the burden of the application process (Antepara et al. 2020; Gallego and Cabrero 2018). The application requires the presentation of a completed form and numerous documents, including municipal registration certificates, low-income confirmation etc. (Endesa 2025). This process is difficult due to the number and type of documents that are required, demanding calls that “red tape” must be removed from the electricity social discount application process” (Síndic 2023:11). Intermediaries in social services may have an important role in identifying and connecting vulnerable households to assistance like the social bonus, however they tend to lack the knowledge and skills (Antepara et al. 2020). The leading electricity retailer in Spain Endesa claims that it has “proactively” engaged with intermediaries to inform and train them in energy assistance and how to help customers apply for the social bonus (Endesa 2024a).

In addition, the discount is “is not automatically applied to social housing” (Síndic 2023:11). The Catalan Ombudsperson (Síndic 2023) calls for an automatic guarantee to the social electricity discount. Further, households who are not the contractual entity on the energy bills are excluded from any assistance or protections (Síndic 2023; Willand et al. 2024). These householders may be renters, illegal migrants and squatters who are in housing precarity (Síndic 2023; Willand et al. 2024).

Moreover, the eligibility criteria are inert and cannot respond to sudden changes in a household’s circumstance. The eligibility criterion for income is based on the income tax declaration of the previous year. This means that households who suffer sudden income losses are not eligible (Síndic 2023) and those who gain in income may be recipients without really needing it.

In addition, misalignment between poverty risk thresholds and electricity social bonus income thresholds mean that households are ineligible for the energy discounts even though they are officially living below the poverty line (Síndic 2023). According to the Ombudsperson, these mismatches result in two out of three people at risk of poverty and one in four people experiencing severe material deprivation to miss out on this income support (Síndic 2023). According to Eurostat (Eurostat 2024), material deprivation refers to the inability to afford a set of specific goods, services, or social activities that are considered by most people as essential for an adequate quality of life. Criteria applied to assess the quality of life include the ability to heat the home adequately, afford a protein-based meal at least 3 times a week, go on a week’s holiday once a year, pay bills on time and possess a car, television and washing machine (Mussida et al. 2023). In addition, some households may be protected from disconnections but ineligible for the electricity social bonus (Síndic 2023).

6.4.3 Thermal Social Bonus, Discount or Tariff

The thermal social bonus has been in place since 2018 (Síndic 2023) to help with the costs of heating, hot water services and cooking independent of the fuel used (Endesa 2021). In contrast to the percentage value of the social electricity bonus, the Thermal Social Bonus is an annual allowance that changes based on the consumer’s geographic location and level of vulnerability (Endesa 2021). With regards to heating, electricity seems to be the predominant fuel among vulnerable households (Tirado Herrero and Jiménez Meneses 2016; Willand et al. 2024).

The requirements are similar to those for the electricity bonus and consider household income and composition. Eligibility for the electricity social bonus automatically transfers into eligibility for the thermal social bonus (Endesa 2021). The thermal bonus is a grant paid by the household’s local

government once a year into the bank account of the individual who is responsible for the energy contract. The amount of the grant is reviewed every year. In 2021, the average amount was EURO 90 (Endesa 2021). The amount for households in the most severe level of vulnerability, that is 'severely vulnerable customers at risk of social exclusion', is 60 per cent more than that given to vulnerable customers in that climatic region (Endesa 2021). In 2023, the Thermal Social Bonus ranged from a minimum of EURO 40 to a maximum of EURO 375 per household and per year (Marin et al. 2023).

The costs of the thermal social bonus are government funded. In 2023, the thermal social bonus budget was doubled from the year before to a total of EURO 453 million (SocialWatt 2023). Information on the 2024 budget for the thermal social bonus were not readily available. The estimated total cost for the electricity social bonus in 2025 is EURO 284.8 million (CNMC 2024a). The Ombudsperson (Síndic 2023) claims that many vulnerable households are experiencing delays in the receipt of this energy concession because the funds have to be transferred from the federal to the regional governments (Síndic 2023).

6.5 Full disconnection prohibitions

At the time of writing (February 2025), full disconnection bans in Spain were in place for life support customers and all recipients of the electricity social bonus. A full disconnection prohibition for households on the social electricity bonus was introduced by the Spanish government in 2021 in response to the energy crisis triggered by the crisis in Ukraine. The full disconnection ban needs to be re-considered yearly and has recently been extended until the 31 December 2025 (Presidency of the Government of Spain 2025).

Prior to these emergency regulations, certain categories of customers experiencing health and/or energy vulnerabilities could never be disconnected from the electricity supply. These included:

- Households with members with critical, **medical life support equipment**
- **Customers who receive the electricity social bonus, AND** who have at least one child of 16 year or younger, **OR** include a household member with a disability of at least 33%³⁰ **OR** include a household member who needs help at least two to three times/day as confirmed by the local Social Services department.
- households "**with severe vulnerability protected by the social discount rate** and who are attended to by the social services, based on their income and their risk of social exclusion" (Spanish Government Directorate-General of Public Governance 2024). For these 'severely vulnerable customers at risk of social exclusion', the retailer and local government share the electricity bill that is under a regulated contract (Endesa 2025; Spanish Government Directorate-General of Public Governance 2025).

Customers that receive the social bonus and have not paid their bills after a 4 month grace period experience a power reduction to 3.5kW (Spanish Government Directorate-General of Public

³⁰ Examples of disabilities equal or greater than 33% include neurodegenerative and osteoarticular disease and mental health impairments (Statista 2023).

Governance 2024). A contracted power of 3.5kW means that a household can run a refrigerator, a washing machine and a television set simultaneously (Poupa Energia 2025).

6.6 Voluntary disconnection restraint by Endesa in Catalonia through an agreement with the Catalan Government

In the Spanish region of Catalonia, electricity customers of the retailer Endesa who are at risk of housing exclusion and in arrears on their bills are supposedly currently fully protected from power disconnections through an agreement with this retailer and the Catalan Government. However, the agreement does not seem to be fully effective.

In 2021, Endesa entered a voluntary agreement with the Catalan Government. This agreement aimed to prevent the accumulation of utility debt while a household is protected under the disconnection ban established by Law 24/2015 (Ajuntament de Barcelona 2021). The agreement reached has supported families living in energy poverty through debt write-offs that leave households debt free. Endesa agreed to cover 73 per cent of the debts accumulated by 35,000 households between 2015 and 2021 (“more than EURO 28 million”) with the Catalan government and local Councils sharing the remainder (EURO 10.36 million; 75% and 25% respectively)³¹ (Ajuntament de Barcelona 2021; Right to Energy Coalition 2021). This scheme effectively reduced the risk of supply disconnections. It seems that after 2021, local authorities were going to pay half of what was owed to the energy company (Ajuntament de Barcelona 2021), and the remaining half was to be waived by the electricity retailer (McRae 2023). Social activists interpreted this agreement as their success (APE 2024).

6.6.1 Effectiveness

By 2023, at least 116,000 ³² vulnerable households had their energy debt written off, amounting to EURO 18 million in outstanding payments (McRae 2023). However, the Alliance against Energy Poverty (APE) claims that debt waivers have not been implemented for Endesa customers in Catalonia since 2022 (APE 2022, 2024). In addition, the debt waivers only covered existing debts and did not address future debts. The Catalan Ombudsperson suggests “it would be beneficial to implement comparable criteria for the payment of future debts” (Síndic 2023:16). It is not clear whether households can continue to accumulate debt through non-payment of bills.

Further, the Alliance against Energy Poverty calls for the agreed establishment of a solidarity fund with at least half of the funds contributed by the companies. In April 2024, the APE claimed that the solidarity fund intended to prevent debt accumulation under the 2021 agreement had yet to take effect (APE 2024).

In addition, the APE also advocates for a more ambitious rollout of ‘social meters’ for households irregularly occupying their homes and the extension of similar agreements with other energy suppliers (APE 2022, 2024). At present, the debt waiver only protects Endesa customers and not

³¹ If 73% equals EURO 28 million (Right to Energy Coalition 2021), then 27% is equal to EURO 10.6 million.

³² 35,000 + 41,000 = 76,000 (McRae 2023); 116,000 families (McLaren-Kennedy 2023).

customers of other companies, such as the other big companies Naturgy (formerly Gas Natural Fenosa) and Iberdrola (Síndic 2023). Market share information for the residential electricity market in Catalonia was not available, however, these three companies supply over 75 per cent of all electricity customers across Spain (Statista 2024).

With regards to the cost burden, Catalan taxpayers share the burden of the debts that are covered by their government through the Endesa debt waiver agreement. Spanish researchers note that electricity customers who receive financial help from the local governments, and thus the taxpayer, should be on the cheapest contract (Antepara et al. 2020). Therefore, providing energy contract advice before households experience payment difficulties would be reduce the public cost burden.

Moreover, challenges remain with regards to the eligibility criteria. Electricity prices under social bonus contracts are considerably cheaper than free market ones. Some households are fully protected from electricity disconnections through the agreement with Endesa as they are considered “at risk of housing exclusion” but ineligible for the social electricity bonus. Considering that Catalan taxpayers pay some of the energy bills, the ineligibility of some households for the social electricity bonus means that Catalan taxpayers carry an avoidable financial burden (Síndic 2023).

Finally, the Catalan Ombudsperson calls for a dedicated government authority in charge of all energy poverty matters and “a network” of energy assistance to guide householders in the management and reduction of their energy use (Síndic 2023:17).

6.6.2 Compliance

In addition to the financial contribution to debt forgiveness or non-refundable grants, local authorities in Catalonia also ensure compliance with Law 24/2015 by issuing reports to prevent disconnections and providing social services support to vulnerable households. Additionally, they coordinate initiatives like Energy Advice Points to assist families in navigating energy rights and financial aid (EuroCities 2023; Tirado Herrero 2020). However, there is a gap in understanding the compliance of the agreement between Catalan Government and Endesa, as no report had been published by 2023 (Síndic 2023).

6.7 Disconnection moratoria

Spain presents extended payment timelines for vulnerable and severely vulnerable customers up to 10 months at times when they are not fully protected by emergency measures. Pre-2021, vulnerable and severely vulnerable customers could only be disconnected from their power supply after 10 months (4 months grace period and 6 months on reduced power supply of 3.5kW).

Vulnerable and severely vulnerable customers have an extended period to settle unpaid bills (4 months compared to the standard 2 months for other consumers) (Spanish Government Directorate-General of Public Governance 2024), and the retailer must inform the relevant social services about the reminder and disconnection notice to these customers (Gallego and Cabrero 2018). If payment is not made, after this 4-month period following the first payment request notification, then the power supply is reduced to the Minimum Vital Supply (SMV, *Suministro Mínimo Vital* in Spanish) for six months (Spanish Government Directorate-General of Public

Governance 2025). The SMV is a reduced power supply of 3.5 kW for all relevant customers who have contracts with a greater amount, accommodating the operation of a refrigerator, a washing machine and a television set simultaneously (Poupa Energia 2025). Hence, vulnerable customers in Spain are protected from disconnections for 10 months past the due date (Spanish Government Directorate-General of Public Governance 2025). Disconnection may occur after this grace period.

Since 2021, vulnerable consumers under the social bonus have been protected by a full disconnection ban (Spanish Government Directorate-General of Public Governance 2024). The full protection of vulnerable customers from disconnections was established in 2021 in response to the energy price crisis caused by wars in Ukraine and the Middle East (Spanish Government Directorate-General of Public Governance 2024) and is reviewed every year. The full disconnection protection for these vulnerable populations groups has been extended to the end of 2025 (Presidency of the Government of Spain 2025).

6.8 Costs of disconnection bans

The costs of disconnection bans to retailers in Spain were not readily available. The Spanish electricity sector recorded a surplus of EURO 3,902.9 million in the 2023 financial year (CNMC 2024c). In 2024, Endesa recorded a higher-than-expected net profit of approximately EURO 1.8 billion (Lombardi 2024), indicating that Endesa remained financially stable despite the costs associated with the Catalan agreement.

7 Ireland

7.1 History of disconnection bans

Protection against disconnections for selected households have been in place in Ireland at least since 2010 (ERGEG 2009), and there is evidence of a winter energy disconnection moratorium for protected customers as early as 2016 (Dobbins et al. 2016). In 2020, Electric Ireland introduced a general stop to energy disconnection during autumn “to ensure those customers will be protected and have peace of mind during the winter months as we deal with the challenges of the COVID-19 pandemic restrictions” (Electric Ireland 2020). In 2022, the usual three-week disconnection moratorium over Christmas was extended in duration and eligibility to all households in response to increasing energy prices (CRU 2023a; Houses of Oireachtas 2022) but shortened every year since. In addition, in 2014, a group of retailers introduced the Energy Engage Code as a voluntary code to help customers in arrears or at risk of disconnection maintain their energy supply. From its inception, the Code's fundamental principle has been that suppliers commit to never disconnecting an engaging customer (Dingley 2023a).

7.2 Disconnection rate

Disconnections of credit meter accounts for non-payment are rare in Ireland, possibly due to prepayment hardship meters and voluntary disconnection restraints by retailers. In 2022, electricity disconnections for non-payment in Ireland were less than 0.5 per cent and significantly below the European average (ACER and CEER 2023). In 2024, the average number of electricity disconnections was 84, which was a fraction of the 660 average disconnections pre-COVID (CRU

2024a). The 2024 rate of disconnection for bill paying residential customers was very low (estimated 0.0037%³³) despite Ireland having the second highest electricity prices in Europe in that year (EURO 0.3736/kWh)³⁴ (Tait 2025).

7.3 Energy market

In Ireland, there are 2.2 to 2.3 million residential electricity customers (Hearne 2024; Houses of the Oireachtas 2022). Prior to 2000, the Electricity Supply Board (ESB) held a monopoly over the supply of electricity in Ireland. The Commission for Regulation of Utilities (CRU; formerly the Commission for Energy Regulation, and the Commission for Electricity Regulation) was established in 1999 as a national regulatory authority to oversee the transition to a liberalised electricity market (Gaffney et al. 2017). EirGrid was established in 2006 as the electricity Transmission System Operator for Ireland (EirGrid 2025), assuming the role from the ESB. The majority of ESB's shares are held by the Irish Government (Electric Ireland 2025) and the retail division of ESB was rebranded to Electric Ireland in 2012 (Electric Ireland 2025). There are currently 12 residential electricity retailers in Ireland (CRU 2025b). Electric Ireland is claiming to be the largest energy supplier with 1.1 million gas and electricity customers (ESB 2024).

Customers in Ireland may have a credit or a prepayment meter. Prepayment or Pay As You Go (PAYG) meters allow customers to prepay for their electricity usage either out of choice or, as "hardship meters". Retailers offer hardship meters to customers who face payment difficulties to help them manage their electricity consumption and avoid accumulating debt. Prepayment meters are generally offered as a voluntary option, but suppliers may install prepayment meters as a last resort (CRU 2023b:Clause 5.8.3). Prepayment meters come with certain consumer protections such as cap on debt recovery rates, emergency credits and 'friendly credit' periods (CRU 2023b; Electric Ireland). In March 2024, 1.48 per cent of Irish electricity customer had a hardship meter (CRU 2024a)³⁵.

7.3.1 Regulatory framework

The Commission for Regulation of Utilities (CRU) (CRU 205) is Ireland's independent energy and water regulator that tries to balance fairness in the treatment of customers and competitiveness of the single electricity market. Its role and responsibilities encompass the economic regulation of the electricity, gas and water sector as well as customer protection. With regards to customers, it provides information on consumer rights, opportunities in negotiating the market and obligations of energy companies, as well as a free dispute resolution service for customers who have unresolved

³³ Based on 84 disconnections among 2.25 million residential electricity customers (Hearne 2024; Houses of the Oireachtas 2022).

³⁴ By comparison, France's electricity price was ranked in the top third (EURO 0.2776/kWh) and Spain in the middle (EURO 0.2436/kWh) of all European countries (Tait 2025).

³⁵ Based on about 32,500 customers on PAYG hardship customers (CRU 2024a) and 2,200,00 electricity customers (Houses of the Oireachtas 2022).

complaints with energy suppliers or network operators (CRU 205). The CRU also accredits Ireland's three price comparison websites (CRU 2025a). The current retailer obligations are published in the CRU's *Electricity and Gas Suppliers' Handbook 2023*, which contains a Section called 'Code of Practice on Disconnections' (CRU 2023b).

7.3.2 Billing frequency and smart meter prevalence

In general, electricity customers in Ireland receive their bills every two months (Citizens Information 2025; Tait 2025), and readings of actual usage take place at least every three months (Citizens Information 2025). With the roll out of smart meters, bills will become a more accurate reflection of a household's electricity usage (Citizens Information 2025). The Irish energy regulator expects all households to have a smart meter by the end of this year (2025) (CRU 2025c).

7.3.3 Definition of vulnerability and energy poverty

Definitions of vulnerable customers and their protection from disconnection are laid out in the European Communities (Internal Market in Electricity and Gas) (Consumer Protection) Regulations of 2011 (S.I. No. 463 of 2011) (S.I. No. 463/2011 2011) and reflected in the CRU handbook (CRU 2023b). In Ireland, two types of vulnerable customers are recognised:

- 1) Customers that are critically dependent on electrically powered equipment, including life-supporting devices, assistive technologies, and medical equipment. Retailers must keep a record of these customers in the **Priority Services Register** (S.I. No. 463/2011 2011). Eligibility does not seem to be means-tested.
- 2) Customers who are particularly vulnerable to disconnection during winter months due to advanced age or physical, sensory, intellectual, or mental health reasons (CRU 2023b). Vulnerability is extended to household members that are ...

"[...] 66 or over and live alone, with minors or other older people with physical, sensory, intellectual or mental health needs". (EAI 2023b:8)

Retailers must keep a record of these customers in the **Special Services Register** (S.I. No. 463/2011 2011). In March 2024, there were 87,042 registered vulnerable customers (CRU 2024a).

Customers must self-identify as a vulnerable customer and to initiate their registration with the retailers.

The CRU also refers to "hardship customers", "financial hardship customers" and "customers in difficulty", yet does not offer specific definitions for these categories of customers (CRU 2023b). The terms refer to customers who are having trouble meeting their bill obligations due to financial difficulties or uncertainties. Some retailers who are a part of the Electricity Association of Ireland (EAI), such as Electric Ireland, set up financial hardship funds between 2020 and 2023 to assist these customers with discounts or energy credits (Electric Ireland 2022), however there was no indication that this fund was still active at the time of writing (January 2025). Nonetheless, all energy suppliers are obliged by the Commission for Regulation of Utilities (CRU) to assist customers experiencing financial difficulties with alternative payment plans and other support measures (CRU 2024a).

During the winter of 2022 to 2023, the Irish government also introduced additional measures to improve the affordability and risk of disconnections, such as the requirement for energy suppliers

to place customers in financial hardship on the cheapest available tariff (Government of Ireland 2022). These extraordinary requirements have been lifted (Government of Ireland 2024).

7.3.4 General disconnection safeguards, e.g. mandatory reminder and warning notices before disconnections – timelines

7.3.4.1 Ordinary electricity customers in Ireland

Customers typically receive monthly or bi-monthly bills based on their actual energy usage (Tait 2025). Payment is due within 14 days but immediately if the account is in arrears. The retailer must contact the customers with arrears at least four times with at least three working days between each of these attempts to reach the customer and at least 10 working days between the written letter of intent of disconnection and the request to the distributor (CRU 2023b). Assuming that there is a 2-day weekend after 5 working days, customers have at least 19 days³⁶ after the due date before disconnection occurs. Disconnections are also prohibited on “a Friday, Saturday, Sunday, eve of a Public Holiday or a Public Holiday” (CRU 2023b:44). Customers may accrue debt even if they are disconnected as “standing charges may still apply if the disconnection goes ahead” (CRU 2023b:44).

In Ireland, disconnections or de-energisations for non-payment are also regarded “as a last resort” (CRU 2023b:39). Retailers must try to “minimise the number of customers that are disconnected for non-payment” (CRU 2023b:39). Currently, extra protection measures place more responsibility on retailers to offer hardship meter customers more favourable conditions. Retailers also have to “to actively promote the vulnerable customer register and the protections it offers, promote how customers can have a ‘nominated representative’ manage their account, and how customers can sign-up for level payment plans.” (CRU 2024b). This measure has proven successful, as the number of electricity customers on the vulnerable customer register has risen by 80 per cent between September 2022 and April 2024 (CRU 2024a).

Retailers must have their own ‘Code of Practice on Disconnections’ and have a duty to inform customer with payment difficulties about and support them to avoid disconnections , through

- payment plans of up to 24 months and longer at the supplier’s discretion. This minimum repayment period has been reduced to 18 months in 2024, but customers can complete their repayments earlier (CRU 2024a).
- advocacy from recognised charities and financial counselling organisation (CRU 2023b).
- offer to swap the credit meter to a pre-payment meter (CRU 2023b) .

Staff needs to be “appropriately trained” (CRU 2023b:40) and “and hear each case sympathetically” (CRU 2023b:41). Suppliers may disconnect customers if they fail to make repayments according to the payment plan. The design of payment plans may not be optimal. In April 2024, 17,549 residential electricity customers in Ireland had a payment plan, 37 per cent (4,819) plans had been completed and half of these payment plans (50.33%; 8,833) had been cancelled (“broken”) (CRU 2024a).

³⁶ 3+3+3+10 = 19 days

In addition, individual retailers may put in place additional customer support measures. For example, last year, Electric Ireland decided to refrain from passing on an increase to electricity customers. Electric Ireland estimates that this measure will provide an average annual saving of EURO 101 (ESB 2024).

Further, since 2020, some of the major retailers in Ireland have set up financial hardship funds to support customers who need assistance in paying their energy bills. The first to implement one of these funds was Electric Ireland. Since December 2020, Electric Ireland has provided EURO 8 million in funds to customers having trouble paying their energy bills (Electric Ireland 2022). At least some of this money is from forgone profits from its residential electricity business (Electric Ireland 2024). Access to the fund is administered by the Society of St. Vincent de Paul (SVP) and the Money Advice and Budgeting Service (MABS) on behalf of the retailer, in the form of energy credits (Electric Ireland 2022). Customers must have been with Electric Ireland for at least 12 months, and the account must be live to avail of the fund (Electric Ireland 2022). The credits may only be used against energy usage.

7.3.4.2 Extraordinary measures to support hardship customers with a prepayment meter

Extraordinary measures to support PAYG hardship customers were put in place in 2022 and have been extended to the Irish summer of 2025 (CRU 2024b). These extraordinary measures include the requirements that retailers to reduce the debt repayment levels on top-ups from 25 per cent to a maximum of 10 per cent (CRU 2024b; Government of Ireland 2022). Hence, for every EURO 20 that are put onto the hardship meter, only EURO 2 (instead of EURO 5) contribute to the repayment (Houses of the Oireachtas 2022). Additionally, retailers must automatically place these customers on the most economical tariff available (CRU 2024a). In addition, customers of hardship meters qualify for the government Electricity Account Credit, even if their usage is below the threshold of 150kWh per three months (Citizens Information 2024a).

7.4 Financial support for customers

The Irish government supports energy consumers financially through varied grants and concession. As part of the 2025 budget, the Irish government has allocated EURO 250 to all residential credit and prepayment meter customers other than those on very low consumption (CRU 2024c). This universal energy grant has attracted criticism from charities, social justice and community organisations for its unequitable approach (Friends of the Earth 2024). These civil society organisations advocate for financial support targeted at economically disadvantaged customers, including higher social welfare benefits, and measures that promise sustained relief as well as carbon emission reductions, such as retrofit support and a Community Energy Advice Service (Friends of the Earth 2024).

In addition, eligible customers can apply for an annual fuel allowance that currently amounts to EURO 33 for 28 weeks (Citizens Information 2024b). The fuel allowance is means tested and targeted at singles, single parent and other households on a low income or social welfare payments (Citizens Information 2024b) and has proven effective in the past (Pillai et al. 2023). The fuel allowance amount has decreased since 2022 and 2023 (Dingley 2023b). Consumer advocates call for the reinstatement of the higher grants (Friends of the Earth 2024).

A further scheme is the Household Benefits Package that is awarded to electricity and gas account holders who, in general, are 70 years or older and of all income levels. Means-testing only applies

to younger applicants (Citizens Information 2024c). In 2023, the Household Benefits Package was worth EURO 35 per month (Dingley 2023b).

7.5 Full disconnection prohibitions

Ireland presents some legal disconnection prohibition as laid out in Clause 5.4.2 of the Electricity and Gas Suppliers' Handbook 2023 (CRU 2023b) and some voluntary constraints. Full disconnection prohibitions apply to five groups of customers: Priority services customers, customer who are honouring their payment plans, customers who have made a complaint about the bill amount, customers who have failed to pay a good or service that has been offered in addition to the supply and customers who dispute a bill that was estimated at no fault of the customer.

7.5.1 Priority services customers

In Ireland, a permanent disconnection prohibition is in place for vulnerable customers who are “registered as priority services customers” (Citizens Information Board 2024). When a customer depends on a recognised life support system and is properly registered with their supplier as per the guidelines outlined in the ‘Code of Practice for Vulnerable Customers’, then the customer is protected from disconnection for non-payment of bills at any time (*S.I. No. 463/2011* 2011; CRU 2023b:Clause 5.4.2)

7.5.2 Customer who are honouring their payment plans

Any customer that has started a payment plan with the retailer and is “honouring that arrangement” (CRU 2023b:Clause 5.4.2) These plans must consider the customer's ability to pay (CRU 2023b).

7.5.3 Customers who have made a complaint about the bill amount

If a customer is following the supplier's specified complaint handling procedures for a bill related to the reason for disconnection, the supplier cannot proceed with disconnection until the complaint process has been fully completed. The customer is required to pay all other bills while the complaint process is ongoing (CRU 2023b:Clause 5.4.2).

7.5.4 Customers who have failed to pay a good or service that has been offered in addition to the supply

Customers may not be disconnected for non-payment of a bill that is unrelated to the electricity or gas supply. These goods and services may include a hire purchase agreement for buying an electrical appliance or gas boiler (CRU 2023b:Clause 5.4.2).

7.5.5 Customers who dispute a bill that was estimated at no fault of the customer

In general, electricity charges should be based on actual meter readings. If the bill is based on an estimated bill without causes such as denied access to the meter, and the estimate does not align with the customer's usual consumption pattern, then the customer can dispute the bill and should not face disconnection. Retailers may follow additional disconnection restraints at their discretion (CRU 2023b).

7.6 Voluntary disconnection restraints by retailers that follow the voluntary Energy Engage Code

Customers who are struggling to pay their electricity bills but are engaging with their retailers are protected from disconnections throughout the year if their retailer has signed up to the voluntary Energy Engage Code (Dingley 2023a). The Energy Engage Code was launched in May 2014 and remains an active voluntary code of practice for energy suppliers (Dingley 2023a). The code is designed to protect customers from disconnection and ensures that those struggling with energy bills can still access energy services in their homes (EAI 2023b). The CRU states that “the [legally required] customer protections are complemented by the supplier Energy Engage Code, that provides a further level of security for domestic electricity and gas customers” (CRU 2024b).

At the time of writing (January 2025), eight out of the twelve residential electricity suppliers in Ireland had signed up to the Code: Bord Gáis Energy, Electric Ireland, Energia, FloGas, Pinergy, PrepayPower, SSE Airtricity and YunoEnergy (EAI 2025). The exact proportion of households in Ireland signed up to energy suppliers participating in the Energy Engage Code is not explicitly stated in the available sources. However, consider that Electric Ireland is supposedly the energy retailer with the most (1.1 million) gas and electricity customers (ESB 2024), Bord Gáis Energy claims to service over 514,000 residential and business customers across Ireland (Centrica 2025), and Energia claims to have 189,200 residential electricity customers in the Republic of Ireland (Energia Group 2025:19), we deduce that the Energy Engage Code suppliers collectively represent a significant share of the Irish electricity market.

The Energy Engage Code takes a preventative approach as it is not only directed at those customers who are not able to pay but also at those who are concerned that they may be at risk of bill arrears (EAI 2023b). Suppliers who have signed up to the Energy Engage Code commit to never disconnecting an ‘Engaged Customer’.

Engaged Customer is defined as a customer who is communicating with the retailer directly or through a charity or free financial counselling service (EAI 2023b). Payment options include paying equal amounts throughout the year (bill smoothing), a negotiated payment plan, “repayment holidays [which are] short breaks from repayments” (EAI 2023b:8) and a pre-payment meter (EAI 2023b). Customers who are concerned but not in debt are offered “guidance and support on how to manage [their] bills [and] information on energy efficiency measures” (EAI 2023b:4). Retailers that have signed up to the Energy Engage Code may also offer information on how to improve the energy efficiency of the home in terms of

- *advice including a BER (Building Energy Rating) assessment*
- *grant information*
- *installation of new windows, solar panels or other measures. (EAI 2023b:10)*

The Energy Engage Code allows for rapid changes in financial circumstances and renegotiation of repayment plans (EAI 2023b).

7.6.1 Effectiveness

Eurelectric claims that the Energy Engage Code

“is effective in reducing the number of customers disconnected and provides information to all customers on how they can manage arrears” (Eurelectric 2024:20).

The Electricity Association of Ireland claims that this voluntary, electricity retailer-led “initiative has prevented thousands of disconnections since its inception in 2014” (EAI 2023a). Eurelectric adds that

“In practice, under Supplier Handbook obligations and Energy Engage Code, customers already have adequate protection from the risk of disconnection, given the disconnection process can take up to 14 weeks from start to finish with a non-engaging customer.

Around 85% of customers engage with their supplier and make payment on arrears between receiving the final notice of disconnection and the request for the disconnection to be progressed through the DSO (Eurelectric 2024:20)

Exact numbers or an evaluation of the Energy Engage Code by independent sources was not readily available.

7.6.2 Gaps in protection

By design, customers who do not have a contract with any of the signatories to the Energy Engage Code, are missing out on these protections. These would be the customers who have contracts with the smaller energy suppliers in Ireland, such as Arden Energy, Community Power, Expower and Water Power.

7.7 Disconnection moratoria

Ireland presents some legal disconnection moratoria as laid out in Clause 5.4.2 of the Electricity and Gas Suppliers' Handbook 2023 (CRU 2023b). In addition to the short protection from disconnection on “Friday, Saturday, Sunday, eve of a Public Holiday or a Public Holiday” (CRU 2023b:44), Ireland presents a winter moratorium. The winter moratorium on electricity disconnections differentiates between vulnerable and other residential customers in terms of duration.

7.7.1 All customers during the winter moratorium

Currently, residential electricity customers in Ireland may not be disconnected between 9 December 2024 and 17 January 2025 (CRU 2024b). This winter truce period or “Christmas Moratorium” for all residential electricity customers was first introduced as an emergency measure in 2022 has been announced again for the current (2024-25) winter.

7.7.1.1 Effectiveness

The CRU (CRU 2024b) is critical of the winter grace period for all customers. The CRU states that extended winter moratoria that have been in place since 2022, are not effective in reducing customer debts, claiming that customers may abandon communication with their retailers and that it places additional financial burdens onto customers:

The data has shown that arrears levels are trending at historically high levels, both in terms of the value of arrears levels overall and the average value of a customer’s account in arrears. (CRU 2024b).

In addition, the CRU claims that the prohibition on electricity disconnections in the 2022-23 winter resulted in consumer apathy and high default on repayment plans because of the long duration of the moratorium (2023). The CRU requested a shorter moratorium for the 2023-24 winter (2023). The winter moratorium for all customers has been shortened this winter (2024-25). Lump sum energy grants seemed to ease the financial stress of accumulated debt during the winter disconnection ban (Weston 2025).

Additionally, the Electricity Association of Ireland has raised safety concerns regarding universal winter moratoria. The 2022-23 winter moratorium included a blanket ban on disconnections, even for empty dwellings, which may have posed safety risks (Foxe 2023).

7.7.2 Vulnerable customers during the winter moratorium

Customer that are duly registered with their retailer according to the guidelines of the Code of Practice for Vulnerable Customers may not be disconnected for non-payment of bills during the winter period (from 1 November to 31 March every winter) (CRU 2024b). This period is longer than the three weeks provided to other customers.

7.8 Costs of disconnection bans

The costs of disconnection bans to retailers in Ireland were not readily available. However, approximately 230,000 electricity customers were in arrears in April 2024 (CRU 2024a). The average debt of electricity customers in April 2024 was EURO 454.97 (CRU 2024a). The accumulated value of electricity arrears from residential customers was about EURO 110 million (CRU 2024a). The Electricity Association of Ireland raised concerns about “people gaming the system” with the energy regulator Commission for Regulation of Utilities (CRU). Debts, some “exceeding €10,000” without any intention of settling them meant that suppliers had to carry the financial burden (Foxe 2023).

Further, the universal winter disconnection moratorium may have led to avoidable financial burden for customers. The blanket ban on disconnections in the 2022-23 winter may have resulted in unnecessary energy consumption and costs for consumers, as empty dwellings could not be disconnected even at the request of the account holders (Foxe 2023). The Electricity Association of Ireland put forward that asking other customers to carry the burden of these debts was unfair (Foxe 2023).

8 Cross-country comparison

In this Section, we summarise our findings across the three European countries and compare them with the rules and outcomes for consumers with billed electricity contracts in the AER responsible Regions (AERrR), and Victoria. We identified varied types of disconnection bans, eligible population groups and operational mechanisms as well as their effectiveness.

The review found that disconnection ban is an umbrella term for varied forms of protections against disconnection from grid electricity supply. We distinguish between **four types** of disconnections prohibitions, namely year-round legal disconnection prohibitions, winter disconnection moratoria, disconnection moratoria as extended timelines to pay and basic individual supply mechanism for

some ‘protected’ households and voluntary continuous disconnection restraints by energy companies, and highlight temporary emergency measures (Table 2).

How do electricity disconnection bans work?

Disconnection ban category/ Jurisdiction	France	Spain	Catalonia	Ireland	Australia – regions governed by Australian Energy Regulator and Victoria
Full, year-round disconnection prohibitions – by law	Customers who have applied for financial assistance through the Solidarity Fund for Housing.	Registered life support customers; *since 2022: all social bonus recipients		Registered life support and customers paying off debt; those with a formal complaint or estimated bill	Registered life support customers, 'engaged' customers, and those paying off debt; those with a debt less AU\$300, a formal complaint or pending application for energy concession/relief. VIC; water vulnerable customers.
Disconnection moratoria – grace periods prohibiting immediate cut-off with or without reduced supply	All customers: reduced supply 1kVA for at least 30 days. Smart meter customers: reduced supply 1kVA for at least 60 days. Energy Cheque beneficiaries - additional 30 days for payment and basic individual supply mechanism of 1kVA for 60 days .	Pre-2022 : Social bonus recipients (vulnerable and severely vulnerable customers): additional 2 months to settle unpaid bills followed by reduced power supply (3.5kW for 6 months (=10 months extension in total). *Since 2022: no social bonus recipient may be disconnected		All customers: no disconnections on Fridays, weekends, public holidays and the days before a public holiday.	All customers: no disconnections between 2pm/3pm and 8am, on Fridays, weekends, public holidays and the days before a public holiday, between 20-31 December and extreme weather events
Disconnection moratoria – winter truce period	All customers: with reduced supply 3kVA; Energy Cheque recipients: no power reduction	-		Vulnerable customers; *in 2025: All customers but for a shorter period	-
Voluntary continuous disconnection restraint by energy companies	Since 2022: EDF maintains a minimal power supply (1 kVA) for all their customers	-	Since 2021: Endesa is sharing debt with Catalan and local governments	Since 2014: 8 of 12 Irish retailers who have signed up to the voluntary Energy Engage Code will never disconnect an 'Engaged Customer'	-

Table 2 Overview of disconnection prohibition types and eligible groups across France, Spain (with special consideration of Catalonia), Ireland and Australia. An asterisk (*) indicates a temporary emergency measure.

8.1 Year-round disconnection prohibitions – by law

Year-round disconnection prohibitions by law are provided to targeted households in Spain, Ireland, and Australia. However, France does not have any ongoing legal disconnection prohibitions except for customers who had applied for financial assistance through the Solidarity Fund for Housing.

Laws prohibiting disconnections throughout the year are provided to registered life support customers in Spain, Ireland and Australia, but not in France. Similar to Australia, registration as a life support customer requires a medical confirmation but is not means tested in any of these jurisdictions. The review did not reveal specific statistics on the number or share of households protected from disconnections due to being life support customers. Information about the effectiveness of this rule was only available for Australia. However, the continuity and lack of criticism of the rule in the European countries as well as the high penalties for non-compliance in Australia suggest that a year-round disconnection ban for life support customers is considered effective and critical for ensuring the safety of these vulnerable consumers.

Further, Spanish customers with higher levels of vulnerability are protected from electricity disconnections. Customers with severe vulnerabilities do not have to pay their bills at all, as their retailer and regional or municipal government share their electricity costs. In addition, since 2021, all customers who receive the electricity social bonus tariff have been protected from electricity disconnections as an emergency measure. Vulnerability is a precondition for benefitting from the electricity social bonus. The electricity social bonus ensures that, this year, electricity costs are up to 65 per cent cheaper up to a daily consumption limit, ranging from 4.35 kWh/day to 13.05 kWh/day. Less than five per cent of Spanish customers are receiving the electricity social bonus, and many are missing out.

Year-round legal disconnection prohibitions in Ireland are like those in Australia, and include customers who engage with their retailers, honour their payment plans or have made a complaint about their bill. Data on the effectiveness of this consumer protection measure in Ireland and Australia suggest, though, that these measures are not fully effective in removing the risk of disconnection. In Ireland, about half of re-payment plans had been cancelled (CRU 2024a). In Australia, in the FY 2023-24, almost three quarters of hardship customers and more than half of customers on payment plans were unable to fulfil repayment plans instalments (AER 2024b). Their debts would have been increasing, and because of their cancelled repayment plans, these customers would have been facing disconnections again.

Australia goes beyond the Irish criteria that ensure ongoing protection from electricity connection. Australia also offers the additional consumer protection mechanism of prohibiting power cuts for non-payment if the debt level is below AU\$300. Considering that the amount has not changed since 2017 (AER 2025), the upward trend of electricity prices since then (ECA 2022; Rai and Nelson 2019) and the current average bill amount of AU\$460.50³⁷, this threshold may be

³⁷ Based on average annual electricity cost of residential customer in FY 2023-24 of \$1,842 (ACCC 2024) and quarterly bills (\$1,842/4=\$460.50)

considered too low even if prices may fall by 13 per cent in the next decade (AEMC 2024c). Finally, France and Australia protect those customers who have applied for energy relief or concession payments, however, this protection lifts when the financial support is granted.

The aim of full disconnections by law seems to be the protection of the physical health of customers while encouraging payment resolution. In Australia, the scope of householders qualifying for full protection is more outcome-based than in the other jurisdictions. Household characteristics play a minor role, as they are only an eligibility criterion for life support customers. All other categories offering full protection are based on the inability to pay, independent of income, family composition or efficiency of the home.

8.2 Disconnection moratoria – winter truce period

France and Ireland presented winter truce periods that varied by eligible householder group, length and implementation. Spain and Australia did not present seasonal electricity disconnection protections.

The winter truce period in France extends to all customers from 1 November to 31 March of every winter. The electricity amount may be reduced to 3 kVA for ordinary customers who experience payment difficulties, but not for those eligible for the Energy Cheque scheme. The eligibility for the Energy Cheque is based on income and household composition, however, disability is not listed as a criterion. About 16 per cent of residential customers may benefit from Energy Cheques but many are missing out. Data of the impacts of the winter truce for all customers was not available.

Ireland applies a winter truce period to vulnerable customers who are registered on the Special Services Register for advanced age or physical, sensory, intellectual, or mental health reasons. The annual truce period concurs with the one in France: 1 November to 31 March. Since 2022, as an emergency scheme, the electricity disconnection moratorium applies to all customers. The truce period for all customers varies from year to year. In the current winter of 2024-25, the winter moratorium for all customers was shorter than those for vulnerable consumers, extending from 9 December 2024 to 17 January 2025. The Irish utilities regulator is critical of the grace period for all customer, claiming that it has led to consumer apathy, high default on repayment plans, abandonment of communication with their retailers and ... (CRU 2024b), exploitation (Foxye 2023), and been ineffective in reducing customer debts as it places additional financial burdens onto customers (CRU 2024b). Information on the householder experience was not readily available.

Other truce periods in Ireland and Australia do not extend beyond a few days before and after public holidays and in connection with extreme weather events (AEMC 2024b; ESC 2024).

8.3 Disconnection moratoria – Extended timelines to pay and basic individual supply mechanism for some ‘protected’ households

Disconnection moratoria, in the sense of extended timelines to pay in combination with basic individual supply mechanism for some ‘protected’ households exist in France and Spain, with Spain offering the longest timeline and most generous minimum supply (cf. Figure 4).

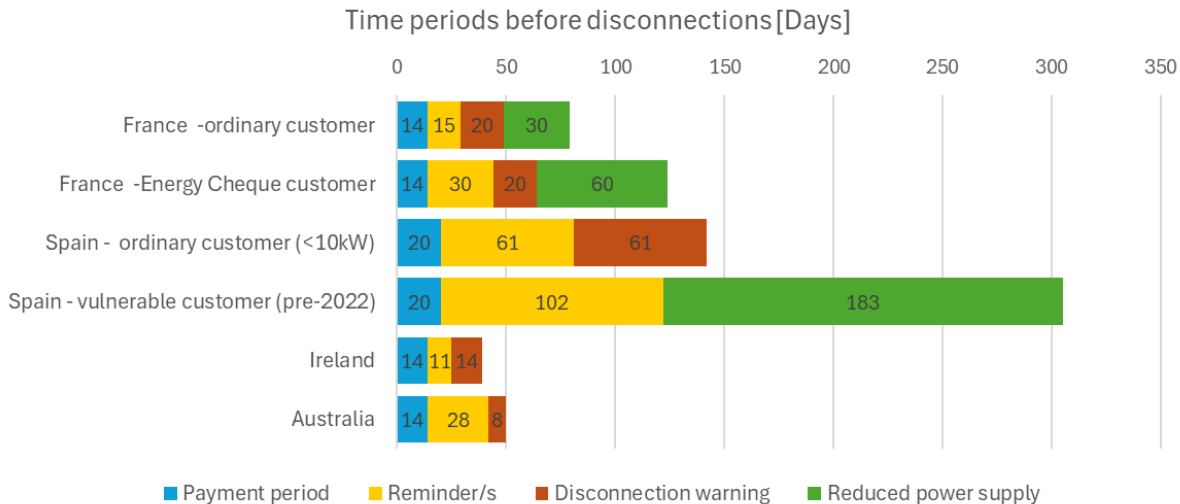


Figure 4 Comparison of time periods before disconnections by jurisdictions and customer group

In France, Energy Cheque beneficiaries with smart meters are given an extra grace period of 30 days for payment and extra 30 days of basic individual supply mechanism of 1kVA in addition to the 15 days for payment and 30 days at reduced supply provided to all other customers before disconnection (Le Médiateur National de l’Energie 2023a; Service-Public-Fr 2023a). The extended disconnection moratorium for protected customers in 2023 reduced electricity disconnections by 30 per cent compared to 2021 and 13 per cent compared to 2022³⁸ (Le Médiateur national de l’énergie 2024).

The payment timelines for protected households are more generous in Spain than in France. Usually in Spain, vulnerable and severely vulnerable customers, whose eligibility is based on income, household size and disability, are given two months in addition to the common grace period of 5 to 20 days to settle their unpaid bills (Eurelectric 2024:27-28; Spanish Government Directorate-General of Public Governance 2024). After this period, their power supply is reduced to 3.5 kW for six months. Overall, these safeguards amount to ten months payment extensions. In 2025, however, these vulnerable and severely vulnerable customers were covered under the general disconnection prohibition for all electricity social bonus recipients (Presidency of the Government of Spain 2025). Information on the effects on payment resolution or householder wellbeing was not available. We also did not find data on customer perspectives to support the claim that “consumers [are given] ample opportunity to settle overdue payments” (ACER and CEER 2024:52).

The different minimum power supply limits would affect the daily energy practices of householders with uneven outcomes. The minimal power supply (1 kVA or 0.8kW) in France allows some lighting, food cold storage and charging of some electronic devices (EDF 2021). In Spain, a power supply of 3.5 kW, that is four times the French limit, allows food refrigeration, doing laundry in one’s own washing machine and watching television (Poupa Energia 2025). These energy services and outcomes appear deficient when compared with perceptions of essential energy across

³⁸ Based on 279,950 electricity disconnections in 2019 (pre-COVID 19 pandemic), 254,422 in 2021, 205,576 in 2022 and 178,015 in 2023 (Le Médiateur national de l’énergie 2024).

Europe (Willand et al. 2024), with the Spanish rules being more comprehensive in their perception of essential energy outcomes and generous in the allocation of power.

8.4 Voluntary continuous disconnection restraint by energy companies

The review found voluntary continuous disconnection restraint by energy companies in France, the Spanish Autonomous Region of Catalonia and in Ireland.

In France, the major French electricity supplier EDF has been maintaining a minimal power supply of 1 kVA for customers with payment difficulties since 2022, encouraging customers to reconnect with their supplier and social services to resolve their payment issues (Eurelectric 2024). According to EDF, a trial of this voluntary disconnection restraint reduced the number of disconnections by a third in five years (EDF 2021). More recently, evaluations claim that this measure resulted in four out of five customers re-engaging and finding financial solutions (European Commission 2023b).

In Catalonia, the major energy retailer Endesa reached an agreement with the Catalan government in 2021 to halt electricity disconnections, including provisions for debt waivers and debt sharing with the Catalan and municipal governments (Ajuntament de Barcelona 2021; Right to Energy Coalition 2021). More than 110,000 vulnerable households have had their energy debt written off (McRae 2023), but debt waivers did not address future debts, customers are not necessarily put onto the cheapest contract, and there has been no compliance report since 2023 (Síndic 2023).

In Ireland, retailers that have signed up to the voluntary Energy Engage Code have stopped disconnecting an 'Engaged Customer' since 2014 (EAI 2023b). At the time of writing, eight out of 12 retailers were offering secure electricity access to their customers (EAI 2025). This voluntary disconnection restraint has presumably avoided "thousands of disconnections" (EAI 2023a). More accurate statistics were not available.

8.5 Supplementary initiatives to assist households with bill payments

In all four countries, disconnection rules are complemented by financial support and accompanied by assistance through intermediaries. Financial support is offered through energy grants, concessions and discounted tariffs. In France and Catalonia, social services play an integral role in establishing vulnerability, assisting householders and as intermediaries between retailers and customers. French retailers must nominate a "solidarity correspondent" at the departmental social services, the municipal social services or consumer protection associations to identify and assist households in energy poverty through collaboration (Le Médiateur National de l'Energie 2021). The precautionary principle in Catalonia aims to ensure that retailers check the vulnerability status with the local social services before disconnecting any consumers (Guiteras 2018). In Australia, it seems, the responsibility to engage with intermediaries rests with the customers. Retailers are expected to have systems in place to support customers experiencing financial difficulties and provide information about available assistance programs. Retailers merely encourage account holders to contact financial counsellors and community organisations to advocate on their behalf about complaints and to negotiate more suitable repayment conditions. Hence, retailers are not explicitly obliged to proactively contact financial counsellors or community organisations to assist householders.

9 Discussion

This literature review aimed to provide a better understanding of prohibitions of residential electricity disconnections for non-payment of bills in exemplary jurisdictions to draw lessons for the protection of Australian bill paying electricity consumers. On the one hand, disconnection bans may improve householders' health and wellbeing by reversing the aetiology associated with electricity disconnections. On the other hand, legal arguments could be made about the infringement of business rights and economic freedoms of electricity suppliers or their shareholders in investor-owned utilities, as customer debts diminish company profits (Lawson and Mills 2023). Hence, this review explored the types of disconnection bans, their contexts and outcomes, to provide an understanding of how electricity disconnections work.

The study focused on nations that have been put forward as “good examples” (European Commission 2023b; Fondation Abbé Pierre 2023; Housing Rights Watch 2023), namely France, Spain and Ireland, to explore how their disconnection prohibitions balance social and economic objectives. We conducted a comprehensive literature review of all data that seemed relevant, including peer-reviewed journal articles, reports and websites by government, industry and advocacy bodies as well as newspaper articles.

In summary, disconnection bans work by providing customers mandatory or voluntary, permanent or temporary protection from electricity debt disconnections with or without reduced power supply to protect the health and wellbeing of householders, to allow account holders more time to find payment solutions and to reduce economic losses for energy companies. The effectiveness in terms of avoided disconnections was shaped by the scope of eligibility criteria, prerequisites for targeted disconnection prohibitions, the involvement of intermediaries, the climatic, financial and housing contexts as well as supplementary financial support mechanisms. The costs of legal and voluntary disconnection bans do not appear to have jeopardised the financial viability of electricity retailers or imposed an undue burden on electricity customers in general.

Figure 5 presents a schematic illustration of the types of disconnection bans and conditions that shape outcomes.



Figure 5 Schematic illustration of the types of disconnection bans and conditions that shape outcomes

Our review suggests the following insights:

9.1 Disconnection rates in Australia compare favourably to those in “good example” countries

The premise of this study was that Australia may be lagging other developed nations in protecting electricity consumers from disconnections for non-payment. However, in terms of disconnection rates, the review found, that disconnection rates in Australia compared favourably to those in “good example” countries. With regards to disconnection statistics, Australia’s disconnection rates in the FY 2023-24 of 0.23 per cent across bill paying customers in NSW, ACT, QLD, SA, TAC and

0.003% in VIC³⁹ were comparably low to those in France, Ireland (both below 0.5%) and Spain (ACER and CEER 2023; AER 2024b; ESC 2025b).

In the case of Spain, the near absence of disconnections may be explained by the extraordinary measure of prohibiting disconnections for all social bonus recipients. The disconnection rate may be higher in other years. The low disconnection rates in the other countries may be explained by ordinary and emergency policy measures that eased the financial burden of energy bills, such as the lowering of taxes on energy costs and energy grants, and hardship prepayment meters in Ireland. Further research is needed to understand how energy prices, tariffs and assistance contribute to the affordability of electricity in each case and how they compare across countries.

9.2 Broad eligibility criteria ensure extensive protection against disconnection

The definitions and perceptions of vulnerability shaped the eligibility for legal ongoing disconnection bans and disconnection moratoria. The most common aim of disconnection prohibitions by law seemed to be the protection of the physical health of customers. Legal disconnection bans applied a democratic approach (Hillman 2004) to balancing the protection of customers and industry interest by giving priority to those considered vulnerable. The review found diverse and inconsistent perceptions of vulnerability, based on income, age, health, disability and gender violence across all four countries. Inconsistencies across the European countries may be interpreted as unfair. Injustice may also be inherent in those householder characteristics that were not listed at all. This investigation did not find any evidence that full protection from disconnection was based on gender in general, ethnicity or tenure, even though there is a body of international literature that attests to these household characteristics as heightening the risk of energy vulnerability, e.g. (Daniel et al. 2020; Middlemiss 2022; Núñez-Peiró et al. 2021; Wang et al. 2021).

Beyond the protection of life support customers, the eligibility criteria for full disconnection protections seemed more outcome-based in Ireland and Australia than in France, Spain and many other jurisdictions (Dobbins et al. 2016; ERGEG 2009). In Ireland and Australia, household characteristics were of minor importance, serving only primarily as an eligibility criterion for life support customers. Full protection for other categories was based on the inability to pay, regardless of income, family composition, home efficiency, or disputes with the retailer. This broad understanding of vulnerability may offer enhanced protection against disconnection, as registration-based protections often failed to recognise some households, resulting in them missing out on much-needed relief. However, effectively engaging all customers facing hardship in assistance programs remains a challenge in Ireland and Australia (AER 2024d; DECC 2022).

9.3 Disconnection moratoria may offer temporary relief for some customers but lead to over-indebtedness for others

Even though the review found little nuanced information on disconnection moratoria outcomes, the evidence of suboptimal outcomes of extended payment timelines across the four countries

³⁹ Based on 15,624 disconnections in the AERrR (AER 2024b) + disconnections in 7669 VIC (ESC 2025b) =23,293 customers

suggests that customer debt characteristics may play a key role. Disconnection moratoria may offer temporary relief for some customers but lead to over-indebtedness for others. Disconnection moratoria that extended payment timelines may have helped those customers who faced temporary financial hardship. Disconnection moratoria that extended payment timelines may have provided customers who experienced ongoing financial difficulties a sense of relief and comfort during the grace periods but not an effective solution to their debts, leading to over-indebtedness (Dobbins et al. 2016). Hence, disconnection moratoria with waivers of debt and late payment fees may be more effective in safeguarding people's mental and financial health. Catalonia and Belgium acknowledge over-indebtedness as a social issue that necessitates substantial financial relief from both retailers and governments (*Ley 24/2015* 2015; Dobbins et al. 2016).

9.4 Prerequisites for certain disconnection protections restricted free choice in retailers

The requirements for certain disconnection protections limited householders' freedom to choose their retailers. All countries had a largely liberalised market even though the number of retailers varied greatly, ranging from 12 residential electricity retailers in Ireland (CRU 2025b) to 243 retailers in Spain (CNMC 2024d). Higher number of retailers may mean more competition and choice for customers, however, the choice of households who stood to benefit from the equity - social bonus – tariff in Spain was restricted to a few retailers.

Householders who do not qualify for the French Energy Cheque or the Spanish social bonus but who still seek security from disconnection were obliged to sign up with EDF in France or Endesa in Catalonia. Irish customers, who sought secure connections despite non-engagement with their retailers and were not deemed vulnerable, seemed to have the largest choice of retailers, as two thirds of Irish retailers had committed to never disconnecting a customer.

Australia presented at least 26 residential retailers with three retailers dominating the market. With regards to electricity disconnection protection, the customers' choice was not restricted, as all retailers offered the same mandatory consumer protections. However, retailers develop their own individual hardship programs, and these may offer varied assistance initiatives. Ideally, consumers would compare the retailers' individual hardship programs to identify the one that may offer the best protections. However, a comparison of all hardship programs was not readily available.

9.5 Voluntary disconnection restraints did not threaten the financial health of energy retailers

In contrast to the targeted protection in legal prohibitions of disconnections, voluntary disconnection restraints by retailers followed an equality of rights approach (Hillman 2004) in which all customers were treated equally. The aim of full disconnections through voluntary measures by retailers in France, Catalonia and Ireland seemed to be the encouragement of payment resolution. The report that the payment difficulties of one in five EDF customers had not been resolved deserves investigation (European Commission 2023b). Nonetheless, such retailer practices seemed to signal their willingness to serve “‘hard to serve’ or marginal profit customers” (Sharam 2001:13). Importantly, though, these ongoing voluntary restraints of energy companies did not affect their financial stability. Australia did not present voluntary disconnection restraints by individual electricity retailers.

9.6 Large size of retailers may facilitate voluntary disconnection restraints

The dominance of EDF in France and Endesa in Catalonia in the local electricity markets may have facilitated their voluntary halt on debt disconnections. In Ireland, the voluntary Energy Engage Code was also first established by larger retailers. Larger retailers may have a bigger profit margin and more resources to employ staff and external trusted intermediaries to help householders with payment plans and other support measures than smaller companies.

Interestingly, though, in Ireland, other, smaller companies have signed up to the Energy Engage Code and its principle of voluntary disconnection restraint, too. This trend may be explained by competitive pressure, if customers switched their contracts to signatories of the Energy Engage Code; however, we could not find any literature on consumer behaviours on this matter. It may also be that the voluntary restraint to disconnect billed customers has little financial burden, as Irish retailers may switch customers in arrears to prepayment 'hardship' meters. Hence, further study is needed to understand the rationale for three quarters of electricity retailers voluntarily ceasing disconnections as well as their payment support practices and the financial implications.

Australia has also got large, so-called 'Tier 1' or 'big 3' retailers, namely OriginEnergy, AGL and EnergyAustralia (Figure 3), who share more than 60 per cent of residential electricity customers (ACCC 2024; AER 2024b; ESC 2025b). Data from Victoria suggests that these companies have varied disconnection rates, some below and some above the Australian average.⁴⁰ An implication of this review for practice is that these companies may be able to engage in a voluntary disconnection restraint. Further work is needed to understand the current practices of dealing with customers at risk of non-payment and the willingness to – at least- trial a voluntary disconnection restraint.

9.7 Government ownership may facilitate voluntary disconnection restraints

Government shares in energy companies may also have supported the establishment of voluntary disconnection restraints in France (EDF) and Ireland (Electric Ireland), however, the process of how decisions around voluntary disconnection restraints were made is unknown. Nonetheless, if a large share of state ownership is conducive to voluntary disconnection bans, such an approach may be possible in Australia too. The most prominent state-owned retailer in Australia is Ergon Energy Retail which operates in Queensland (EnergyQueensland 2025). Ergon Energy lists varied types of assistance for consumers that are finding it "hard to pay for essentials like electricity" (ErgonEnergy 2025). A voluntary disconnection restraint is not listed but perhaps worth a trial. Further research is needed to fully understand voluntary disconnection restraints and their relationship to energy company ownership types, such as government versus investor ownership.

⁴⁰ EnergyAustralia 0.01%, AGL 0.59%, OriginEnergy assumed 0% as it is not listed on the Essential Services Commission dashboard (ESC 2025b); accessed 24 February 2025.

9.8 Smart meters enable customers in arrears to stay connected with a reduced power supply

Smart meters were being rolled out across all four countries with varying coverage. Smart meters have allowed all indebted French electricity customers during winter, Energy Cheque recipients, and vulnerable customers in Spain to remain connected for a longer period, albeit with a reduced power supply. This mechanism may also have merit in Australia. Victoria presents an almost full coverage of smart meters already, and the AEMC is expecting every household in the AERrR to have a smart meter within five years (AEMC 2024a). Reduced power supply to avoid disconnection - albeit as a “temporary solution” - is also supported by Eurelectric, the organisation that advocates for and represents the collective interests of the European electricity sector (Eurelectric 2024:8). Australian energy peak bodies have, to the best of our knowledge, not expressed their views on whether smart meters used in Australia facilitate reduced power supply or if they could imagine reducing power supply as a precursor or alternative to electricity disconnections.

9.9 Collaboration with trusted intermediaries helped protect against disconnections

Collaboration with trusted intermediaries was a frequent measure to engage and help protect against disconnections. In France and Catalonia, the involvement of social service providers was mandatory to connect customers in energy hardship to financial support or to check their vulnerability. Voluntary disconnection restraints by EDF and signatories to the Energy Engage Code were supplemented by collaborations with social service providers and community advocacy groups to engage householders and, thus, to help them access help. Collaborations of retailers with community groups to help consumer engage as a prerequisite to be protected from disconnection is also encouraged by the Irish government (DECC 2022). The review also showed that ombudspersons may be instrumental in achieving protection, confirming evidence that ombudspersons play an important role in ensuring procedural justice (Stojilovska 2021). However, the review revealed that social services may not have the capacity, knowledge or systems to ensure optimal care of electricity consumers. It seems that there is a need to improve the capabilities of intermediaries or to establish trusted actors that are competent in all matters of energy at home in Australia (Willand et al. 2023) and elsewhere.

In Ireland, retailers were obliged “work with the relevant state agencies or state sponsored bodies/recognised charities” and “offer [their] contact details” to customers experiencing payment difficulties (CRU 2023b). In Australia, the relationship between retailers and intermediaries seemed weaker than in the other jurisdictions. Australian retailers were not obliged to contact social services and report customers with payment difficulties. Even though disconnection notices must contain information about the state energy ombudsperson, including how it operates and its contact details, the onus of involving intermediaries is placed on the account holders. This means that a key pathway to connect with customers and to find sustainable solutions may be missing in Australia.

Nonetheless, retailers that are part of the Energy Charter are engaging in initiatives that involve front-line workers (The Energy Charter 2025b). Little information is available about the geographical distribution of these assistance programs or the characteristics of the populations reached. Nonetheless, independent research (Willand et al. 2023; Wilson et al. 2023) has confirmed that a relational approach is helpful and effective in a system in which payment

difficulties are considered private affairs requiring a financial solution rather than systemic change that addresses the complexity of energy consumption and bills. However, long-term and secure funding is needed to gain maximum benefit from retailer/community group collaborations and government funded energy assistance programs as householders call for ongoing support (Willand et al. 2023; Wilson et al. 2023).

9.10 Home energy improvements are not given priority among disconnection safeguarding measures

Disconnection safeguards mostly took the form of financial support. The scarce mention of housing retrofits as measures that promise to alleviate one of the root causes of energy vulnerability highlights that policy makers and the energy industry regard bill non-payment as primarily a financial and individual problem rather than a sign of inadequate housing infrastructure (Middlemiss 2020). Similarly, in Australia, energy concessions or grants are not linked to the thermal quality of the home, even though recommendations to recognise home energy efficiency in energy hardship policies have been made at least for 20 years (Sharam 2004). Interestingly, most of the recommendations in the Irish Government's 'Report on energy poverty' (Joint Committee on Social Protection Community and Rural Development and the Islands 2024) entail housing retrofits, in particular a change from current isolated and 'shallow' initiatives to comprehensive, whole of home 'deep' low-carbon refurbishments targeted at households in energy poverty and renters. Government and retailer energy assistance in Australia seemed to rarely involve deep retrofits. However, comprehensive improvement of home energy performance promises sustained relief from energy bill stress and greenhouse gas emissions reductions (Russell-Bennett et al. 2017; Willand et al. 2021; Wilson et al. 2023).

9.11 Global emergencies may trigger enhanced legal prohibitions of disconnections

The review revealed that global emergencies triggered enhanced disconnection prohibitions and safeguards, but little is known about the long-term effectiveness, sustainability and legacy of these measures. The COVID-19 pandemic triggered energy disconnection prohibition around the world (Hesselman et al. 2020; Hesselman et al. 2021). Emergency extension of winter moratoria and income support for energy costs were also common measures during the COVID-19 pandemic (Guiteras 2021; Hesselman et al. 2020). This review found that France, Spain and Ireland presented extraordinary disconnection protections for vulnerable households again, such as extended winter moratoria and exceptional energy bill support in response to the armed conflicts in Ukraine and in the Middle East. The response of these European countries seems to highlight their widespread acknowledgment of the crucial role that affordable and uninterrupted energy services play in ensuring basic human well-being and capabilities in the 21st century. Yet, in most cases, these measures did not entirely protect from accruing debt and may, thus, helped more in delaying than permanently protecting from disconnections.

Australia has not experienced any universal legal prohibition of disconnections. During the pandemic, the Australian Energy Regulator encouraged retailers to stop disconnecting households due to non-payment, but this action was not mandatory (AER 2020; Blakkarly 2021). The AER later changed its stance from "no customer should be disconnected" to "no customer in contact with their retailer should be disconnected" (Blakkarly 2021) and disconnections resumed in 2021 because customers were unable to meet their financial obligations (Blakkarly 2021).

Currently, Australia is undergoing a “cost of living crisis” and many Australians are attributing much of the blame to energy companies (Heap 2024). In 2024, the Australian and some state governments also implemented electricity bill grants to all customers to offset the rise in living costs (ACCC 2024). However, disconnection rules were not changed.

9.12 Disconnection moratoria presented seasonal bias

The review found that disconnection moratoria were unevenly applied to the winter months. Disconnection moratoria explored in this study offered hour-, day-, or temperature based as well as seasonal protections from power cuts that were combined with power reductions in France and Spain. France and Ireland offered winter disconnection moratoria. This winter focus may be based on the recognition that lack of heating during cold weather poses a significant health risk. Australia does not have a winter disconnection moratorium despite ample evidence of the widespread prevalence of cold homes and the health risks of unaffordable heating across Australia (Barlow et al. 2023; Daniel et al. 2021; Porto Valente et al. 2021; Valente et al. 2023).

We did not find evidence of explicit and yearly summer truce periods in any of the four jurisdictions. The Australian regulations prohibit disconnections during extreme weather events, but explicit reference to summer heat is only given in the South Australian rules (“heatwave or bushfire” (Government of South Australia 2024)).

Nonetheless, the disconnection prohibition during the summer period between 20 and 31 December in Australia overlaps with the winter moratoria periods in France and Ireland. This moratorium may be motivated by the closure of banks and post offices during the Christmas holidays or the desire to give householders peace of mind during the “festive season” (EWOSA 2025). However, this moratorium may also be interpreted as a preventive health measure. It could reflect that, historically, the hottest day of the year in the AERrR and Victoria was experienced in mid-December to mid-January (BOM 2018). The rationale for this protection period deserves investigation.

A previous review of disconnection bans lists a summer moratorium for Lithuania (Dobbins et al. 2016:36). Heat-protection disconnection bans are less common than cold-based ones in the USA, but these heat-protections tend to be temperature-related rather than seasonal (Flaherty et al. 2020). Only a few states in the US have summer disconnection moratoria (Lawson and Mills 2023) and Canadian social justice advocates are calling for such protection from hot weather, too (Kwofie 2024). Considering that summer heat can be a risk for health in all four countries (Achebak et al. 2024; Amoatey et al. 2025; Ballester et al. 2023; Núñez-Peiró et al. 2021; ONPE 2024), and the potential increase of temperatures due to climate change (IPCC 2022), summer disconnection moratoria may increasingly offer public health benefits.

9.13 Disconnection moratoria lacked reconnection mandates at the beginning of the protected periods

The review of disconnection moratoria in these four countries also failed to find evidence of a disconnection moratorium that was accompanied by a reconnection requirement. The disconnection moratoria in Australia, France, Spain and Catalonia seem to refer to delays to the cutting of the power supply, presumably to allow householders more time to pay their debt. However, it seems, once a customer had been disconnected and was not seen to be settling their debt, then the electricity supply remained turned off until the matter was resolved. Previously

disconnected customers were not automatically reconnected at the start of winter or other protected periods, as is the case in Ontario, Canada.

Winter moratoria exist in Ontario and in other Canadian provinces (Kwofie 2024; Ontario Energy Board 2017). However, since 2017, Ontario customers who are without power supply due to non-payment by the start of the winter moratorium period on 15 November are also re-connected to their electricity supply. Customers with reduced load limits for non-payment have their full supply restored (Das et al. 2022; Ontario Energy Board 2017). This energy guarantee also applies to gas, and customers are not charged a reconnection fee (Kwofie 2024). Reinstatement of disconnections seem to place people's health and wellbeing above retailer interests.

9.14 Irregular electricity connections are often a last resort measure for households facing extreme energy poverty when legal protections are inadequate or absent

The prevalence of irregular electricity connections underscored the critical importance of comprehensive disconnection bans, as these illegal and dangerous measures are often a last resort for households facing extreme energy poverty when legal protections are inadequate or absent. The energy industry considered disconnections of residential electricity customers a last resort to encourage payment. However, many households found themselves having to connect to power irregularly as a last resort due to the increasing unaffordability of energy, housing and living costs.

The review found evidence that illegal tampering with smart meters was common in France and Spain. Illegal electricity connections and changing smart meters to record less electricity consumption than consumed was a symptom of energy poverty, a sign of systemic failures to provide people with the resources necessary for a decent life and an expression of social resistance (Angel 2019; Ruiz-Rivas et al. 2023). Reasons for such direct action was not the unwillingness to pay (ESC 2017; Foxe 2023) but rather the disempowerment and marginalisation of householders. Research shows that many Spanish householders resort to irregular connections for subsistence and feel ashamed about it (Angel 2019; Ruiz-Rivas et al. 2023). Yet, illegal electricity connections are not reported by the Australian or European Regulators (ACER and CEER 2023; AER 2024b).

Despite Australia's history of housing activism, e.g. (Thorpe and Stickells 2014), there is little evidence that Australians are engaging in direct action on residential energy. Australia presents only isolated incidents of direct action by householders or energy company employees in the form of tampering with smart meters and illegal connections (Tolhurst 2025; Willand et al. 2023). Nonetheless, these rare reports confirm that irregular connections in Australia are also shaped by desperation rather than malicious intent (Tolhurst 2025; Willand et al. 2023).

Irregular connections are symptomatic of deeper social and economic issues that require comprehensive policy approaches to address energy poverty and ensure universal access to safe and affordable electricity. However, these symptoms of energy poverty remain hidden as statistics on illegal electricity connections are not captured in regulatory reports.

9.15 Limitations of this research

This review was limited by the lack of quality evaluations of disconnection bans. The review included some information on the influence of disconnection bans on disconnection rates and customer engagement, yet this data was often provided by the energy industry or by advocates. The dearth of evaluations by independent bodies was notable. In addition, we found scarce studies that investigated how disconnection bans shape householder wellbeing. Future research on the householder lived experience of disconnection bans of any type is critically needed to better identify the conditions and mechanisms that promise optimum outcomes for householders.

In addition, the review was limited in scope to credit contracts and did not include a review of protections for those in embedded networks. In Australia, customers in embedded networks, for example in some apartment buildings, caravan parks and retirement villages, are not covered by the same protections as customers with free market contracts (AER 2024d). The equivalent in France are customers who must sign up with their local distributors and do not have a choice in electricity suppliers (Le Médiateur National de l'Energie 2025b).

The review also excluded self-disconnections through prepayment meters. In Ireland, pre-payment or Pay As You Go (PAYG) meters can be installed at the customer's request or forced upon them as "hardship meters". In Australia, prepayment metering systems are common in some remote and regional areas, particularly in the Northern Territory (Longden et al. 2021). Prepayment meters are discriminating and associated with systemic inequalities. They are often mandated for First Nations communities, associated with self-restriction and high rates of involuntary self-disconnections (Longden et al. 2021; White et al. 2024). Households on prepayment meters are not provided the three months credit on their energy use as bill paying customers, have less protection and less access to assistance than bill paying customers (AER 2024d). Better understanding of systems that can ensure protection from disconnection for customers in embedded networks and those on prepayment meters is required urgently.

10 Conclusion

Secure access to affordable electricity is essential for a decent quality of life in the 21st century (UN 2021; Willand et al. 2024). Key instruments to secure householder access to electricity despite non-payment are ongoing or temporary prohibitions to cut customers' power supply. While disconnection bans promise relief from energy stress, they can lead to challenges, such as the accumulation of significant arrearages over time. In addition, temporary and permanent disconnection prohibitions may put financial strain on retail companies. Hence, disconnection bans require strategic implementations to balance customer protection with utility sustainability.

Energy companies play a critical role in the implementation of consumer protection. Energy retailers bear the administrative and financial burden of consumer energy debt. Retailers are also the direct contact for consumers and responsible for a fair treatment of households experiencing payment difficulties. Retailer practices may exacerbate energy stress when they impose fees for reconnection or late payments. On the other hand, retailers may alleviate energy and mental stress through empathetic management of customers and debt waivers. Energy retailers may also face costs associated with energy hardship and disconnections.

The review found that, in quantitative terms, disconnection protections in Australia were at least as effective in achieving low disconnection rates as in the countries put forward as “good examples”, however, low disconnection rates do not capture the human impact of disconnection threats and customers responses to disconnection warnings. Investigating initiatives like social tariffs and reduced power supply could help improve affordability and equity of electricity prices and further reduce the rate of disconnection. However, the negative impact of any electricity disconnection and the evidence from other countries that there are opportunities for eliminating disconnections without a significant destabilisation of the energy market calls for an honest and bold conversation about the possible introduction of disconnection bans beyond the current protections in Australia, too.

Even though Australia presented a relatively low rate among bill paying electricity customers in the Eastern states, the threat of disconnection affected at least 20 times more account holders⁴¹. Policy makers and consumer advocates may appreciate the potential health benefits of secure and continuous electricity access. However, year-round disconnection bans may also be attractive to energy retailers in Australia. Universal disconnection bans offer reduced bad debt, and less reputational damage and fines for wrongful disconnections. However, the impact of universal disconnection bans may be unevenly shared among energy retailers.

The bad debts of disconnections are a financial loss to retailers that is not evenly shared. Overdue accounts of households may also cause financial strains. Complete disconnection bans might impose an undue and potentially unfair burden on certain energy companies. Retailers who experience lower customer payment arrears would have a competitive edge (Eurelectric 2024). This could cause retailers to withdraw from regions with low-income households, resulting in reduced competition and increased energy prices, which would negatively impact all customers (Eurelectric 2024).

Importantly, though, the review of how local context has shaped regulatory and voluntary disconnection bans invites a closer look at the premises that underpin disconnections. The discourse of disconnections as measure of “last resort” (CRU 2023b:39; ESC 2017:66) implies that customers may be slow or not willing (ESC 2017) to engage with their retailer, and that the disconnection or threat thereof will prompt households to engage. However, independent research has shown that this blunt perception of household behaviours misrecognises the complex psychological, social and material conditions that shape payment practices (Wodon 2000). Furthermore, this discourse tacitly affirms that paying energy bills should take priority over the satisfaction of other essential needs and expenses such as medical bills. The Catalan Law seems to be a rare legal document that has articulated the policy makers’ indignation about the inequality in wealth and power between householders and energy companies (*Ley 24/2015* 2015).

Nonetheless, in the last two years, there has been public dissatisfaction among Australians regarding the profits of energy companies, particularly in light of rising energy costs and the ongoing cost of living crisis (SBS News 17 August 2023; ACTU 2023; Richardson 2024). Recent compliance breaches and enforcement actions against energy retailers in Australia have drawn attention and concern from the media and regulators, and there is growing evidence of weak

⁴¹ In the FY 2023-24, 4.8 per cent of electricity customers were in arrears, with or without hardship programs (AER 2024b).

consumers trust, health impacts of energy underconsumption due to financial stress and public discontent (Antipoverty Centre 2025; Crosswell 2025; ESC 2025a; McAuliffe 2025). Expanding existing disconnection protections could signal that energy companies prioritize customer needs over profits and potentially improve trust. The Australian electricity retailers may, for example, follow the European examples or Internet subscription practices and consider a reduced power supply before disconnection.⁴² Large retailers and state-owned companies, that is OriginEnergy, AGL, EnergyAustralia and Ergon Energy Retail, may introduce or trial reduced power supply instead of disconnecting certain customer groups or venture a universal disconnection stops.

Critically, in the words of the current Treasurer, Australians are experiencing “very substantial if not severe financial pressure” (Chalmers 2025). Extended disconnection protections alone may not be sufficient to fully ease customer anxiety about energy costs or avoid householders falling into arrears. Other conditions that contribute to the lack of affordability of electricity include high energy prices, confusing pricing structures, poor thermal quality and high costs of housing and inadequate social welfare payments (McAuliffe 2025; Willand et al. 2021). Drawing on the right to energy framework (Shyu 2021), protection from disconnection should not be regarded as complementary to financial support but as a fundamental entitlement. Ultimately, eliminating electricity disconnections will require a recognition that electricity is an essential determinant of health and wellbeing and that disconnections leave people vulnerable to adverse outcomes in education, physical and mental harms and lead to social exclusion. The realisation of a full electricity disconnection prohibition for all requires more research into the amount of electricity that should be guaranteed and a multi-faceted approach that addresses the varied root causes of energy vulnerability in Australia comprehensively and sustainably.

While disconnections for non-payment of electricity bills may seem like a solution for energy retailers to engage account holders in debt repayments, bill defaults are often symptomatic of deeper social and economic issues that require comprehensive policy approaches to address energy poverty and ensure universal access to safe and affordable electricity. To prevent disconnections and non-payment in the long term, a systems-approach is needed that includes housing retrofits, equitable tariff structures, financial assistance programs as well as education and community engagement initiatives to empower and reach all consumers. In addition, recognising the right to energy to protect householders’ health and wellbeing, may require the energy industry to ensure universal, affordable and reliable access to electricity, and prioritising vulnerable and low-income households in policy, pricing and service delivery. This approach would acknowledge that access to energy is essential for maintaining health, comfort and social inclusion and position the energy industry not just as a commercial provider of electricity but as a key partner in safeguarding public health and a steward of a basic human right.

⁴² Australian Internet providers may ‘throttle’ the Internet speed once the customer has exceeded the data allowance. Customers will experience a slower connection until the end of their billing cycle or until they purchase additional data.

11 References

Abbé Pierre Foundation (2022) *Toits d'abord: 10 ans de soutien à la production de logements. (Roofs first: 10 years of housing production 2012-2022*, accessed 10 January 2025. <https://www.fondation-abbe-pierre.fr/actualites/toits-dabord-10-annees-de-production-de-logements-pour-les-plus-modestes>

ACA (Asociación de Ciencias Ambientales) (2020) ACA realiza un análisis de la actualización de indicadores del MITECO y del estado de la pobreza energética en el contexto de la pandemia. , accessed 4 February 2025. <https://www.cienciasambientales.org.es/index.php/comunicacion/noticias/893-que-cambios-conlleve-la-actualizacion-de-los-indicadores-de-pobreza-energetica-del-miterd>

ACCC (Australian Competition & Consumer Commission) (2024) *Inquiry into the National Electricity Market*, accessed 5 January 2025. <https://www.accc.gov.au/about-us/publications/serial-publications/inquiry-into-the-national-electricity-market-2018-25-reports/inquiry-into-the-national-electricity-market-report-december-2024>

ACER and CEER (European Union Agency for the Cooperation of Energy Regulators and Council of European Energy Regulators) (2023) *Energy Retail and Consumer Protection 2023 Market Monitoring Report. September 2023*, accessed 22 September 2024. https://www.acer.europa.eu/Reports/2023_MMR_Energy_Retail_Consumer_Protection.pdf

ACER and CEER (European Union Agency for the Cooperation of Energy Regulators and Council of European Energy Regulators) (2024) *Energy retail - Active consumer participation is key to driving the energy transition: how can it happen? 2024 Market Monitoring Report 30 September 2024*, accessed 5 January 2025. <https://www.ceer.eu/publication/acer-ceer-2024-market-monitoring-report-energy-retail-and-consumer-protection/>

Achebak H, Rey G, Lloyd SJ, Quijal-Zamorano M, Mendez-Turrubiates RF and Ballester J (2024) 'Ambient temperature and risk of cardiovascular and respiratory adverse health outcomes: a nationwide cross-sectional study from Spain', *Eur J Prev Cardiol*, 31(9):1080-1089, doi:10.1093/eurjpc/zwae021, Medline database. <https://www.ncbi.nlm.nih.gov/pubmed/38364198>

ACOSS (Australian Council of Social Service) (2023a) *Energy and Cost of Living Snapshot*, accessed 13 April 2025. <https://www.acoss.org.au/wp-content/uploads/2023/10/ACOSS-Energy-Cost-of-Living-Snapshot-October-2023.pdf>

ACOSS (Australian Council of Social Service) (2023b) *Energy and Cost of Living Snapshot. October 2023*, accessed 22 September 2024. <https://www.acoss.org.au/wp-content/uploads/2023/10/ACOSS-Energy-Cost-of-Living-Snapshot-October-2023.pdf>

ACTU (Australian Council of Trade Unions) (17 August 2023) *Origin Energy profits up by 83.5% whilst workers struggle to cover basics* accessed 23 February 2025. <https://www.actu.org.au/media-release/origin-energy-profits-up-by-83-5-whilst-workers-struggle-to-cover-basics/>

AEMC (Australian Energy Market Commission) (2023) *Guide to application of the NECF*, accessed 2 January 2025. <https://www.aemc.gov.au/regulation/energy-rules/guide-application-necf>

AEMC (Australian Energy Market Commission) (28 November 2024a) *AEMC finalises landmark reform to accelerate smart meter rollout* Media Releases website, accessed 4 January 2025.

<https://www.aemc.gov.au/news-centre/media-releases/aemc-finalises-landmark-reform-accelerate-smart-meter-rollout>

AEMC (Australian Energy Market Commission) (2024b) *National Energy Retail Rules. Version 42*, accessed 2 January. <https://energy-rules.aemc.gov.au/nerr/603>

AEMC (Australian Energy Market Commission) (2024c) *Residential electricity price trends 2024*, accessed 22 February 2025. <https://www.aemc.gov.au/market-reviews-advice/residential-electricity-price-trends-2024>

AER (Australian Energy Regulator) (5 April 2012) *AER Approval of minimum amount owing for disconnection, r.116 of the National Energy Retail Rules* accessed 23 February 2025. <https://www.aer.gov.au/documents/aer-approval-minimum-disconnection-amount>

AER (Australian Energy Regulator) (2019) *AER Customer Hardship Policy Guideline Version 1. March 2019*, accessed 21 September 2024. <https://www.aer.gov.au/industry/registers/resources/guidelines/customer-hardship-policy-guideline>

AER (Australian Energy Regulator) (2020) *AER Statement of Expectations of Energy Businesses: Protecting consumers and the energy market during COVID-19*, <https://www.aer.gov.au/publications/corporate-documents/aer-statement-of-expectations-of-energy-businesses-protecting-consumers-and-the-energy-market-during-covid-19>

AER (Australian Energy Regulator) (1 July 2024a) *AER institutes proceedings against Origin subsidiaries for breaching life support obligations* News releases website, accessed 4 January 2025. <https://www.aer.gov.au/news/articles/news-releases/aer-institutes-proceedings-against-origin-subsidiaries-breaching-life-support-obligations>

AER (Australian Energy Regulator) (2024b) *Annual Retail Market Report 2023–24*, accessed 3 January 2025. <https://www.aer.gov.au/publications/reports/performance/annual-retail-markets-report-2023-24>

AER (Australian Energy Regulator) (2024c) *Our role*, accessed 2 January 2025. <https://www.aer.gov.au/about/aer/our-role>

AER (Australian Energy Regulator) (2024d) *Review of payment difficulty protections in the NECF. Issues paper*, accessed 3 January 2025. <https://www.aer.gov.au/industry/registers/resources/reviews/review-payment-difficulty-protections-national-energy-customer-framework>

AER (Australian Energy Regulator) (2025) *Other retail roles*, accessed 2 January 2025. <https://www.aer.gov.au/other-retail-roles#:~:text=their%20own%20prices.-,Minimum%20disconnection%20amount,minimum%20disconnection%20amount%20of%20%24300.>

Ajuntament de Barcelona (2021) *Agreement to eradicate energy poverty (Acuerdo para erradicar la pobreza energética)*, accessed 5 February 2025. https://ajuntament.barcelona.cat/serveissocials/es/noticia/acuerdo-para-erradicar-la-pobreza-energetica_1054055

Amoatey P, Xu Z, Odebeatu CC, Singh N, Osborne NJ and Phung D (2025) 'Impact of extreme heat on health in Australia: a scoping review', *BMC Public Health*, 25(1):522, doi:10.1186/s12889-025-21677-9, Medline database. <https://www.ncbi.nlm.nih.gov/pubmed/39920610>

Andre J, Braga B, Martinchek K and McKernan S-M (2024) 'The effects of state utility shutoff moratoria on credit delinquencies during the COVID-19 pandemic', *Journal of Economics and Business*, 129, doi:10.1016/j.jeconbus.2024.106170.

Angel J (2019) 'Irregular Connections: Everyday Energy Politics in Catalonia', *International Journal of Urban and Regional Research*, 43(2):337-353, doi:10.1111/1468-2427.12729.

Antepara I, Claeyé F, Lopez A and Robyns B (2020) 'Fighting against fuel poverty by collaborating with social services through energy advice: An innovative case from Spain', *Gizarte Ekonomiaren Euskal Aldizkaria - Revista Vasca de Economía Social*, (17 (2020)):71-96, doi:10.1387/gizaekoa.22228.

Antipoverty Centre (2025) Desperate for Relief. A snapshot report on the consequences of more people drowning in energy debt, accessed 26 February 2025. <https://bit.ly/DesperateForRelief>

APE (Aliança contra la Pobresa Energètica) (29 March 2022) The Alliance against Energy Poverty and the Third Sector Table demand that the agreement regulating energy poverty be made the most of accessed 16 February 2025. <https://pobresaenergetica.es/2022/03/29/lalianca-contra-la-pobresa-energetica-i-la-taula-del-tercer-sector-reclamen-aprofitar-al-maxim-el-conveni-que-regula-la-pobresa-energetica/>

APE (Aliança contra la Pobresa Energètica) (2024) The APE and the Third Social Sector Roundtable demand that energy poverty be a primary priority for the next government (La APE y la Mesa del Tercer Sector Social reclaman que la pobreza energética sea una prioridad primordial para el próximo gobierno), accessed 5 February 2025. <https://pobresaenergetica.es/es/2024/04/08/la-ape-y-la-mesa-del-tercer-sector-social-reclaman-que-la-pobreza-energetica-sea-una-prioridad-primordial-para-el-proximo-gobierno/>

Ballester J, Quijal-Zamorano M, Mendez Turrubiates RF, Pegenaute F, Herrmann FR, Robine JM, Basagana X, Tonne C, Anto JM and Achebak H (2023) 'Heat-related mortality in Europe during the summer of 2022', *Nat Med*, 29(7):1857-1866, doi:10.1038/s41591-023-02419-z, Medline database. <https://www.ncbi.nlm.nih.gov/pubmed/37429922>

Barlow CF, Daniel L and Baker E (2023) 'Cold homes in Australia: Questioning our assumptions about prevalence', *Energy Research & Social Science*, 100:103124, doi:10.1016/j.erss.2023.103124.

Bednar DJ and Reames TG (2023) 'Fleeting energy protections: State and utility level policy responses to energy poverty in the United States during COVID-19', *Energy Res Soc Sci*, 99:103045, doi:10.1016/j.erss.2023.103045.

BIW (Barcelona International Welcome) (2025) *Large family certificate*, accessed 11 January 2025. <https://www.barcelona.cat/internationalwelcome/en/large-family-certificate>

Blakkarly J (21 July 2021) 'Residential disconnections for gas and electricity on the rise again', *CHOICE*, accessed 24 February 2025. <https://www.choice.com.au/shopping/shopping-for-services/utilities/articles/energy-disconnections-on-the-rise>

Boitel J (2024) 'Energy check: 900,000 potential beneficiaries have not claimed it (Chèque énergie : 900.000 bénéficiaires potentiels ne l'ont pas réclamé)', *Les Echos*, accessed 17 February 2025. <https://www.lesechos.fr/economie-france/social/cheque-energie-900000-beneficiaires-potentiels-ne-lont-pas-reclame-2139742>

BOM (Australian Bureau of Meteorology) (2018) *When is the hottest time of the year?*, accessed 23 February 2025. <http://www.bom.gov.au/climate/updates/articles/a030.shtml>

Botha F and Prakash K (2024) *Insights into energy concession awareness and energy-related behaviours among concession card holders in Australia*, accessed 25 February 2025. <https://melbourneinstitute.unimelb.edu.au/data/taking-the-pulse-of-the-nation/2024/ttqn-24-june-2024>

Bryant D, Porter E, Rama I and Sullivan D (2022) *Power pain. An investigation of energy stress in Australia*, accessed 20 August 2022. <https://www.bsl.org.au/research/publications/power-pain/>

Cadaval M, Regueiro-Ferreira RM and Calvo S (2022) 'The role of the public sector in the mitigation of fuel poverty in Spain (2008–2019): Modeling the contribution of the Bono Social de Electricidad', *Energy*, 258, doi:10.1016/j.energy.2022.124717.

CALC (Consumer Action Law Centre) (2024) *Affording energy. Submission to the review of payment difficulty protections in the National Energy Customer Framework*, accessed 21 September 2024. <https://consumeraction.org.au/review-of-the-national-energy-customer-framework/>

Casals LC, Tirado Herrero S, Barbero M and Corchero C (2020) 'Smart Meters Tackling Energy Poverty Mitigation: Uses, Risks and Approaches' *2020 IEEE Electric Power and Energy Conference (EPEC)*.

Centrica (2025) *Bord Gáis Energy. One of Ireland's leading energy supply and services providers*, accessed 13 April 2025. <https://www.centrica.com/our-businesses/retail/bord-gais-energy/>

Chalmers J (5 February 2025) *Remarks to the Business Council of Australia Dinner* accessed 23 February 2025. <https://ministers.treasury.gov.au/ministers/jim-chalmers-2022/speeches/remarks-business-council-australia-dinner>

Chandrashekeran S, Cludius J, McConnell D, Noka V and Ritter D (2022) *Energy Affordability: Sharing Lessons from the EU and Australia's Low Carbon Transitions*, accessed 22 September 2024. https://www.climatecollege.unimelb.edu.au/files/site1/docs/%5Bmi7%3Aui7uid%5D/AUS_EU_Affordability_FINAL_VERSION_V2.pdf

Chandrashekeran S, Dufty G and Gill M (2020) *Smart-er Metering Policy*, accessed 5 January 2025. https://science.unimelb.edu.au/__data/assets/pdf_file/0007/2685643/Smart-er-meter-policy-230218.pdf

Citizens Information (2024a) *Electricity Account Credit*, accessed 17 January 2025. <https://www.citizensinformation.ie/en/consumer/utilities/electricity-account-credit/>

Citizens Information (2024b) *Fuel Allowance*, accessed 17 January 2024. <https://www.citizensinformation.ie/en/social-welfare/extra-social-welfare-benefits/fuel-allowance/#:~:text=The%20current%20rate%20of%20Fuel,The%20second%20in%20January%202025.>

Citizens Information (2024c) *Household Benefits Package*, accessed 17 January 2025. <https://www.citizensinformation.ie/en/social-welfare/extra-social-welfare-benefits/household-benefits-package/>

Citizens Information (2025) *Paying your electricity bills*, accessed 23 February 2025. <https://www.citizensinformation.ie/en/consumer/utilities/paying-electricity->

bill/#:~:text=It%20can%20sometimes%20be%20difficult,calculate%20your%20bill%20amount%20was:

Citizens Information Board (2024) *Paying your electricity bills*, accessed 22 September 2024. <https://www.citizensinformation.ie/en/consumer/utilities/paying-electricity-bill/#:~:text=Ban%20on%20disconnections%20during%20winter,for%20all%20other%20domestic%20customers>

Cludius J, Hünecke K, Noka V, Schumacher K, Förster H, Kunert D and Fries T (Öko-Institut e.V.) (2018) Policy instruments and measures to alleviate energy poverty in Germany - learning from good practices in other European countries. Working Paper, accessed 10 January 2025. <https://www.oeko.de/fileadmin/oekodoc/WP-Energy-Poverty-2018.pdf>

CNMC (Comisión Nacional de los Mercados y la Competencia) (2020) Almost 100% of domestic consumers in Spain had a smart meter at the end of 2019 (Casi el 100% de los consumidores domésticos en España tenían un contador inteligente al final de 2019), accessed 5 February 2025. <https://www.cnmc.es/prensa/cnmc-contadores-integrados-20201021>

CNMC (Comisión Nacional de los Mercados y la Competencia) (2022) CNMC monitors consumer consent when changing electricity and gas companies (La CNMC supervisa el consentimiento de los consumidores en los cambios de compañía de electricidad y gas), accessed 5 February 2025. <https://www.cnmc.es/prensa/consentimiento-cambio-comercializador-20220228>

CNMC (Comisión Nacional de los Mercados y la Competencia) (2024a) Agreement by which the General Directorate of Energy Policy and unitary mines are referred for the financing of the 2025 social bonus (Acuerdo por el que se remite a la dirección general de política energética y minas unitarios para la financiación del bono social 2025), accessed 5 February 2025. <https://www.cnmc.es/sites/default/files/5640257.pdf>

CNMC (Comisión Nacional de los Mercados y la Competencia) (2024b) *Electrical Indicator Bulletins (Boletines de indicadores eléctricos) IS/DE/012/24*, <https://www.cnmc.es/sites/default/files/5659462.pdf>

CNMC (Comisión Nacional de los Mercados y la Competencia) (17 December 2024c) The electricity sector registered a surplus of 3,902.9 million euros in the fiscal year 2023 (El sector eléctrico registró un superávit de 3.902,9 millones de euros en el ejercicio de 2023) accessed 11 January 2025. <https://www.cnmc.es/prensa/liquidacion-definitiva-SE-20241217>

CNMC (Comisión Nacional de los Mercados y la Competencia) (2024d) Report of the Draft Royal Decree approving the general supply and contracting regulations and establishing the conditions for the marketing, aggregation and protection of the electrical energy consumer, accessed 11 January 2025. <https://www.cnmc.es/expedientes/ipncnmc02324>

CNMC (Comisión Nacional de los Mercados y la Competencia) (2024e) Update on the State of the Electricity Retail Market. Consumer Flexibility (Actualización del estado del mercado minorista de electricidad. Flexibilidad del consumidor 2023.)(IS/DE/031/24). , accessed 4 February 2025. <https://www.cnmc.es/expedientes/isde03124>

Code de l'action sociale et des familles. Article L115-3 2022 (France) Code de l'action sociale et des familles. Article L115-3 (Social Action and Families Code. Article L115-3).

Collado Van Baumgrghen N and Martinez Jorge A (EsadeEcPol. Center for Economic Policy) (2024) *Does the electricity social bonus reach those who need it? Analysis of coverage rates and household characteristics*, <https://www.esade.edu/ecpol/es/publicaciones/llega-el-bono-social-electrico-a-quien-lo-necesita-analisis-de-las-tasas-de-cobertura-y-las-caracteristicas-del-hogar/>

Connors K (Energy Consumers Australia) (2024) *Submission to the AER's Issues Paper - Review of payment difficulty protections in the National Energy Customer Framework*, accessed 3 January 2025. <https://energyconsumersaustralia.com.au/publications/submission-aer-review-payment-difficulty-protections-national-energy-customer-framework>

Coupechoux S, Viñuales V, Sanchez JCB, Wojewoda N, Cornelis M, Pastorelli S, Voet L, Bajomi A, Goyens M, Pradeep K, Habib SG and Toussaint M (1 October 2024) 'For a real ban on electricity disconnections', *EurActiv*, accessed 5 January 2025. <https://www.euractiv.com/section/electricity/opinion/for-a-real-ban-on-electricity-disconnections/>

Cour de Comptes (2024) Follow-up control over the deployment and use of Linky meters (Contrôle de suite sur le déploiement et l'utilisation des compteurs Linky), accessed 16 February 2025. <https://www.ccomptes.fr/fr/publications/controle-de-suite-sur-le-deploiement-et-lutilisation-des-compteurs-linky>

CRE (Commission de Régulation de l'Énergie) (2024a) *Observatoire Troisième trimestre 2024 Les marchés de détail de l'électricité et du gaz naturel*, https://www.cre.fr/fileadmin/Documents/Rapports_et_etudes/2024/Observatoire_T3_2024.pdf

CRE (Commission de Régulation de l'Énergie) (2024b) *Observatoire. Deuxième trimestre 2024. Les marchés de détail de l'électricité et du gaz naturel* accessed 9 January 2025. https://www.cre.fr/fileadmin/Documents/Rapports_et_etudes/2024/Observatoire_T2_2024.pdf

CRE (Commission de Régulation de l'Énergie) (2024c) *Observatoire. Quatrième trimestre 2023. Les marchés de détail de l'électricité et du gaz naturel* accessed 9 January 2025 https://www.cre.fr/fileadmin/Documents/Rapports_et_etudes/2024/Observatoire_detail_T4_2023.pdf

CRE (Commission de Régulation de l'Énergie) (2024d) *Presentation. Electricity is supplied to end consumers through the retail market.*, accessed 9 January 2025. <https://www.cre.fr/en/electricity/retail-electricity-market/presentation.html>

Crosswell S (19 February 2025) '\$12m fine for life-support breaches', *Queensland Law Society Proctor*, accessed 22 February 2025. <https://www.qlsproctor.com.au/2025/02/origin-fined-12m-for-life-support-breaches/>

CRU (Commission for Regulation of Utilities) (2025) *What We Do*, accessed 16 January 2025. <https://www.cru.ie/about-us/what-we-do/?form=MG0AV3>

CRU (Commission for Regulation of Utilities) (29 September 2023a) *CRU Announces Disconnection Moratoriums for Upcoming Winter Period* accessed 23 February 2025. <https://www.cru.ie/about-us/news/cru-announces-disconnection-moratoriums-for-upcoming-winter-period/>

CRU (Commission for Regulation of Utilities) (2023b) *Electricity and Gas Suppliers' Handbook 2023. Version 4.2*, accessed 16 January 2025. <https://www.cru.ie/publications/24748/>

CRU (Commission for Regulation of Utilities) (2024a) *CRU Decision on Additional Customer Protection Measures for Household Electricity and Gas Customers 2024/25. Decision Paper*, accessed 17 January 2025. <https://www.cru.ie/publications/28280/>

CRU (Commission for Regulation of Utilities) (2024b) *CRU publishes updated customer protection measures for winter 2024/2025*, accessed 17 January 2025. <https://www.cru.ie/about-us/news/cru-publishes-updated-customer-protection-measures-for-winter-2425/>

CRU (Commission for Regulation of Utilities) (2024c) *Government Electricity Costs Emergency Benefit Scheme*, accessed 17 January 2025. <https://www.cru.ie/consumer-information/government-electricity-costs-emergency-benefit-scheme-faqs/>

CRU (Commission for Regulation of Utilities) (2025a) *Compliance and Enforcement*, accessed 16 January 2025. <https://www.cru.ie/regulations-policy/energy/energy-compliance-and-enforcement/>

CRU (Commission for Regulation of Utilities) (2025b) *Energy Suppliers in Ireland*, accessed 17 January 2025. <https://www.cru.ie/consumer-information/switch-supplier/energy-suppliers-in-ireland/>

CRU (Commission for Regulation of Utilities) (2025c) *Smart Meters*, accessed 23 February 2025. <https://www.cru.ie/consumer-information/billing/smart-meters-and-services/>

Daniel L, Baker E, Beer A and Pham NTA (2021) 'Cold housing: evidence, risk and vulnerability', *Housing Studies*, 36(1):110-130, doi:10.1080/02673037.2019.1686130.

Daniel L, Moore T, Baker E, Beer A, Willand N, Horne R and Hamilton C (2020) 'Warm, cool and energy-affordable housing policy solutions for low-income renters' *Australian Housing and Urban Research Institute*, AHURI Final Report website, <https://www.ahuri.edu.au/research/final-reports/338>

Danieli A (2021) '« Stop linky, non merci »', *Réseaux*, N° 228(4):233-266, doi:10.3917/res.228.0233.

Das RR, Martiskainen M, Bertrand LM and MacArthur JL (2022) 'A review and analysis of initiatives addressing energy poverty and vulnerability in Ontario, Canada', *Renewable and Sustainable Energy Reviews*, 165, doi:10.1016/j.rser.2022.112617.

DBEIS (Department for Business Energy & Industrial Strategy) (2021) *Sustainable Warmth. Protecting Vulnerable Households in England*, accessed 13 April 2025. https://assets.publishing.service.gov.uk/media/6024fcabd3bf7f031e1bdc80/CCS207_CCS0221018682-001_CP_391_Sustainable_Warmth_Print.pdf

DCCEEW (Australian Government Department of Climate Change, Energy, the Environment and Water,) (2024a) *National Energy Customer Framework*, accessed 2 January 2025. <https://www.dcceew.gov.au/energy/markets/national-energy-customer-framework>

DCCEEW (Australian Government Department of Climate Change, Energy the Environment and Water,) (2024b) *National Energy Equity Framework*, accessed 13 April 2025. <https://consult.dcceew.gov.au/national-energy-equity-framework>

DCCEW (Australian Government Department of Climate Change, Energy, the Environment and Water,) (2025) *Energy Bill Relief Fund*, Energy Bill Relief Fund website, accessed 13 April 2025. <https://www.energy.gov.au/energy-bill-relief-fund>

DECC (Department of the Environment, Climate and Communications,) (2022) *Energy Poverty Action Plan*, accessed 24 February 2025. <https://assets.gov.ie/242876/dc4744fb-d2cd-4ba1-b4e1-170cbd77816a.pdf>

Decker C (2020) Consumer protection frameworks for new energy products and services and the traditional sale of energy in Australia. Final report for the Australian Energy Market Commission, accessed 5 January 2025. https://www.aemc.gov.au/sites/default/files/documents/consultant_final_report_-_consumer_protection_frameworks.pdf

Décret n° 2008-780 2023 (Spain) Décret n° 2008-780 du 13 août 2008 relatif à la procédure applicable en cas d'impayés des factures d'électricité, de gaz, de chaleur et d'eau Modifié par Decret n°2023-133 du 24 février 2023 (Decree No. 2008-780 of August 13, 2008 relating to the procedure applicable in the event of unpaid electricity, gas, heat and water bills modified by Decree No. 2023-133 of 24 February 2023).

Defensor del Pueblo (2017) Protection of vulnerable consumers in the field of electrical energy (Protección de los consumidores vulnerables en materia de energía eléctrica), accessed 5 February 2025. <https://portal-ccu.consumo.gob.es/sites/default/files/documentos/BonoSocial.pdf>

DESNZ and BRE (28 February 2023 2023) 'Fuel Poverty Methodology Handbook (Low Income Low Energy Efficiency). 28 February 2023' *Department for Energy Security & Net Zero*, <https://www.gov.uk/government/publications/fuel-poverty-statistics-methodology-handbook>

Desvallées L, Coutard O and Rutherford J (2020) 'The politics of domestic energy vulnerability in the Barcelona region, between deconfinement and reconfinement', *Geoforum*, 116:201-210, doi:10.1016/j.geoforum.2020.08.009.

Dingley O (2023a) *Addressing Energy Poverty in Ireland*, accessed 15 January 2025. <https://publicpolicy.ie/environment/addressing-energy-poverty-in-ireland/>

Dingley O (2023b) Measures to tackle energy poverty and rising energy prices. Ireland,

Directive (EU) 2023/1791 2023 (European Union) 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) (Text with EEA relevance).

Directive (EU) 2024/1711 of the European Parliament and of the Council of 13 June 2024 2024.

Dobbins A, Nerini FF, Brajković J, Grgurev I, Miglio RD, Deane P and Fahl U (Insight_E) (2016) Measures to protect vulnerable consumers in the energy sector: an assessment of disconnection safeguards, social tariffs and financial transfers, accessed 22 September 2024. <https://www.gipuzkoa.eus/eu/web/ingurumena/-/measures-to-protect-vulnerable-consumers-in-the-energy-sector-an-assessment-of-disconnection-safeguards-social-tariffs-and-financial-transfers>

Dubois U (2020) *Electricity and gas disconnections in France*, accessed 25 September 2024. https://www.eppedia.eu/sites/default/files/2021-01/Dubois_2020_Electricity%20and%20gas%20disconnections%20in%20France_EP-pedia_2.pdf

EAI (Electricity Association of Ireland) (2023a) *Customer Protection Measures 2022/2023*, accessed 30 January 2025. <https://www.eaireland.com/customer-protection-measures-2022-2023>

EAI (Electricity Association of Ireland) (2023b) *Energy Engage Code 2023*, accessed 15 January 2025. <https://eaireland.com/energyengagecode/>

EAI (Electricity Association of Ireland) (2025) *The Energy Engage Code*, accessed 15 January 2025. <https://eaireland.com/energyengagecode/>

ECA (Energy Consumers Australia) (2022) *What are the latest trends for domestic energy bills?*, accessed 22 February 2025. <https://energyconsumersaustralia.com.au/news/what-are-the-latest-trends-for-domestic-energy-bills>

ECMC (Energy and Climate Change Ministerial Council) (14 March 2025) *Meeting Communiqué*, accessed 13 April 2025. <https://www.energy.gov.au/sites/default/files/2025-03/ECMC%20Communique%2014%20March%202025.docx>

EDF (Électricité de France) (2021) *Press release. EDF will no longer request that electricity be cut off to its residential customers*, accessed 22 September 2024. <https://www.edf.fr/sites/groupe/files/epresspack/1927/46d73d5eefa09162d46a07a25e304eb3.pdf>

EDF (Électricité de France) (2024a) *Acting for a Positive Impact. Impact Report 2024*, accessed 9 January 2025. <https://www.edf.fr/en/the-edf-group/taking-action-as-a-responsible-company/corporate-social-responsibility/reports-and-indicators/impact>

EDF (Électricité de France) (2024b) *Universal Registration Document 2023 Including the Annual Financial Report*, accessed 9 January 2025. <https://www.edf.fr/sites/groupe/files/2024-10/edf-urd-annual-financial-report-2023-en-accessible.pdf>

EDF (Électricité de France) (2025) *Electricity residential customers in France*, accessed 9 January 2025. <https://www.edf.fr/en/the-edf-group/dedicated-sections/investors/financial-and-extra-financial-performance/operational-performance/electricity-residential-customers-in-france>

EirGrid (2025) *EirGrid Group*, accessed 30 January 2025. <https://www.eirgrid.ie/about-us/eirgrid-group>

Electric Ireland *Code of Practice on Pay As You Go Metering and Budget Controllers*, accessed 13 April 2025. <https://prd-cdn.electricireland.ie/media/docs/default-source/cop/code-of-practice-on-pay-as-you-go-metering-and-budget-controllers.pdf>

Electric Ireland (21 October 2020) *Electric Ireland announces Moratorium on Disconnection during Level 5 of COVID-19 Plan* accessed 23 February 2025. <https://esb.ie/media-centre-news/press-releases/article/2020/10/21/electric-ireland-announces-moratorium-on-disconnection-during-level-5-of-covid-19-plan>

Electric Ireland (2022) *Customer Hardship Fund Support*, accessed 30 January 2025. <https://www.electricireland.ie/residential/news/detail/customer-hardship-fund-support>

Electric Ireland (2024) *Electric Ireland Announces Additional Price Reductions*, accessed 13 April 2025. <https://www.electricireland.ie/residential/news/detail/electric-ireland-announces-additional-price-reductions>

Electric Ireland (2025) *Electric Ireland*, accessed 30 January 2025. <https://www.electricireland.ie/business/about-us>

Endesa (2021) *What is the Thermal Social Bonus?*, accessed 11 January 2025. <https://www.endesa.com/en/blogs/endesa-s-blog/air-conditioning/thermal-social-voucher>

Endesa (2024a) *Endesa has increased the number of Social Bonus beneficiaries by 22% in the last year*, accessed 12 January 2025. https://www.endesa.com/content/dam/endesa-com/endesa-en/home/prensa/noticias/documentos/2024/3/en_ndp_Bono%20social.docx

Endesa (2024b) *What is the VPSC?*, accessed 12 January 2025. <https://www.endesa.com/en/the-e-face/energy-sector/vpsc-voluntary-price-small-consumer>

Endesa (2025) *Social Bonus: what is it and how to request it?*, accessed 11 January 2025. <https://www.endesa.com/en/advice/ratesubsidy/rate-subsidy#:~:text=The%20social%20bonus%20for%20low,by%2015%25%2C%20as%20follows:>

Energia Group (2025) *Powering the Energy Transition. Unaudited interim consolidated financial statements. Second Quarter 2025*, accessed 13 April 2025. <https://www.energiagroup.com/globalassets/document-library/2025-q2/q2-2025-report.pdf>

EnergyAustralia (2025) *Help and support. Other fees and charges*, accessed 3 January 2025. <https://www.energyaustralia.com.au/home/help-and-support/faqs/other-fees-and-charges>

EnergyQueensland (2025) *Who we are*, accessed 24 February 2025. <https://www.energyq.com.au/>

Energynews (4 November 2024) 'Energy Poverty in France: When Electricity Cuts Affect Low-Income Households', *Energynews*, accessed 8 January 2024. <https://energynews.pro/en/energy-poverty-in-france-when-electricity-cuts-affect-low-income-households/>

EPSU (European Public Service Union) (2023) *Big win for the right to energy: a prohibition on disconnections in Europe*, accessed 4 January 2025. <https://www.epsu.org/article/big-win-right-energy-prohibition-disconnections-europe>

ERGEG (Gas ERGfEa) (2009) Status review of the definitions of vulnerable customer, default supplier and supplier of last resort. Ref: E09-CEM-26-04, 16 July 2009, report number 09.09.2009 Reference: E09-CEM-26-04, <https://www.ceer.eu/publication/status-review-of-the-definitions-of-vulnerable-customer-default-supplier-and-supplier-of-last-resort>

ErgonEnergy (2025) *Support programs*, accessed 24 February 2025. <https://www.ergon.com.au/retail/residential/support-programs>

ESB (5 September 2024) *Electric Ireland announces price reductions for residential electricity and gas customers* accessed 17 January 2025. <https://esb.ie/media-centre-news/press-releases/article/2024/09/05/electric-ireland-announces-price-reductions-for-residential-electricity-and-gas-customers>

ESC (Essential Services Commission) (2017) *Payment difficulty framework. Final decision*, accessed 3 January 2025. <https://www.esc.vic.gov.au/electricity-and-gas/codes-guidelines-and-policies/energy-retail-code/energy-retail-code-review-2016-customers-facing-payment-difficulties#toc--initial-draft-decision%7Ctabs-container1>

ESC (Essential Services Commission) (2024) *Energy Retail Code of Practice (version 3)*, accessed 2 January 2025. <https://www.esc.vic.gov.au/electricity-and-gas/codes-guidelines-and-policies/energy-retail-code-practice>

ESC (Essential Services Commission) 2025a) *AGL fined \$924,600 for raising prices for 15,845 customers* accessed 23 February 2025. <https://www.esc.vic.gov.au/media-centre/agl-fined-924600-raising-prices-15845-customers>

ESC (Essential Services Commission) (2025b) *Victorian Energy Market Dashboard* accessed 3 January 2025. <https://www.esc.vic.gov.au/electricity-and-gas/market-performance-and-reporting/victorian-energy-market-report/energy-market-dashboard>

Eurelectric (2024) Protecting vulnerable and energy-poor customers from disconnections: effective safeguards in Europe and how suppliers can contribute. Position Paper Article-28a., accessed 8 January 2025. https://www.eurelectric.org/wp-content/uploads/2024/10/Position-Paper_Article-28a_Preventing-Disconnections_Final.pdf

EuroCities (2023) *Guaranteeing energy rights*, accessed 12 January 2025. <https://eurocities.eu/stories/guaranteeing-energy-rights/>

European Commission (2022) 'Joint common principles for enhanced consumer protection this winter'. https://energy.ec.europa.eu/system/files/2022-12/Joint%20common%20principles_15%20Dec_for%20communication.pdf

European Commission (2023a) *Commission Staff Working Document. Reform of Electricity Market Design*, report number SWD(2023) 58 final, accessed 5 January 2025. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52023SC0058>

European Commission (2023b) *EU guidance on energy poverty. Commission Staff Working Document SWD(2023) 647 final*, accessed 22 September 2024. https://energy.ec.europa.eu/system/files/2023-10/SWD_2023_647_F1_OTHER_STAFF_WORKING_PAPER_EN_V5_P1_3016190.PDF

European Commission (2023c) *Reform of Electricity Market Design. Commission Staff Working Document. (SWD (2023) 58 final)*, accessed 22 September 2024. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023SC0058>

European Commission (2024) *2024 Country Report – Spain. Commission Staff Working Document*, accessed 11 January 2025. https://economy-finance.ec.europa.eu/document/download/c683835d-4b44-45b1-bde9-057d53a4b7f3_en?filename=SWD_2024_609_1_EN_Spain.pdf

European Commission (2025) *Protecting and empowering energy consumers*, Energy, Climate change, Environment website, accessed 4 January 2025. https://energy.ec.europa.eu/topics/markets-and-consumers/energy-consumers-and-prosumers/protecting-and-empowering-energy-consumers_en

European Directive 2019/944 2019 (European Union) European Directive 2019/944 on the common rules for the internal market for electricity and amending Directive 2012/27/EU.

European Parliament legislative resolution of 11 April 2024 on the proposal for a directive of the European Parliament and of the Council amending Directives (EU) 2018/2001 and (EU) 2019/944 as regards improving the Union's electricity market design (COM(2023)0148– C9-0038/2024 – 2023/0077B(COD)) 2024.

Eurostat (2024) *Living conditions in Europe - material deprivation and economic strain*, accessed 5 February 2025. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Living_conditions_in_Europe_-_material_deprivation_and_economic_strain

Evergreen Electrica (2025) *Changes in the electricity bill ...* accessed 1 March 2024. <https://evergreen-electrica.com/changes-in-the-electricity-bill-in-spain-in-2025?lang=en>

EWON (Energy & Water Ombudsman NSW) (2014) *Prepayment meters. An analysis of the prepayment option for customers*, accessed 18 January 2025. <https://www.ewon.com.au/content/Document/PPM%20Report%20PDF.pdf#:~:text=A%20number%20of%20stakeholders%20were%20in%20agreement,consider%20that%20current%20payment%20options%20such%20as.>

EWON (2022) *Disconnections and restriction of supply*, accessed 5 January 2024. https://www.ewon.com.au/content/Document/Resources_for_customers/EWON-Factsheet-Disconnection.pdf

EWOSA (Australia EWOS) (2025) *What are protected periods?*, accessed 1 March 2025. <https://ewosa.com.au/what-are-protected-periods>

EWOV (Energy and Water Ombudsman Victoria) (2024) *Disconnection and restriction*, accessed 21 September 2024. <https://www.ewov.com.au/common-complaints/disconnection-and-restriction#:~:text=Your%20company%20isn't%20allowed,on%20any%20day%20for%20water>

Flaherty M, Carley S and Konisky DM (2020) 'Electric utility disconnection policy and vulnerable populations', *The Electricity Journal*, 33(10):106859, doi:10.1016/j.tej.2020.106859.

Fondation Abbé Pierre (FEANSTA) (2023) *Manifesto for a ban on energy disconnections in Europe*, Manifesto for a Ban on Disconnections in Europe website, accessed 21 September 2024. <https://www.feantsa.org/en/news/2023/05/15/manifesto-for-a-ban-on-disconnections-in-europe#:~:text=Manifesto%20for%20a%20Ban%20on%20Energy%20Disconnections%20in%20Europe&text=As%20the%20European%20Parliament%20is,disconnections%20in%20a%20common%20Manifesto>.

Foxe K (1 November 2023) 'Energy regulator was warned disconnection moratoriums were leading to gaming of system', *RTE*, accessed 5 January 2025. <https://www.rte.ie/news/business/2023/11/01/1414116-energy-regulator-was-warned-about-impact-of-moratoriums/>

Friends of the Earth (23 September 2024) Civil Society Organisations Dismayed by Universal Energy Credit Proposal in Budget 2025, Call for Targeted Measures to Address Energy Poverty Ahead of Winter. accessed 17 January 2023. <https://www.friendsoftheearth.ie/news/civil-society-organisations-dismayed-by-universal-energy-cre/>

Frontier Economics (2020) *Residential energy consumption benchmarks. Final report for the Australian Energy Regulator*, accessed 11 January 2025. <https://www.aer.gov.au/industry/registers/resources/guidelines/electricity-and-gas-consumption-benchmarks-residential-customers-2020>

Frontier Economics (2024) *Warm Homes Mission. Addressing Fuel Poverty with Energy Efficiency*, accessed 13 April 2025. <https://www.frontier-economics.com/media/crehstbj/warm-homes-mission-final-for-upload.pdf>

Gaffney F, Deane JP and Gallachóir BPÓ (2017) 'A 100 year review of electricity policy in Ireland (1916–2015)', *Energy Policy*, 105:67-79, doi:10.1016/j.enpol.2017.02.028.

Gallego VM and Cabrero GR (2018) 'Spain approves a new social discount rate on electricity bills (bono social eléctrico) for vulnerable consumers', *European Social Policy Network Flash Report*, 2018(13), accessed 12 January 2025. <https://ec.europa.eu/social/BlobServlet?docId=19205&langId=en>

García Alvarez G and Tol RSJ (2021) 'The impact of the Bono Social de Electricidad on energy poverty in Spain', *Energy Economics*, 103:105554, doi:10.1016/j.eneco.2021.105554.

Gencat (Generalitat de Catalunya) (2024) *The Income Sufficiency Indicator amounts to 778.49 euros*, accessed 16 February 2025. <https://web.gencat.cat/en/actualitat/detall/Aprovat-laugment-de-lIndicador-de-Renda-de-Suficiencia>

Government of Ireland (2022) *Energy Poverty Action Plan*, accessed 17 January 2025. <https://www.gov.ie/en/consultation/c07a4-consultation-on-the-revised-energy-poverty-action-plan/>

Government of Ireland (2024) *Revised Energy Poverty Action Plan 2024. Consultation*, accessed 17 January 2025. <https://www.gov.ie/en/consultation/c07a4-consultation-on-the-revised-energy-poverty-action-plan/>

Government of South Australia (2024) *Disconnections*, Disconnections website, accessed 12 September 2024. <https://www.sa.gov.au/topics/energy-and-environment/energy-retailers-and-contracts/disconnections>

Guiteras M (25 April 2018) 'Alliance against Energy Poverty, Cataluña. Standing up to human rights abuses by energy corporations through advocacy and mutual support', *Transnational Institute*, accessed 13 January 2025. <https://www.tni.org/en/article/alliance-against-energy-poverty-cataluna>

Guiteras M (Enginyeria Sense Frontiers and Right to Energy Coalition) (2021) *The right to energy in the EU in times of pandemic*, https://powerpoor.eu/sites/default/files/2022-07/The-right-to-energy-in-the-EU-in-times-of-pandemic_V3.pdf

Hager (2025) *Wiring Rules. New Australian Residential Installations*, accessed 11 January 2025. <https://hager.com/au/inspiration-and-knowledge/wiring-rules/new-residential-installations>

Haynes O (30 March 2023) 'Robin Hood' electricians and oil blockades: The radical tactics of France's striking energy workers', *Euronews*, accessed 6 January 2025. <https://www.euronews.com/green/2023/03/30/robin-hood-electricians-and-oil-blockades-the-radical-tactics-of-frances-striking-energy-w>

Heap L (The Centre for Future Work at the Australia Institute) (2024) *Doing it Tough: How Australians are experiencing the cost of living crisis*, accessed 24 February 2025. <https://apo.org.au/node/328711>

Hearne J (4 October 2024) 'Budget 2025_ All you need to know about the new energy credit', *Irish Examiner*, accessed 17 January 2025. <https://www.irishexaminer.com/business/economy/arid-41488568.html>

Heller P, Schittekatte T and Batlle C (2024) *EU and US Approaches to Address Energy Poverty: Classifying and Evaluating Design Strategies*, Massachusetts Institute of Technology Center for Energy and Environmental Policy Research, Cambridge, Massachusetts

Hernández D and Laird J (2021) 'Surviving a shut-Off: U.S. households at greatest risk of utility disconnections and how they cope', *American Behavioral Scientist*, 66(7):856-880, doi:10.1177/00027642211013401.

Hernández D and Phillips D (2015) 'Benefit or burden? Perceptions of energy efficiency efforts among low-income housing residents in New York City', *Energy Research & Social Science*, 8:52-59, doi:10.1016/j.erss.2015.04.010.

Hernández D and Siegel E (2019) 'Energy insecurity and its ill health effects: A community perspective on the energy-health nexus in New York City', *Energy Research & Social Science*, 47:78-83, doi:10.1016/j.erss.2018.08.011.

Hesselman M, Varo A, Guyet R and Thomson H (2020) *COVID-19 Energy Map*, accessed 22 September 2024. <https://www.covidenergymap.com/>

Hesselman M, Varo A, Guyet R and Thomson H (2021) 'Energy poverty in the COVID-19 era: Mapping global responses in light of momentum for the right to energy', *Energy Research & Social Science*, 81:102246, doi:10.1016/j.erss.2021.102246, PubMed-not-MEDLINE database. <https://www.ncbi.nlm.nih.gov/pubmed/34692421>

Hesselman M, Varo A and Laakso S (ENGAGER) (2019) *The Right to Energy in the European Union. Policy Brief No. 2, June 2019*, accessed 17 February 2025. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3466803

Hillman M (2004) 'The importance of environmental justice in stream rehabilitation', *Ethics, Place & Environment*, 7(1-2):19-43, doi:10.1080/1366879042000264750.

HISPACOOOP (Confederació EdCdCyU, .) (2021) *Study on vulnerable consumers in the electricity sector (Estudio sobre los consumidores vulnerables en el sector eléctrico)*, accessed 5 February 2025. <https://hispacoop.es/wp-content/uploads/2021/02/EstudioConsumidoresElectricidadDEF.pdf>

Houses of Oireachtas (2022) *Domestic Electricity and Gas Disconnections: Motion [Private Members]*, Dáil Éireann debate - Tuesday, 18 Oct 2022. Vol. 1027 No. 7 website, accessed 23 February 2025. <https://www.oireachtas.ie/en/debates/debate/dail/2022-10-18/15/>

Houses of the Oireachtas (2022) *Departmental Data – Wednesday, 12 Oct 2022 – Parliamentary Questions (33rd Dáil)*, accessed 17 January 2025. <https://www.oireachtas.ie/en/debates/question/2022-10-12/12/>

Housing Rights Watch (2023) *Protecting the Right to Access Energy in Europe*, accessed 22 September 2024. <https://www.housingrightswatch.org/content/protecting-right-access-energy-europe>

IEA (International Energy Agency) (2023) *Australia. Energy Policy Review*, accessed 28 February 2025. <https://www.iea.org/reports/australia-2023>

INSEE (Institut national de la statistique et des études économiques) (2022) *Consumption unit*, accessed 16 February 2025. <https://www.insee.fr/en/metadonnees/definition/c1802>

IPCC (Shukla PR, Skea J, Slade R, Frader R, Pathak M, Khourdajie AA, Belkacemi M, Diemen Rv, Hasija A, Lisboa G, Luz S, Malley J, McCollum D, Some S and Vyas P) (2022) *Climate Change 2022. Mitigation of Climate Change Working Group III Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, <https://www.ipcc.ch/report/ar6/wg3/>

Jacobs F, Harrington E, Lyles W, Tirado-Herrero S, Yacamán-Ochoa C, Ruiz-Rivas U, Martínez-Crespo J, Reyes A, Newton J, Mistur E, Joshi N, Kamuti T, Arond E, Strambo C, Vega-Araújo J, Zastoupil G, Solis M, Vazquez D, Flores L, Elmallah S, Jacome V and Hendawy M (2024) 'Just Energy Transitions', *Planning Theory & Practice*, 25(4):569-596, doi:10.1080/14649357.2024.2407697.

JEC (The Justice and Equity Centre) (2024) *AER Review of payment protections in the NECF. Joint Submission*, accessed 3 January 2025. <https://cota.org.au/information/resources/submission/australian-energy-regulators-review-of-payment-protections-in-the-necf-joint-submission/>

Joint Committee on Social Protection Community and Rural Development and the Islands (Houses of the Oireachtas) (2024) *Report on Energy Poverty*, accessed 24 February 2025. https://data.oireachtas.ie/ie/oireachtas/committee/dail/33/joint_committee_on_social_protection_community_and_rural_development_and_the_islands/reports/2024/2024-06-19_report-on-energy-poverty_en.pdf

Jowers K, Timmins C, Bhavsar N, Hu Q and Marshall J (National Bureau of Economic Research) (2021) *Housing Precarity & the COVID-19 Pandemic: Impacts of Utility Disconnection and Eviction Moratoria on Infections and Deaths Across US Counties*. Working paper 28394, accessed 25 September 2024. <https://www.nber.org/papers/w28394>

Kwofie E (19 November 2024) 'Blog – Disconnection Moratoriums: A Lifeline Against Extreme Temperatures', *Low-Income Energy Network*, accessed 20 January 2025. <https://www.lowincomeenergy.ca/blog-disconnection-moratoriums-a-lifeline-against-extreme-temperatures%E2%99%BC/>

Labaste S (St Vincent de Paul Society and Alviss Consulting) (2019) Households in the Dark II: Mapping electricity disconnections in South Australia, Victoria, New South Wales and South East Queensland, accessed 22 September 2024. https://www.vinnies.org.au/media/5v3iua3j/2019-households-in-the-dark-ii-a.pdf?folder=shared__energy__disconnections

Lawson AJ and Mills C (Congressional Research Service) (2023) *Electric Utility Disconnections*, accessed 21 September 2024. <https://crsreports.congress.gov/product/pdf/R/R47417>

Le Médiateur National de l'Energie (2021) Energy insecurity: what is the role of the solidarity correspondents of energy suppliers? (*Précarité énergétique : quel est le rôle des correspondants solidarité des fournisseurs d'énergie ?*), accessed 17 February 2025. <https://www.energie-info.fr/precarite-energetique-quel-est-le-role-des-correspondants-solidarite-des-fournisseurs-denergie/?pdf=3967>

Le Médiateur National de l'Energie (2023a) Best practice recommendations of the national energy mediator (Recommandations de bonnes pratiques du médiateur national de l'énergie), accessed 17 February 2025. <https://www.energie-mediateur.fr/le-mediateur-national-de-lenergie-publie-son-guide-des-recommandations-de-bonnes-pratiques/>

Le Médiateur National de l'Energie (2023b) The national energy mediator has published its guide to good practice recommendations (Le médiateur national de l'énergie a publié son guide des recommandations de bonnes pratiques), accessed 16 February 2025. <https://www.energie-mediateur.fr/le-mediateur-national-de-lenergie-publie-son-guide-des-recommandations-de-bonnes-pratiques/>

Le Médiateur National de l'Energie (27 June 2024) 2024 Energy Check: Setting up a portal in case of non-receipt (*Chèque énergie 2024 : mise en place d'un portail en cas de non réception*) accessed 16 February 2025. <https://www.energie-info.fr/cheque-energie-2024/>

Le Médiateur National de l'Energie (2025a) *Billing frequency and payment methods (La fréquence de facturation et les modes de paiement)*, accessed 23 February 2025. https://www.energie-info.fr/fiche_pratique/la-frequence-de-facturation-et-les-modes-de-paiement/

Le Médiateur National de l'Energie (2025b) Individual customers: National electricity and/or natural gas suppliers in the network (Clients particuliers: Fournisseurs nationaux d'électricité et/ou de gaz naturel en réseau), accessed 14 February 2025. <https://api-comparateur-offres.energie-info.fr/api/files/providers/list-for-individuals>

Le Médiateur national de l'énergie (2024) *1 million interventions for unpaid energy bills in 2023 (1 million d'interventions pour impayés de factures d'énergie en 2023)*, accessed 9 January 2025. <https://www.energie-mediateur.fr/1-million-dinterventions-pour-impayes-de-factures-denergie-en-2023/>

Lee BL, Wilson C, Simshauser P and Majiwa E (2021) 'Deregulation, efficiency and policy determination: An analysis of Australia's electricity distribution sector', *Energy Economics*, 98, doi:10.1016/j.eneco.2021.105210.

Legros M and Martin C (European Social Policy Network) (2022) *Combating energy poverty in France: a decade of experience*. , report number ESPN Flash Report 2022/51, accessed 16 February 2025. <https://ec.europa.eu/social/BlobServlet?docId=25972&langId=en>

Ley 24/2013 2013 (Spain) Ley 24/2013, de 26 de diciembre, del Sector Eléctrico. (Law 24/2013, of December 26, of the Electric Sector.).

Ley 24/2015 2015 (Cataluña) Ley 24/2015, de 29 de julio, de Medidas Urgentes para Afrontar la Emergencia en el Ámbito de la Vivienda y la Pobreza Energética.

Lilley Z (9 March 2024) 'Warning over Linky electricity meter frauds in France', *The Connexion*, accessed 10 January 2025. <https://www.connexionfrance.com/practical/warning-over-linky-electricity-meter-frauds-in-france/635308>

Lilley Z (7 January 2025) 'French court orders withdrawal of Linky smart meter in home after health complaints. ', *The Connexion*, accessed 10 January 2025. <https://www.connexionfrance.com/practical/french-court-orders-withdrawal-of-linky-smart-meter-in-home-after-health-complaints/698302>

Löfquist L (2019) 'Is there a universal human right to electricity?', *The International Journal of Human Rights*, 24(6):711-723, doi:10.1080/13642987.2019.1671355.

Lombardi P (19 November 2024) 'Endesa to invest €9.6 billion in electricity networks between 2025 and 2027', *MarketScreener*, accessed 16 February 2025. <https://es.marketscreener.com/cotizacion/accion/ENDESA-S-A-69599/noticia/Endesa-invertir-9-600-millones-de-euros-en-redes-electricas-entre-2025-y-2027-48403687/>

Longden T, Quilty S, Riley B, White LV, Klerck M, Davis VN and Frank Jupurrurla N (2021) 'Energy insecurity during temperature extremes in remote Australia', *Nature Energy*, 7(1):43-54, doi:10.1038/s41560-021-00942-2.

Marin PL, García JA and Bañez F (2023) 'Spain', in Schwartz DL (ed) *The Energy Regulation and Markets Review*, Law Business Research Ltd, London.

Mastropietro P (2022) 'Energy poverty in pandemic times: Fine-tuning emergency measures for better future responses to extreme events in Spain', *Energy Research & Social Science*, 84:102364, doi:10.1016/j.erss.2021.102364, PubMed-not-MEDLINE database. <https://www.ncbi.nlm.nih.gov/pubmed/34786349>

McAuliffe M (Energy Consumers Australia) (2025) *Australian Energy Market Commission – Energy Consumer Reform Consultation paper*, accessed 23 February 2025. <https://www.aemc.gov.au/sites/default/files/2025-02/%28late%20-%2024%20Jan%29%20ECA.pdf>

McLaren-Kennedy P (11 February 2023) '41,000 households living in poverty in Spain to have their energy debt cancelled', *Euro Weekly*,, accessed 12 January 2025. <https://euroweeklynnews.com/2023/02/11/41000-households-to-have-their-energy-debt-cancelled/>

McRae I (2 March 2023) '41,000 households in Spain have had their energy debts written off ', *Big Issue*, accessed 12 January 2025. <https://www.bigissue.com/news/social-justice/households-energy-debts-written-off-catalonia/>

Memmott T, Carley S, Graff M and Konisky DM (2023) 'Utility disconnection protections and the incidence of energy insecurity in the United States', *iScience*, 26(3):106244, doi:10.1016/j.isci.2023.106244. <https://www.ncbi.nlm.nih.gov/pubmed/36949753>

Middha B and Willand N (2023) 'It's not as easy as 'heat or eat' - Exploring the intersecting vulnerabilities of energy and food in domestic practices in Australia', *Energy Research & Social Science*, 105(103288), doi:10.1016/j.erss.2023.103288.

Middlemiss L (2020) 'Energy poverty: Understanding and addressing systemic inequalities', in Galvin R (ed) *Inequality and Energy*, Academic Press, doi:10.1016/b978-0-12-817674-0.00005-9.

Middlemiss L (2022) 'Who is vulnerable to energy poverty in the Global North, and what is their experience?', *WIREs Energy and Environment*, 11(6):11:e455, doi:10.1002/wene.455.

Ministère de l'Économie, des Finances et de la Souveraineté industrielle et numérique,, (6 May 2024) *Energy check: an application portal for low-income households whose situation has changed in 2022 and who have not received the energy check will open in July* (Chèque énergie : un portail de demande pour les ménages modestes dont la situation a évolué en 2022 et qui n'ont pas reçu le chèque énergie ouvrira en juillet) accessed 21 April 2025. <https://presse.economie.gouv.fr/download?n=1833%20-%20Ch%C3%A8que%20%C3%A9nergie,%20un%20portail%20de%20demande%20pour%20les%20m%C3%A9nages%20modestes%20dont%20la%20situation%20a%20%C3%A9volu%C3%A9%20en%202022-pdf&id=130368>

MITECO (Ministerio para la Transición Ecológica y el Reto Demográfico) (2022) Actualisation of the indicators of the National strategy against energy poverty (Actualización de indicadores de la Estrategia de Pobreza Energética), accessed 4 February 2025. https://www.miteco.gob.es/content/dam/miteco/es/ministerio/planes-estrategias/estrategia-pobreza-energetica/actualizaciondelosindicadoresdelaestrategianacionalcontralapobrezaenergetica-2022_tcm30-549718.pdf

MITECO (Challenge MfETatD) (2025) *Voluntary Price for Small Consumers (PVPC)*, accessed <https://www.miteco.gob.es/en/energia/energia-electrica/electricidad/contratacion-suministro/precio-voluntario.html>.

Mokrani F (8 December 2024) 'Electricity bills to surge in Spain: How will it affect you?', *EuroWeekly*, accessed 11 January 2025. <https://euroweeklynnews.com/2024/12/08/electricity-bills-to-surge-in-spain-how-will-it-affect-you/>

Mussida C, Parisi ML and Pontarollo N (2023) 'Severity of material deprivation in Spanish regions and the role of the European Structural Funds', *Socio-Economic Planning Sciences*, 88, doi:10.1016/j.seps.2023.101651.

Naturgy (22 May 2024) Naturgy carries out more than 44,000 actions against electricity fraud and recovers energy equivalent to the consumption of 47,000 households accessed 2 March 2025. <https://www.naturgy.com/en/press-release/naturgy-carries-out-more-than-44000-actions-against-electricity-fraud-and-recovers-energy-equivalent-to-the-consumption-of-47000-households/>

NCOSS (Council of Social Service of NSW) (2014) *Prepayment meters. A response to EWON's Discussion Paper*, accessed 23 February 2025. <https://www.ncoss.org.au/wp-content/uploads/2015/08/140909-NCOSSresponse-EWON-prepayment-meters.pdf>

Nemeth S (2023) 'Hungarian government to continue utility price cap scheme', *About Hungary*, accessed 1 September 2023. <https://abouthungary.hu/news-in-brief/hungarian-government-to-continue-utility-price-cap-scheme>

NSW National Energy Retail Law 2020 (New South Wales).

Núñez-Peiró M, Sánchez-Guevara Sánchez C, Sanz-Fernández A, Gayoso-Heredia M, López-Bueno JA, Neila González FJ, Linares C, Díaz J and Gómez-Muñoz G (2021) 'Exposure and Vulnerability Toward Summer Energy Poverty in the City of Madrid: A Gender Perspective', in Bisello A, Vettorato D, Haarstad H and Borsboom-van Beurden J (eds) *Smart and Sustainable Planning for Cities and Regions. Results of SSPCR 2019*, Springer, Cham, Switzerland.

Office for National Statistics (28 March 2023) 'How fuel poverty is measured in the UK: March 2023. The similarities and differences in how fuel poverty is measured across the UK.' *Office for National Statistics*, accessed 16 August 2023.
<https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/howfuelpovertyismeasure dintheuk/march2023>

Ofgem (2025) Ofgem sets out prepayment meter expectations to energy bosses as EDF, Octopus and Scottish Power meet regulator's restart conditions, accessed 10 January 2025.
<https://www.ofgem.gov.uk/press-release/ofgem-sets-out-prepayment-meter-expectations-energy-bosses-edf-octopus-and-scottish-power-meet-regulators-restart-conditions>

ONPE (Précarité ONdI and Energétique) (2024) *Tableau de bord de l'Observatoire National de la Précarité Énergétique (Dashboard of the National Observatory of Energy Insecurity)*, accessed 8 January 2025. <https://librairie.ademe.fr/batiment/7803-onpe-tableau-de-bord-de-la-precarite-energetique-decembre-2024.html>

Ontario Energy Board (2017) Decision and Order EB-2017-0101. Amending Electricity Distributor Licences to Prohibit the Disconnection of Residential Customers and Related Matters, accessed 21 April 2025. https://www.easternontariopower.com/sites/4/files/2021-05/dec_order_LDC_Lic%20Amd_20170223.pdf

OriginEnergy (2025) *Help & Support*, accessed 4 January 2025.
<https://www.originenergy.com.au/help-support/billing-and-payments/bill-breakdown/billing-frequency-electricity-and-natural-gas>

Ortiz J, Jiménez Martínez M, Alegría-Sala A, Tirado-Herrero S, González Pijuan I, Guiteras Blaya M and Canals Casals L (2021) 'Tackling energy poverty through collective advisory assemblies and electricity and comfort monitoring campaigns', *Sustainability*, 13(17), doi:10.3390/su13179671.

Pearson G (2023) 'The Principle of Hardship: A Private-Public Partnership to Obtaining Credit and Managing Debt', *Journal of International and Comparative Law*, 10(2):215-242, accessed 5 January 2025.
<https://www.jicl.org.uk/storage/journals/November2023/iRzG21VCuVl3FmS7H5g.pdf>

Perkins-Kirkpatrick SE, Selvey L, Aglas-Leitner P, Lansbury N, Hundessa S, Stone D, Ebi KL and Osborne NJ (2025) 'Attributing heatwave-related mortality to climate change: a case study of the 2009 Victorian heatwave in Australia', *Environmental Research: Climate*, 4(1), doi:10.1088/2752-5295/ada8cd.

PIAC (Public Interest Advocacy Centre) (2024) *Powerless: Debt and disconnection*, Powerless: Debt and disconnection website, accessed 21 September 2024.
<https://jec.org.au/resources/powerless-debt-and-disconnection/>

Pillai A, Reaños MAT and Curtis J (2023) 'Keep out the cold: An analysis of potential gaps in fuel poverty policies in Ireland', *Energy Research & Social Science*, 98(103012), doi:10.1016/j.erss.2023.103012.

Portman P (14 May 2024) 'Aussies installing security cameras and sensors as youth crime crisis rages on', *The Burrow*, accessed 28 February 2025.

[https://www.comparethemarket.com.au/news/australia-home-security-measures-youth-crime-2024/#:~:text=%E2%80%9CWe've%20all%20heard%20those,%25\)%20and%20Queensland%20\(11.6%25\).](https://www.comparethemarket.com.au/news/australia-home-security-measures-youth-crime-2024/#:~:text=%E2%80%9CWe've%20all%20heard%20those,%25)%20and%20Queensland%20(11.6%25).)

Porto Valente C, Morris A and Wilkinson SJ (2021) 'Energy poverty, housing and health: the lived experience of older low-income Australians', *Building Research & Information*, 50(1-2):6-18, doi:10.1080/09613218.2021.1968293.

Poupa Energia (2025) *Contracted power*, accessed 12 January 2025. <https://poupaenergia.pt/en/contracted-power/>

PowerWater (2024) *Electricity demand planning: Customer capacity allowances (kVA) (NP016)*, accessed 12 January 2025. https://www.powerwater.com.au/__data/assets/pdf_file/0024/375315/NP016-Electricity-demand-planning-Customer-capacity-allowances.pdf

Presidency of the Government of Spain (29 January 2025 2025) Aid and protection for vulnerable consumers in the energy sector (Ayudas y protección para consumidores vulnerables en el sector energético) La Moncloa website, accessed 5 February 2025. [https://www.lamoncloa.gob.es/serviciosdeprensa/notasprensa/transicion-ecologica/paginas/2025/ayudas-consumidores-vulnerables-energia.aspx#:~:text=Para%20ser%20considerado%20vulnerable%20severo,los%20perceptores%20de%20pensiones%20m%C3%ADnimas\).](https://www.lamoncloa.gob.es/serviciosdeprensa/notasprensa/transicion-ecologica/paginas/2025/ayudas-consumidores-vulnerables-energia.aspx#:~:text=Para%20ser%20considerado%20vulnerable%20severo,los%20perceptores%20de%20pensiones%20m%C3%ADnimas).)

Puente A and Sanchez R (1 May 2017) 'Endesa accounts for 80% of the sanctions for energy poverty imposed by the Generalitat ', *elDiario.es*, accessed 13 January 2025. https://www.eldiario.es/catalunya/politica/endsa-sanciones-energetica-impuestas-generalitat_1_3446605.html

Rai A and Nelson T (2019) 'Australia's National Electricity Market after Twenty Years', *Australian Economic Review*, 53(2):165-182, doi:10.1111/1467-8462.12359.

Rich N and Mauseth M (Consumer Law Centre Victoria and Consumer Utilities Advocacy Centre) (2004) *Access to Energy and Water in Victoria - A research report*, accessed 28 February 2025. <https://consumeraction.org.au/wp-content/uploads/2014/11/Access-to-Energy-and-Water-in-Victoria-a-research-report-2004.pdf>

Richardson D (The Australia Institute) (2024) *Price gouging: AGL and Origin. Are you being ripped off?*, accessed 23 February 2025. <https://australiainstitute.org.au/post/power-gouge-how-agl-and-origin-are-milking-monster-profits-from-battling-families/>

Right to Energy Coalition (2021) *Success! 35,000 families are freed from energy bill debts in Catalonia*, accessed 12 January 2025. <https://righttoenergy.org/35000-families-freed-from-energy-bill-debts-in-catalonia/>

Roldán Fernández JM, Payán MB, Santos JMR and García ÁLT (2017) 'The voluntary price for the small consumer: Real-time pricing in Spain', *Energy Policy*, 102:41-51, doi:10.1016/j.enpol.2016.11.040.

Ruiz-Rivas U, Tirado-Herrero S, Castaño-Rosa R and Martínez-Crespo J (2023) 'Disconnected, yet in the spotlight: Emergency research on extreme energy poverty in the Cañada Real informal settlement, Spain', *Energy Research & Social Science*, 102(August):103182, doi:10.1016/j.erss.2023.103182.

Russell-Bennett R, Bedggood R, Glavas C, Swinton T, McAndrew R, O'Mahony C, Pervan F and Willand N (2017) *Power Shift Project One: Driving Change – Identifying what Caused Low-Income Consumers to Change Behaviour, Final Report*, accessed 2 June 2022. <http://energyconsumersaustralia.com.au/wp-content/uploads/Driving-Change-What-caused-low-income-consumers-to-change-behaviour.pdf>

S.I. No. 463/2011 2011 (Europe) S.I. No. 463/2011 - European Communities (Internal Market in Electricity and Gas) (Consumer Protection) Regulations of 2011.

SA National Energy Retail Law 2011 (South Australia).

SBS News (17 August 2023) 'Origin Energy reports \$1 billion profit amid cost of living crisis', *SBS News*, accessed 23 February 2025. <https://www.sbs.com.au/news/article/origin-energy-reports-1-billion-profit-amid-cost-of-living-crisis/dl7o8hr4m>

Selectra (2025) *French Energy Suppliers*, accessed 18 January 2025. <https://en.selectra.info/energy-france/suppliers>

Service-Public-Fr (2023a) *How is the Solidarity Fund for Housing (FSL) helping?*, accessed 8 January 2025. [https://www.service-public.fr/particuliers/vosdroits/F1334?lang=en#:~:text=What%20is%20the%20FSL%3F,a%20grant%20\(without%20repayment\).](https://www.service-public.fr/particuliers/vosdroits/F1334?lang=en#:~:text=What%20is%20the%20FSL%3F,a%20grant%20(without%20repayment).)

Service-Public-Fr (2023b) *Unpaid bills (gas or electricity, water): what are the consequences?*, accessed 10 January 2025. <https://www.service-public.fr/particuliers/vosdroits/F20055?lang=en>

Service-Public-Fr (2024a) *Energy Check 2024: a portal extending eligibility opened on 4 July*, accessed 8 January 2025. <https://www.service-public.fr/particuliers/actualites/A15572?lang=en>

Service-Public-Fr (2024b) *Energy cheque (gas, heat, electricity)*, accessed 8 January 2025. <https://www.service-public.fr/particuliers/vosdroits/F33667?lang=en>

Service-Public-Fr (2025a) *MaPrimeRénov' (MPR)*, accessed 8 January 2025. <https://www.service-public.fr/particuliers/vosdroits/F35083?lang=en>

Service-Public-Fr (2025b) Request for special information in the event of a power outage (Form 10401*02) (Demande d'information particulière en cas de coupure de courant électrique (Formulaire 10401*02), accessed 17 February 2025. <https://www.service-public.fr/particuliers/vosdroits/R33397>

Service-Public.fr (2023) *Unpaid bills (gas or electricity, water): what are the consequences?*, accessed 8 January 2025. <https://www.service-public.fr/particuliers/vosdroits/F20055?lang=en#:~:text=cutting%20your%20electricity.-,If%20you%20do%20not%20pay%20your%20invoice%20at%20the%20end,by%20a%203e%20mail.>

Sharam A (Centre EAGECL) (2001) *From universal service to no service? The redlining of vulnerable electricity customers in Victoria*, accessed 26 February 2025. <https://apo.org.au/node/57249>

Sharam A (Council FaCR) (2004) *Power, markets & exclusion*, accessed 27 February 2025. <https://apo.org.au/node/57248>

- Shyu C-W (2021) 'A framework for 'right to energy' to meet UN SDG7: Policy implications to meet basic human energy needs, eradicate energy poverty, enhance energy justice, and uphold energy democracy', *Energy Research & Social Science*, 79, doi:10.1016/j.erss.2021.102199.
- Simshauser P and Nelson T (2014) 'The Consequences of Retail Electricity Price Rises: Rethinking Customer Hardship', *Australian Economic Review*, 47(1):13-43, doi:10.1111/1467-8462.12043.
- Síndic (Síndic de Greuges de Catalunya) (2023) *Energy Poverty in Catalonia. Executive Summary*, accessed 13 January 2025. <https://www.sindic.cat/en/page.asp?id=447>
- SocialWatt (2023) *Country Factsheet Spain*, accessed 13 January 2025. https://www.e-sieben.at/publikationen/18051_SocialWatt/SocialWatt_CountryFactsheet_SPAIN.pdf?m=1680680670
- Spanish Government Directorate-General of Public Governance (2024) *Connection to electricity services*, accessed 22 September 2024. https://administracion.gob.es/pag_Home/en/Tu-espacio-europeo/derechos-obligaciones/ciudadanos/consumidores/conexion-servicios/electricidad.html
- Spanish Government Directorate-General of Public Governance (2025) *Connection to electricity services*, accessed 15 January 2025. https://administracion.gob.es/pag_Home/en/Tu-espacio-europeo/derechos-obligaciones/ciudadanos/consumidores/conexion-servicios/electricidad.html#-89e8bbdce35b
- St Vincent de Paul Society Victoria and Alvis Consulting (2016) 'Households in the dark. Mapping electricity disconnections in South Australia, Victoria, New South Wales and South East Queensland' <https://www.vinnies.org.au/content/Document/VIC/2016-June-Households-in-the-dark2.pdf>
- Statista (2023) Number of individuals with a recognized degree of disability equal to or greater than 33% in Spain in 2022, by type of disability, accessed 13 April 2025. <https://www-statista-com.ap1.proxy.openathens.net/statistics/779817/number-of-individuals-with-a-recognized-degree-of-disability-equal-to-or-greater-than-33-percent-in-spain-by-type/>
- Statista (2024) *Market share of the main electricity providers in Spain in 2022, based on number of clients*, accessed 13 January 2025. <https://www.statista.com/statistics/1359319/market-share-of-electricity-providers-clients-spain/>
- Stojilovska A (2021) 'Energy poverty and the role of institutions: exploring procedural energy justice – Ombudsman in focus', *Journal of Environmental Policy & Planning*:1-13, doi:10.1080/1523908x.2021.1940895.
- Stojilovska A, Yoon H and Robert C (2021) 'Out of the margins, into the light: Exploring energy poverty and household coping strategies in Austria, North Macedonia, France, and Spain', *Energy Research & Social Science*, 82:102279, doi:10.1016/j.erss.2021.102279.
- Stempel A, Nicholls L and Strengers Y (RMIT University) (2015) *Disconnections Case Studies. Understanding the householder experience*, accessed 25 September 2024. https://research.monash.edu/files/316475636/316475585_oa.pdf
- Taïbi N (2009) 'The Robin Hoods of Energy. Meeting with Sophie Beroud (Les Robins des bois de l'énergie. Rencontre avec Sophie Bérout)', *Sens-Dessous*, 1(5):36-40, accessed 8 January 2025. <https://shs.cairn.info/revue-sens-dessous-2009-1-page-36?lang=fr>

Tait D (Selectra) (2025) *What Is The Average Electricity and Gas Bill in Ireland?*, accessed 22 February 2025. <https://selectra.ie/energy/guides/billing/average-gas-electricity-bill>

TAS National Energy Retail Law 2012 (Tasmania).

The Energy Charter (2023a) *Charting a Better Energy Future. Energy Charter Disclosure*, accessed 25 February 2025. <https://www.theenergycharter.com.au/accountability/disclosures/2023-disclosures/>

The Energy Charter (2023b) *Knock to Stay Connected Customer Code*, accessed 23 February 2025. <https://www.theenergycharter.com.au/wp-content/uploads/2023/05/National-Knock-to-Stay-Connected-Customer-Code-FINAL.pdf>

The Energy Charter (2025a) *About us*, accessed 25 February 2025. <https://www.theenergycharter.com.au/about/>

The Energy Charter (2025b) *#BetterTogether*, accessed 24 February 2025. <https://www.theenergycharter.com.au/bettertogether/>

Thompson H (20 November 2024) 'Enedis intensifies nationwide checks on Linky meters to combat fraud', *The Connexion*, accessed 10 January 2025. <https://www.connexionfrance.com/news/widespread-linky-electricity-meter-checks-on-way-across-france/690469>

Thorpe A and Stickells L (2-5 February 2014) 'Beyond Protest. Activism and participation in 1970s Sydney' *UHPH_14: Landscapes and ecologies of urban and planning history*, Wellington, New Zealand, accessed 24 February 2025. <https://www.academia.edu/download/98767160/apo-nid213351-1117316.pdf>

Tirado Herrero S (2020) *Disconnections in Spain*, EP-pedia website, accessed 12 January 2025. https://www.eppedia.eu/sites/default/files/2021-01/Tirado%20Herrero_2020_Disconnections%20in%20Spain_EP-pedia_2.pdf

Tirado Herrero S and Jiménez Meneses L (2016) 'Energy poverty, crisis and austerity in Spain', *People Place and Policy Online*, 10(1):42-56, doi:10.3351/ppp.0010.0001.0004.

Tolhurst I (27 February 2025) 'Former NT Power and Water Corporation worker sentenced for interfering with home meter for decades', *ABC News*, accessed 27 February 2025. <https://www.abc.net.au/news/2025-02-27/nt-electricity-worker-sentenced-for-tampering-with-power-meter/104987132>

UN (2021) *Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all*, <https://sdgs.un.org/goals/goal7>

Union's electricity market design: Directive 2024 (European Union,,) Union's electricity market design: Directive P9_TA-9-2024-0285_EN.

Valente C, Wilkinson S and Morris A (2023) 'Energy poverty, poor housing, and the wellbeing of older Australians', *Building Health and Wellbeing*, doi:10.1201/9781003344711-10.

Varo A (2024) 'Disconnected: Unpacking policy framing processes of energy exclusion in Spain', *Environmental Science & Policy*, 157, doi:10.1016/j.envsci.2024.103759.

Wang Q, Kwan M-P, Fan J and Lin J (2021) 'Racial disparities in energy poverty in the United States', *Renewable and Sustainable Energy Reviews*, 137, doi:10.1016/j.rser.2020.110620.

Weston C (7 February 2025) 'Over 440,000 energy accounts in arrears as Government's energy credits run out', *Irish Independent*, accessed 22 February 2025.

<https://www.independent.ie/business/money/over-440000-energy-accounts-in-arrears-as-governments-energy-credits-run-out/a1297902768.html>

White LV, Riley B, Wilson S, Markham F, O'Neill L, Klerck M and Davis VN (2024) 'Geographies of regulatory disparity underlying Australia's energy transition', *Nature Energy*, 9(1):92-105, doi:10.1038/s41560-023-01422-5.

Willand N, Maller C and Ridley I (2019) 'Addressing health and equity in residential low carbon transitions – Insights from a pragmatic retrofit evaluation in Australia', *Energy Research & Social Science*, 53:68-84, doi:10.1016/j.erss.2019.02.017.

Willand N, Middha B and Walker G (2021) 'Using the capability approach to evaluate energy vulnerability policies and initiatives in Victoria, Australia', *Local Environment*, 29(9):1109-1127, doi:10.1080/13549839.2021.1962830.

Willand N, Middlemiss L, Büchs M and Albala PA (2024) 'Understanding essential energy through functionings: A comparative study across six energy poverty trials in Europe', *Energy Research & Social Science*, 118, doi:10.1016/j.erss.2024.103834.

Willand N, Torabi N and Horne R (2023) 'Recognition justice in Australia: Hidden energy vulnerability through the experiences of intermediaries', *Energy Research & Social Science*, 98:103013, doi:10.1016/j.erss.2023.103013.

Wilson E, Ambrose M, Qian-Khoo J, Bedggood R, Rinnovasi K, Cairns M, Goncalves J and Maile S (Centre for Social Impact SUoT) (2023) '*It's a lifeline. A Long-Term Approach to Improving Home Energy Support Programs for Households Facing Vulnerability.*', accessed 23 February. <https://www.unitingvictas.org.au/long-term-approach-improving-energy-support-programs/>

Wodon QT (2000) 'Public utilities and low income customers. A marketing approach', *International Journal of Public Sector Management*, 13(3):222-240.

York J (27 January 2023) "'Robin Hood' energy strikers give free power to French schools, hospitals, low-income homes", *France24*, accessed 6 January 2025. <https://www.france24.com/en/europe/20230127-robin-hood-energy-strikers-give-free-power-to-french-schools-hospitals-low-income-homes>

Appendix EDF's actions to mitigate energy poverty

The French energy company EDF engages in varied mandatory and voluntary, direct and indirect initiatives to mitigate energy poverty in France.

Customer advisors and “solidarity correspondents” – mandatory direct measures

EDF states that their approach is based on commitment to consumer engagement:

With its 5,000 customer advisors and 230 solidarity correspondents, all located in France, EDF ensures a continuous and personalised dialogue with its French customers experiencing payment difficulties: verification of the suitability of the contract taken out, advice on energy management, payment methods adapted to each situation, and ongoing interaction with social and local partners. In this way, EDF acts preventively and carries out targeted actions to find the best solution with the customers concerned. (EDF 2021)

Under the principle of “solidarity”, that is active support for low-income households, EDF engages in energy support measures through varied direct and indirect means. Regarding direct means, EDF employs 5000 Customer Relations advisors (equivalent of 3.5% of all their workforce) and 230 solidarity experts (EDF 2024b).

Customer relations advisors liaise directly with customers in energy hardship:

[They] are made aware of and trained in energy poverty situations. They detect the first signs of hardship and offer the first forms of assistance. The EDF advisor checks that the customer is getting the right rate for their consumption habits and that the bill has been calculated on the basis of a real index. The advisor tells the customer how to lower their consumption and discusses the terms of payment. They inform the customer about the energy voucher, directing them to those who can help if necessary . (EDF 2024b:220)

Customer relations advisors seem to be increasingly communicating digitally with customers, which may reduce their work burden:

EDF's debt collection process makes it possible to proactively maintain an ongoing dialogue with customers experiencing payment difficulties, by sending them regular emails or text messages, which automatically reduces the need for counselling under the Energy Support service. (EDF 2024b).

On the other hand, solidarity correspondents engage with “social workers, charities and social mediation structures to implement customised solutions for customers in difficult situations ... in more than 3,000 partnerships” (EDF 2021). EDF works with the local social service centres (*Centres Communaux d'Action Sociale* (CCAS)) at municipality level, which are responsible for providing support to people in need, particularly the elderly, disabled, and those experiencing hardship.

Partnerships with charities and other organisations – Voluntary indirect measures

Indirect support measure by EDF include partnerships with charities and other organisations. The charities that collaborate with EDF include Abbé Pierre Foundation, the French Red Cross, Secours Catholique, and Secours Populaire Français (EDF 2024b:220). EDF also works with PIMMS (Points d'Information Médiation Multi-Services or "multi-service conciliation and information points") to develop mobile access points for people to access the services they need to complement their physical locations (EDF 2024b).

A complete list of collaborative initiatives to prevent energy hardship is found in EDF's annual report (EDF 2024b). One notable initiative may be the Roofs First (*Toits d'abord* in French) initiative by the Abbé Pierre Foundation that has help build and retrofit thousands of homes with the financial support from EDF since 2012 (Abbé Pierre Foundation 2022; EDF 2024b). EDF reports:

As the issue of housing renovation for precarious customers is a priority in the fight against energy poverty, the partnership with Ashoka, signed in 2021, was born from the common desire to address innovative responses to energy poverty through renovation. EDF, Eco-Habitat Network and Ashoka have set up a collaboration to share and bring together their complementary expertise, and thus, to help promote sustainable solutions for people in great energy poverty. EDF and the Abbé Pierre Foundation have signed a three-year extension to the *Toits d'abord* (Roofs First) programme, which aims to build and renovate housing for people on very low incomes. To this effort, EDF contributed EURO 6.3 million over the period 2021-2023 (EDF 2024a:Data set sheet s-Fuel poverty).

Indirect means – voluntary grant measures

Indirect means of supporting customers in energy hardship include the company's contribution of EURO 21.2 million to the *Fonds de Solidarité Logement*, making EDF the second largest contributor after the French government, and a collaboration with the National Energy Poverty Observatory to identify households experiencing vulnerability proactively (EDF 2024b).