



Robinson, C., Simcock, N., & Petrova, S. (2023). Energy justice and gender. In S. Bouzarovski, S. Fuller, & T. Reames (Eds.), *Handbook on Energy Justice* (pp. 188-200). (Political Science and Public Policy 2023). Edward Elgar Publishing.
<https://doi.org/10.4337/9781839102967.00020>

Peer reviewed version

License (if available):
CC BY

Link to published version (if available):
[10.4337/9781839102967.00020](https://doi.org/10.4337/9781839102967.00020)

[Link to publication record in Explore Bristol Research](#)
PDF-document

This is the accepted author manuscript (AAM). The final published version (Version of Record) can be found on the publisher's website. The copyright of any third-party content, such as images, remains with the copyright holder.

University of Bristol - Explore Bristol Research

General rights

This document is made available in accordance with publisher policies. Please cite only the published version using the reference above. Full terms of use are available:
<http://www.bristol.ac.uk/red/research-policy/pure/user-guides/ebr-terms/>

Energy justice and gender

Authors:

Caitlin Robinson, School of Geographical Sciences, University of Bristol.
[caitlin.robinson@bristol.ac.uk]

Neil Simcock, School of Biological and Environmental Sciences, Liverpool John Moores University [N.D.Simcock@ljmu.ac.uk]

Saska Petrova, Department of Geography, The University of Manchester
[Saska.petrova@manchester.ac.uk]

Abstract

Globally, many of the most pervasive inequalities are those embedded in unequal gender relations. Despite this, gender has only recently emerged as a focus in conversations about energy justice. Understanding gender as an intersectional axis of social power that shapes social relations in an unequal way, this chapter reviews global energy-gender debates. In doing so, we set out a framework for understanding the ways in which energy justice is shaped by gender relations, and vice versa. We illustrate this framework with multi-scalar examples from the European context, evaluating both national scale gender-energy indicators and detailed qualitative evidence from households in Poland, Czechia and Greece. We set out an agenda for possible future research and policy on gendered energy injustices that considers: intersectional energy injustices; temporal dimensions of gendered energy injustice; and the importance of mixed methods approaches.

1. Introduction

Energy justice has emerged as a defining research agenda amongst social scientists interested in the inequalities between social groups and their use of energy (Sovacool and Dworkins 2015; Jenkins et al. 2016; Fuller and McCauley 2016). Globally, many of the most pervasive inequalities are those embedded in unequal gender relations. Despite this, gender has only recently emerged as a focus in conversations about energy justice. In the context of the Global North, historically energy has often been regarded as gender-neutral (Clancy and Roehr 2003). Households tend to be treated as monolithic units, wrongly assuming an equitable distribution of resources and responsibilities amongst household members. Meanwhile, research in the Global South that has paid attention to gender has often relied upon discourses that obscure the unequal power relations that exist between men and women, and other groups (Listo 2018). In essence, there are distinctly gendered forms of energy injustice that merits further systematic attention.

In this chapter, 'gender' is understood as the social, economic and political constructions of 'femininity' and 'masculinity', an axis of social power that shapes social relations in an unequal way. Inspired by intersectional feminism, we understand gender not as a discrete category, but rather as mutually constructed through its intersection with other forms of social difference; for example, class, ethnicity, race, disability, sexuality and age (Crenshaw 1989; Hopkins 2017). These interconnections with other axes of social power and oppression mean that gender relations are constituted in varied and uneven ways over space and time (McDowell 1999), as we will see in the examples discussed throughout this chapter.

Our chapter has four aims that draw insights from work conducted in energy geographies and critical feminist studies. Firstly, we review global energy-gender debates (Section 2). Secondly, we offer a framework for understanding the ways in which energy justice is shaped by gender relations, and vice versa (Section 2). Thirdly, we illustrate the gender dimensions of energy justice at multiple scales (Section 3). Here our examples focus on energy poverty, which can be defined as the inability to access sufficient energy services in the home. Energy poverty is a specific form of energy injustice, which is differentially experienced along gender lines. This ranges from wider structural processes such as exclusion from the ‘productive’ economy, unpaid caring or domestic roles, and a lack of social protection in older age; to practices embedded within the home including responding to and resisting energy poverty, and the emotional labour associated. We provide evidence of national scale gender-energy indicators (Section 3), as well as detailed qualitative research with households in Poland, Czechia and Greece (Section 4). Finally, we set out an agenda for possible future research and policy on gendered energy injustices (Section 5).

2. State of the field

2.1. Global energy-gender debates

Across the world, many of the most pervasive inequalities are those embedded in unequal gender relations and inequalities related to energy are no exception. A substantial body of research has focussed on how negative impacts of energy systems are experienced unequally between genders in the Global South, with women often enduring a greater proportion of the harmful consequences of energy poverty (Oparaocha and Dutta 2011; Köhlin et al. 2021). For example, of the 2 million people that die annually from indoor air pollution, approximately 85 per cent are amongst women and children who spend a large proportion of time at home during the day (Martin et al. 2013). Gathering and managing fuel is typically the responsibility of women (Dutta 2003), often taking several hours each day leaving less time for employment, education or social interaction outside the home (Parikh 2011). The collection of fuel can also be unsafe resulting in injuries from carrying heavy loads and even physical assault (Oparaocha and Dutta 2011).

Yet research about the relationship between gender and energy poverty in the Global South (reviewed in Listo 2018) has been critiqued for a tendency to endorse a “feminization of energy deprivation” (Petrova and Simcock 2019) and promoting binary, disempowering and victimising gender discourses (Listo 2018; Fathallah and Pyakurel 2020; Pachauri and Rao 2013), instead of providing a critical analysis of how gendered and racialised vulnerability to energy deprivation is induced through political processes (Phillips and Petrova 2021). In practice this has resulted in a tendency for gender-led energy approaches to:

“focus on technological fixes rather than providing appropriate energy services, and on meeting women’s immediate needs rather than addressing the broader cultural, socio-economic and political contexts important for attaining genuine gender equity”. (Johnson et al. 2019: 169).

Listo (2018) argues that women are often co-opted to justify energy-related interventions at the expense of gender equality. The assumption that it is possible to address gender inequality through a “technological fix” or strategies that only address a person’s immediate need for energy conceals the power relations that cause gender inequalities to manifest in the first place, reinforcing patriarchal structures (Standal and Winther 2016; Johnson et al. 2019). Women should be viewed “as active participants not just beneficiaries” in energy transitions (Yasmin and Grundmann 2020: 1).

By comparison, in the context of the Global North, research has often considered energy to be a gender-neutral issue (Clancy and Roehr 2003). For example, studies examining

inequalities in vulnerability to, or in the experience of, energy poverty typically focus on other axes of difference (Petrova and Simcock 2019). For example, age, income, and health status have received considerable attention in energy poverty research (e.g. Chard and Walker 2016; Mohan 2021; Bardazzi et al. 2021). Thus, there is a tendency for “women and men [to be] regarded as equal in their uses of and views about energy” (Clancy and Roehr 2003: 44). Despite the increasing role of women in paid employment, structural inequalities, including those in the labour market and welfare system, continue to perpetuate gender inequalities. It follows then, that there is likely to be a distinctly gendered dimension to the ways in which the lives of women and men are differentially impacted by energy use in the Global North (Clancy and Roehr 2003). A range of structural forms of gender inequality have important implications for energy poverty in this context, including the ways in which women are disproportionately excluded from a productive economy; afforded less social protection throughout their life course; experience poor health outcomes; and fulfil a greater share of unpaid caring or domestic roles (Robinson 2019; Sánchez et al. 2020; Pueyo and Maestre 2019).

The gender dimensions of energy injustice in the home are often obscured by the way in which domestic energy vulnerabilities are understood, framed and analysed. Tirado Herrero (2017) recognises that research concerning domestic energy use tends to focus on households as the micro-unit of analysis, rather than individuals. However, by assuming that resources and capabilities are equitably distributed amongst household members, we risk ignoring potential energy-related inequalities *within* households (Clancy et al. 2007; Petrova and Simcock 2019). For example, a focus on the household makes it difficult to disentangle the influences on women’s decision-making power about energy services and practices in the home (Clancy et al. 2007; Pachauri and Rao 2013; Mechlenborg and Gram-Hanssen 2020). Insufficient attention is also paid to the implications of a multiplicity of gender identities for domestic energy inequalities (Cannon and Chu 2021).

Beyond domestic energy inequalities, gender inequalities also exist throughout the wider energy system. Although there is evidence of women increasingly assuming leadership roles in energy advocacy (Allen et al. 2019; Bell and Braun, 2010; Willow and Keefer 2016), women are globally underrepresented in both the energy industry (Baruah, 2017; Pearl-Martinez and Stephens 2016; Allison et al. 2019) and wider decision-making about future energy transitions (Fraune 2015, 2016; Ryan 2014; Osunmuyiwa and Ahlborg 2019; Ding et al. 2019). Clancy and Feenstra (2019) argue that the EU energy transition can only be considered to be just by addressing the issue of gender inequality in energy policy-making. Yet across a diverse range of geographic contexts, institutional commitment to gender in energy policy-making is fragmented (Clancy and Mohlakoana 2020). For example, women are under-represented at all levels of decision-making in the energy sector in the EU (Clancy and Feenstra 2019).

2.2. A gender and energy justice framework

Energy justice debates tend to be structured around a “triad” of three interrelated injustices: distribution, recognition, and procedure (Walker and Day 2012; Jenkins et al. 2016). The latter two concepts in particular - recognition and procedure - have their roots in critical feminist theory (Fraser 2007; Young 1990). In their timely review of the application of energy justice frameworks to understand the gender-energy nexus, Feenstra and Özerol (2021) acknowledge that gender has largely been absent from energy justice debates to date, with notable exceptions (e.g. Moniruzzaman and Day 2020; Winther et al. 2020; Allen et al. 2019; Govindan et al. 2021). Yet, the concepts of distribution, recognition and procedural justice can be used to make visible the structural inequalities embedded in energy systems, and these are integral to understanding gendered aspects of energy inequality (Figure 1).

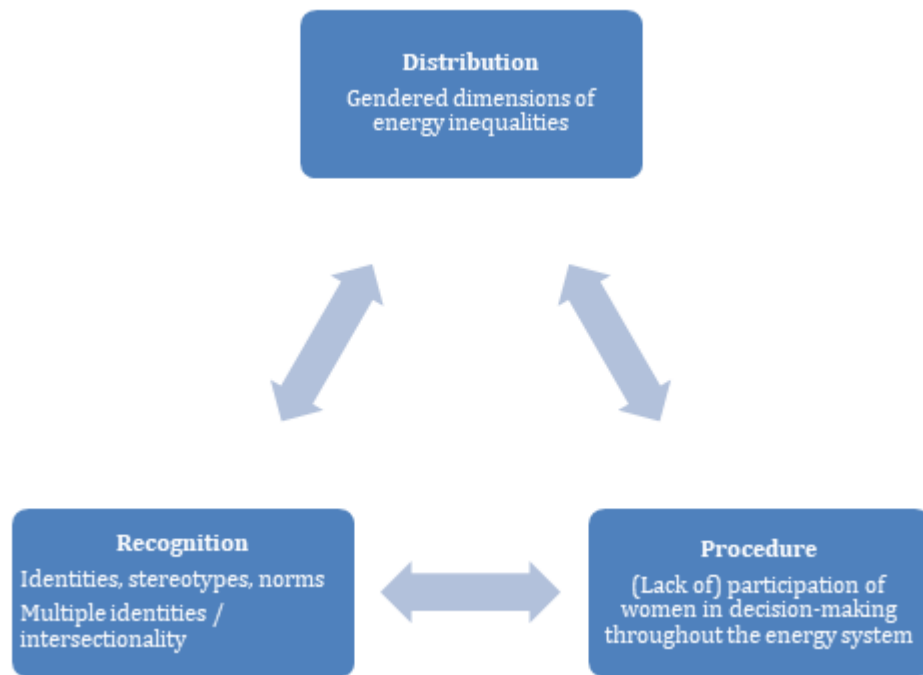


Figure 1. Conceptual framework for understanding gender and energy justice

Distributional justice is central to many energy (in)justice claims. In simple terms distributional justice relates to ‘who gets what’. There is a gendered dimension to how many of the benefits (e.g. financial returns, access to energy services) and burdens (e.g. air pollution) of energy systems are shared across society, especially the gendered imbalance of access to domestic energy services (Clancy et al. 2017; Musango et al. 2020).

Recognition justice is concerned with injustices arising from social groups not being afforded equal respect and political rights, either through lack of acknowledgement of difference or overt stereotyping and stigmatisation (Fraser, 1995; Fraser, 2007; Anderson and Honneth, 2005). A lack of recognition can occur in relation to multiple axes of social difference, including social, cultural, ethnic, racial and gender identities (Fraser, 2007). Gendered stereotypes and norms are implicit in domestic energy inequalities, shaped by the perceived “role” of women in the home, labour market and society more widely (e.g. Polansky and Laldjebaev, 2021; Kim and Standal 2019). Importantly, recognition justice also acknowledges the differential experience *between* household members of domestic energy use, consumption and decision-making (Chant, 2006; Petrova and Simcock, 2019; Polansky and Laldjebaev, 2021).

Procedural justice, although closely related to recognition justice, focuses more specifically on inequalities in power and authority in decision-making and political processes – including those relating to gender - and how these work to produce and sustain distributional injustices (Young, 1990). Procedural justice acknowledges, and provides mechanisms via which to address, the lack of participation of marginalised women throughout the energy system, ranging from household decision-making to leadership in the energy sector (Moniruzzaman and Day 2020; Winther et al. 2020).

With this broader framing in mind, we now turn our attention to evidencing the gender dimensions of energy justice at multiple scales in Europe. We consider (i) quantitative evidence of these gender dimensions at a national scale and (ii) qualitative evidence from households in Poland, Greece and Czechia.

3. Energy poverty and gender in Europe: National scale

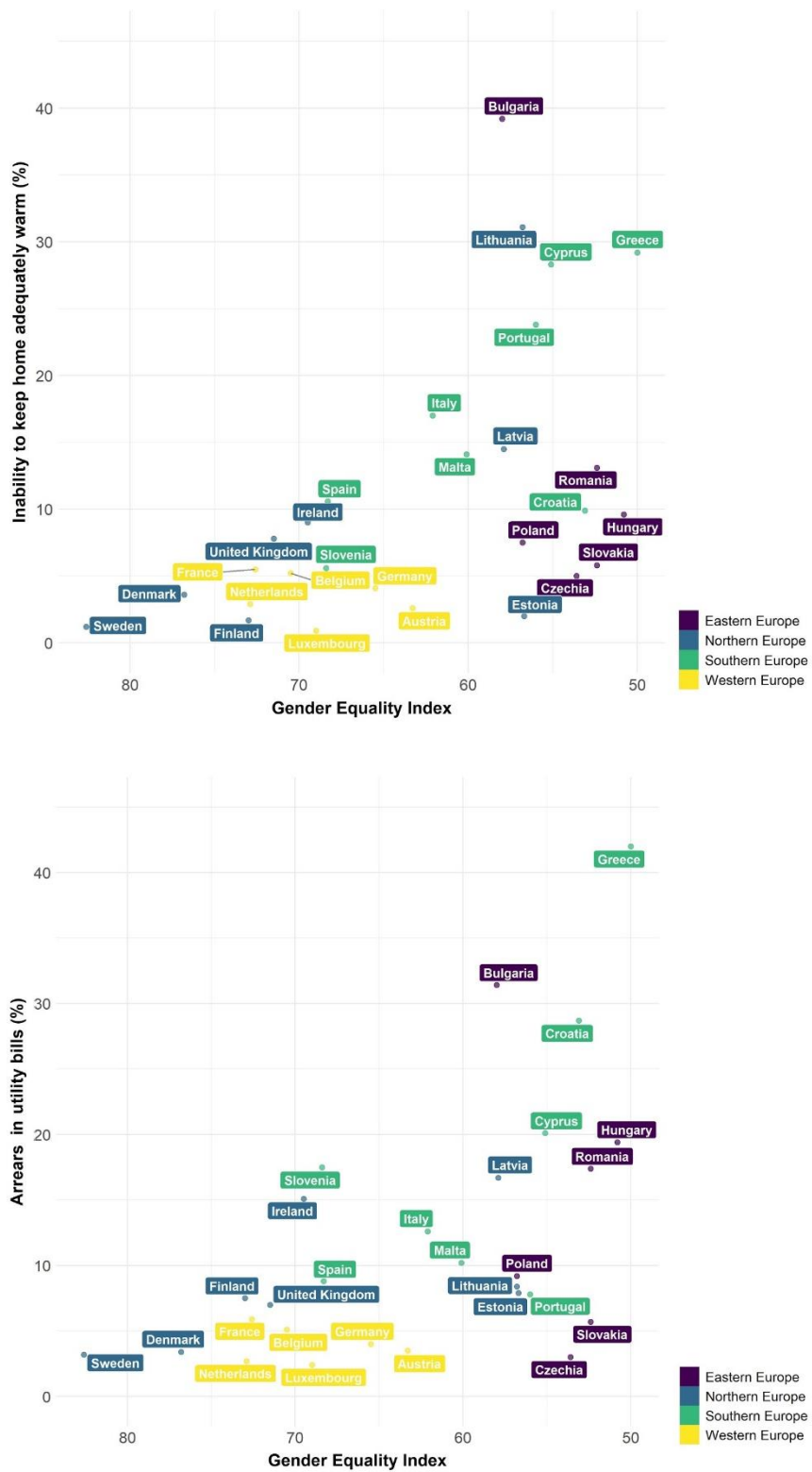
Energy poverty as a gendered injustice in Europe is still a research lacuna. In the first comprehensive review in the context of the EU, Clancy et al. (2017) emphasise the need for improved understanding of gender inequality in relation to energy. The review stresses the need for gender to be accounted for in the definition and measurement of energy poverty in particular. Figure 1 considers the relationship between gender inequality (using the Gender Equality Index) and energy poverty (based on the inability to keep the home adequately warm and arrears in utility bills). The figure suggests that lower levels of gender equality in a national context is likely synonymous with a higher incidence of energy poverty. For example, in Greece, Bulgaria and Cyprus, gender equality is relatively low, and a high proportion of the population experiences energy poverty according to both the inability to keep warm, and the proportion of households that are in arrears on their utility bills. However, this relationship is by no means linear, illustrating that there is likely to be considerable diversity depending on the geographic context.

There is also growing evidence of gendered energy injustices in specific geographical contexts across the region. Gender injustices have been strongly linked to energy poverty in Czechia. According to the Czech Statistical Office, approximately 440,000 households (almost 10% of all Czech households) pay more than 40% of their disposable income for housing and energy, with 205,000 of them being households of female pensioners living alone (Kodůusková and Lehotský 2021). Gender prejudice has been identified as one of the disadvantages (along with lack of finances, debt and racial prejudices) of single households that hinders their attempts to move out of energy poverty and instead creates vicious cycles of energy injustices (ibid. Kodůusková and Lehotský 2021). In the city of Madrid (Spain), there is also stark evidence of gender inequalities in relation to energy poverty (Sánchez et al. 2021). Of the 23% of households identified as at risk of energy poverty in the city, over half have a single female breadwinner, either as a lone pensioner or as the head of a single-parent family.

However gender disaggregated energy data is still largely absent at the European level, creating significant hurdles to accurately measuring the gendered aspects of energy poverty (Clancy et al., 2017). As a result, understanding the distribution of gendered energy poverty between or within national contexts in Europe is difficult. Meanwhile, Bradshaw (2018) argues that merely disaggregating energy-related data by gender is not sufficient; for example, when gender disaggregated data has been used to inform energy efficiency initiatives, it often reproduces stereotypes rather than challenging underlying inequalities. This can harm rather than promote gender equality.

Whilst some quantitative indicators can provide initial insights into the spatialities of gendered energy vulnerability, this is more complex concerning gendered aspects of energy vulnerability related to infrastructure that tend to be measured at the scale of the household, or those aspects of vulnerability that are relatively private or personal (Robinson 2019). With these challenges in mind, we now turn our attention to detailed qualitative evidence of gender-energy inequalities within households.

Figure 1: Relationship between gender inequality and inability to keep home warm/ arrears on utility bills for European countries. **Data:** Based on EU-SILC (2015) via EPOV (2019) and EIGE (2015)



4. Energy poverty and gender in Europe: Qualitative evidence from Poland, Greece and Czechia

In this section, we draw on qualitative interviews with 66 households from three cities Gdansk (25 households) in Poland, Prague (16 households) in Czechia, and Thessaloniki (25 households) in Greece, that were undertaken as part of two larger research projects examining everyday lived experiences of energy poverty (Petrova, 2018; Petrova and Simcock, 2019). These locations were chosen for study as energy poverty is relatively widespread in eastern and southern Europe, and the cities are also relatively similar in terms of Human Development and GDP whilst also exhibiting differences in culture, economy and climate. This combination enables us to observe common themes occurring across the range of study contexts.

We found that individual experiences of energy poverty are often differentiated by gender. One way this occurs is in the labour involved in the everyday negotiation of energy poverty. It has been widely recognised that households living in energy poverty often alter their practices in an attempt to minimize their energy consumption and ameliorate their situation; these include, for example, changing heating and occupation patterns, and curtailing the use of appliances (Anderson et al. 2012; Chard and Walker 2016; O'Sullivan 2019). Our qualitative research found, however, that the responsibility for undertaking such practices is often unequally shared along gender lines. Notably, among mixed-gender couples, rationing of energy consumption that involved alterations to everyday routines and practices were typically undertaken by the female partner. Often such measures were convoluted and required repeated mental and physical effort. Examples include using brooms rather than vacuum cleaners, hand-washing clothes, and being extremely vigilant about adjusting radiator thermostats each day. Among households with a 'time-of-use' tariff for electricity, changing temporal rhythms was another common practice normally undertaken by female household members, and included conducting household chores mostly at weekends or overnight.

Contrastingly, reducing energy consumption via energy efficiency improvements, such as purchasing more efficient appliances or insulating the building fabric, were more often constructed as 'masculine' and undertaken by men. However, this was not always the case. For some mixed-gender households, it was actually the female partner who took the lead on energy efficiency improvements (especially those related to appliances). We also encountered cases of single mothers undertaking DIY measures to improve building efficiency. In these cases, living with energy poverty appeared to have reconfigured 'traditional' gender roles. This has at least two implications for energy justice. On the one hand, it demonstrates the socially constructed nature of gender roles and thus challenges misrecognition related to essentialist stereotypes about 'female' and 'male' energy-related domestic duties. On the other hand, amongst our data this reconfiguration involved women taking on extra, 'male' duties *in addition* to being responsible for the 'female' practices of rationing energy use via thrifty behaviour. Thus, it seems that women often primarily bear the labour and responsibility associated with minimising energy consumption and the everyday navigation of energy poverty – an example of a distributional injustice.

A second way that gender mediates experiences of energy poverty relates to emotional and physical harms. Energy poverty can have detrimental impacts upon people's physical and mental health (O'Sullivan, 2019), and our research found that exposure to such harms can be uneven between genders. One way this occurs relates to the amount of time spent at home. In many countries, mothers still undertake a greater proportion of childcare duties, especially for very young children, and this also means they often spend more time at home. Among households suffering from energy poverty, this can mean they encounter more frequent and prolonged exposure to insufficient energy services and the resulting harmful consequences. For example, we interviewed one family living in central Prague living in a cold apartment receiving little natural sunlight. The adult male household member admitted that this

disproportionately impacted upon his female partner, who was on maternity leave, as he went to work during the day:

'I think [the lack of light affects you] depends on your daily routine ... it is depressing to be at home with a small baby and it's dark during the whole day ... it affects your psychological stability ... if you are at work and spend more time there it's different, you do not notice it that much' (Quoted in Petrova and Simcock, 2019)

As noted above, in our studies women were typically responsible for trying to mitigate energy poverty by rationing energy consumption. Not only was this mentally and physically draining, but it could also reduce their ability to 'successfully' fulfil other gendered social expectations, particularly those relating to caring for dependents. This perceived 'failure' could then induce feelings of shame. For example, one interviewee told us they worried their elderly relative had become ill due to them rationing their heating, while another felt guilty for telling their daughter to not use electronics because of concerns about energy costs. Wang (2016) reports similar findings in relation to 'energy saving' campaigns in Taiwan, with such policies causing feelings of shame among women who face an impossible choice between performing 'optimal' energy reduction behaviours or meeting patriarchal cultural expectations of being a 'good mother' or wife – thus, for many households energy rationing acts to fortify existing gender dominance. Wang (2016) suggests that such distributional inequalities are rooted in asymmetric, gendered power relations (i.e. procedural injustice), which can only be solved by increasing women's decision-making power at multiple scales. Nonetheless, in our own research it would be inaccurate to say that men were *never* emotionally impacted by energy poverty. We found that energy poverty also interfered with the performance of socially constructed norms of masculinity, especially those related to 'providing' for family members. Gender inequalities were thus ones of the degree, type and frequently of emotional impact.

In summary, these findings challenge energy poverty discourses that frame households as homogenous units. Rather, there can be substantial energy-related gender inequalities and injustices within households.

4. Concluding thoughts

Energy justice, including the concepts of distributional, recognition and procedural justice, has the potential to further our understanding of the relationship between gender and energy. The framing is particularly powerful for recognising the role of structural inequalities embedded in energy and social systems in perpetuating gender-related energy injustices. In this chapter we have charted how a growing body of evidence is emerging of the relationship between gender and energy in a variety of contexts globally. However, especially in literatures focused on gender and energy in the context of the Global South there is a tendency to promote binary, disempowering and victimising gender discourses (Listo 2018; Fathallah and Pyakurel 2020; Pachauri and Rao 2013), instead of providing a critical analysis of how gendered and racialised vulnerability to energy deprivation is induced through political processes (Phillips and Petrova 2021). Furthermore, gender is still poorly developed in energy justice debates to date (Feenstra and Özerol 2021).

In this chapter we have argued that the triad of (in)justices can be a useful framework for understanding the relationship between gender relations and energy, illustrating how these concepts can be applied in the European context. In terms of distributional injustices, there are clear gendered inequalities in vulnerability to and the experience of energy poverty at multiple scales. These are underpinned by injustices of recognition, such as stereotypes and disempowering norms, and procedure, in terms of a lack of representation and power for women at various levels of decision-making.

However, there are several of priorities for future research, policy and practice if we are to succeed in making visible, and addressing, gendered aspects of energy injustice: (i) intersectional energy injustices; (ii) temporal dimensions of gendered energy injustice; and (iii) mixed methods approaches. Firstly, research is emerging of how gender intersects with other axes of social difference to shape household energy use (e.g. López-González et al. 2020; Kodůusková and Lehotský 2021; Ngarva et al. 2022; Dogan et al. 2022; Porto Valente et al. 2022). For example, López-González et al. (2020) evidences the intersections between gender and indigeneity in electrification projects in rural Venezuela. However, this intersectional approach to energy justice research needs to be expanded (Sunnika-Blank and Galvin 2021), to recognise the intersection of gender with race, ethnicity, disability, and class and other forms of social difference (e.g. Ojong 2021). Insufficient attention is also paid to the multiplicity of gender identities (Cannon and Chu 2021).

Temporal dimensions of gendered energy injustice have received limited attention to date. Gendered energy injustices, like other forms of energy justice (Sovacool et al. 2019; Martiskainen et al. 2020) are likely to fluctuate over time, and these temporal dimensions are poorly understood. This might include change over the lifecourse (Buechler et al. 2020) or in response to a change in personal circumstances.

Finally, to succeed in addressing these research gaps, mixed-methods approaches that combine complementary quantitative and qualitative methods should be used to explore gender and energy justice. The conceptual and methodological limitations of deriving gender-sensitive indicators mean that quantitative indicators inevitably underestimate, or misrepresent gendered energy vulnerabilities, especially those aspects of vulnerability that are relatively private or personal (Robinson 2019). As illustrated in this chapter and elsewhere (Sunnika-Blank et al. 2019), detailed qualitative understanding of the experience of household members can offer a complementary, yet more nuanced, understanding of gender-energy injustice.

REFERENCES

- Allen, E., Lyons, H., & Stephens, J. C. (2019). Women's leadership in renewable transformation, energy justice and energy democracy: Redistributing power. *Energy Research & Social Science*, 57, 101233.
- Allison, J. E., McCrory, K., & Oxnevad, I. (2019). Closing the renewable energy gender gap in the United States and Canada: The role of women's professional networking. *Energy Research & Social Science*, 55, 35-45.
- Anderson, J. H., & Honneth, A. (2005). Autonomy, vulnerability, recognition, and justice.
- Anderson, W., White, V., & Finney, A. (2012). Coping with low incomes and cold homes. *Energy Policy*, 49, 40-52.
- Bardazzi, R., Bortolotti, L., & Paziienza, M. G. (2021). To eat and not to heat? Energy poverty and income inequality in Italian regions. *Energy Research & Social Science*, 73, 101946.
- Baruah, B. (2017, February). Renewable inequity? Women's employment in clean energy in industrialized, emerging and developing economies. In *Natural Resources Forum* (Vol. 41, No. 1, pp. 18-29). Oxford, UK: Blackwell Publishing Ltd.
- Bell, S. E., & Braun, Y. A. (2010). Coal, identity, and the gendering of environmental justice activism in central Appalachia. *Gender & Society*, 24(6), 794-813.

- Bradshaw, S. (2018). Sex disaggregation alone will not energize equality. *Nature Energy*, 3(10), 813-815.
- Buechler, S., Vázquez-García, V., Martínez-Molina, K. G., & Sosa-Capistrán, D. M. (2020). Patriarchy and (electric) power? A feminist political ecology of solar energy use in Mexico and the United States. *Energy Research & Social Science*, 70, 101743.
- Cannon, C. E., & Chu, E. K. (2021). Gender, sexuality, and feminist critiques in energy research: A review and call for transversal thinking. *Energy Research & Social Science*, 75, 102005.
- Chant, S. (2008). The 'feminisation of poverty' and the 'feminisation' of anti-poverty programmes: Room for revision?. *The Journal of Development Studies*, 44(2), 165-197.
- Chard, R., & Walker, G. (2016). Living with fuel poverty in older age: Coping strategies and their problematic implications. *Energy Research & Social Science*, 18, 62-70.
- Clancy, J., Daskalova, V., Feenstra, M., Franceschelli, N., Sanz, M. (2017). Gender perspective on access to energy in the EU. European Parliament Policy Department for Citizens' Rights and Constitutional Affairs. Available at: [https://www.europarl.europa.eu/RegData/etudes/STUD/2017/596816/IPOL_STU\(2017\)596816_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2017/596816/IPOL_STU(2017)596816_EN.pdf)
- Clancy, J. S., & Mohlakoana, N. (2020). Gender audits: An approach to engendering energy policy in Nepal, Kenya and Senegal. *Energy Research & Social Science*, 62, 101378.
- Clancy, J., & Roehr, U. (2003). Gender and energy: is there a Northern perspective?. *Energy for Sustainable Development*, 7(3), 44-49.
- Clancy, J., Ummer, F., Shakya, I., & Kelkar, G. (2007). Appropriate gender-analysis tools for unpacking the gender-energy-poverty nexus. *Gender & Development*, 15(2), 241-257.
- Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *u. Chi. Legal f.*, 139.
- Ding, W., He, L., Zewudie, D., Zhang, H., Zafar, T. B., & Liu, X. (2019). Gender and renewable energy study in Tibetan pastoral areas of China. *Renewable Energy*, 133, 901-913.
- Dogan, E., Madaleno, M., Inglesi-Lotz, R., & Taskin, D. (2022). Race and energy poverty: Evidence from African-American households. *Energy Economics*, 108, 105908.
- Dutta, S. (2003) Mainstreaming gender in energy planning and policies. Available via United Nations Development Programme (UNDP). Available at: http://www.energia.org/fileadmin/files/media/reports/DropBox/dutta_egmbckgr.pdf.
- EU Energy Poverty Observatory (EPOV) (2019). Indicators and data. [online] Available at: <https://www.energypoverty.eu/indicators-data>
- European Institute for Gender Equality (EIGE) (2015). Gender Equality Index. [online] Available at: <https://eige.europa.eu/gender-equality-index/2020>
- Fathallah, J., & Pyakurel, P. (2020). Addressing gender in energy studies. *Energy Research & Social Science*, 65, 101461.

- Feenstra, M., & Özerol, G. (2021). Energy justice as a search light for gender-energy nexus: Towards a conceptual framework. *Renewable and Sustainable Energy Reviews*, 138, 110668.
- Fraser, N. (1995). From redistribution to recognition? Dilemmas of justice in a “postsocialist” age. *New Left Review*, 68-68.
- Fraser, N. (2007). Feminist politics in the age of recognition: A two-dimensional approach to gender justice. *Studies in Social Justice*, 1(1), 23-35.
- Fraune, C. (2015). Gender matters: Women, renewable energy, and citizen participation in Germany. *Energy Research & Social Science*, 7, 55-65.
- Fraune, C. (2016). The politics of speeches, votes, and deliberations: Gendered legislating and energy policy-making in Germany and the United States. *Energy Research & Social Science*, 19, 134-141.
- Fuller, S., & McCauley, D. (2016). Framing energy justice: perspectives from activism and advocacy. *Energy Research & Social Science*, 11, 1-8.
- Govindan, M., Palit, D., Murali, R., & Sankar, D. (2020). Gender in electricity policymaking in India, Nepal and Kenya. In *Energy Justice Across Borders* (pp. 111-135). Springer, Cham.
- Honneth, A. (2004). Recognition and justice: Outline of a plural theory of justice. *Acta sociologica*, 47(4), 351-364.
- Hopkins, P. (2019). Social geography I: intersectionality. *Progress in Human Geography*, 43(5), 937-947.
- Johnson, O. W., Gerber, V., & Muhoza, C. (2019). Gender, culture and energy transitions in rural Africa. *Energy Research & Social Science*, 49, 169-179.
- Kim, E., & Standal, K. (2019). Empowered by electricity? The political economy of gender and energy in rural Naryn. *Gender, Technology and Development*, 23(1), 1-18.
- Koďousková, H., Lehotský, L. (2021) Energy poverty in the Czech Republic: Individual responsibility or structural issue? *Energy Research and Social Science* (72): 101877
- Köhlin, G., Sills, E.O., Pattanayak, S.K., Wilfong, C. (2011) Energy, gender and development: what are the linkages? Where is the evidence?. *World Development Report: Gender Equality and Development*, World Bank
- Listo, R. (2018). Gender myths in energy poverty literature: a critical discourse analysis. *Energy Research & Social Science*, 38, 9-18.
- López-González, A., Domenech, B., & Ferrer-Martí, L. (2020). The gendered politics of rural electrification: Education, indigenous communities, and impacts for the Venezuelan Guajira. *Energy Research & Social Science*, 70, 101776.
- Martin II, W. J., Glass, R. I., Araj, H., Balbus, J., Collins, F. S., Curtis, S., ... & Bruce, N. G. (2013). Household air pollution in low-and middle-income countries: health risks and research priorities. *PLoS Med*, 10(6), e1001455.

- Martiskainen, M., Sovacool, B. K., & Hook, A. (2020). Temporality, consumption, and conflict: exploring user-based injustices in European low-carbon transitions. *Technology Analysis & Strategic Management*, 1-13.
- McCauley, D. A., Heffron, R. J., Stephan, H., & Jenkins, K. (2013). Advancing energy justice: the triumvirate of tenets. *International Energy Law Review*, 32(3), 107-110.
- Mechlenborg, M., & Gram-Hanssen, K. (2020). Gendered homes in theories of practice: A framework for research in residential energy consumption. *Energy Research & Social Science*, 67, pp.101538.
- Mohan, G. (2021). Young, poor, and sick: The public health threat of energy poverty for children in Ireland. *Energy Research & Social Science*, 71, pp.101822.
- Moniruzzaman, M., & Day, R. (2020). Gendered energy poverty and energy justice in rural Bangladesh. *Energy Policy*, 144, pp.111554.
- Musango, J. K., Smit, S., Ceschin, F., Ambole, A., Batinge, B., Anditi, C., ... & Mukama, M. (2020). Mainstreaming gender to achieve security of energy services in poor urban environments. *Energy Research & Social Science*, 70, 101715.
- Ngarava, S., Zhou, L., Ningi, T., Chari, M. M., & Mdiya, L. (2022). Gender and ethnic disparities in energy poverty: The case of South Africa. *Energy Policy*, 161, 112755.
- Ojong, N. (2021). The rise of solar home systems in sub-Saharan Africa: Examining gender, class, and sustainability. *Energy Research & Social Science*, 75, pp.102011.
- Oparaocha, S., & Dutta, S. (2011). Gender and energy for sustainable development. *Current Opinion in Environmental Sustainability*, 3(4), pp.265-271.
- Osunmuyiwa, O., & Ahlborg, H. (2019). Inclusiveness by design? Reviewing sustainable electricity access and entrepreneurship from a gender perspective. *Energy Research & Social Science*, 53, pp.145-158.
- O'Sullivan, K. (2019). Uneven geographies of low-carbon transition: exploring energy vulnerabilities in peripheral communities (Doctoral dissertation, Cardiff University).
- Pachauri, S., & Rao, N. D. (2013). Gender impacts and determinants of energy poverty: are we asking the right questions?. *Current Opinion in Environmental Sustainability*, 5(2), 205-215.
- Parikh, J. (2011). Hardships and health impacts on women due to traditional cooking fuels: A case study of Himachal Pradesh, India. *Energy Policy*, 39(12), 7587-7594.
- Pearce, D. (1978). The feminization of poverty: Women, work and welfare. *Urban and social change review*, 11(1-2), 28-36.
- Pearl-Martinez, R., & Stephens, J. C. (2016). Toward a gender diverse workforce in the renewable energy transition. *Sustainability: Science, Practice and Policy*, 12(1), pp.8-15.
- Petrova, S. (2018). Illuminating austerity: Lighting poverty as an agent and signifier of the Greek crisis. *European Urban & Regional Studies*, 25(4), 360-372.
- Petrova, S., & Simcock, N. (2019). Gender and energy: domestic inequities reconsidered. *Social & Cultural Geography*, pp.1-19.

- Polansky, J., & Laldjebaev, M. (2021). Gendered energy relations at the crossroads of Asia: Electrification, empowerment, and mixed outcomes in northeastern Afghanistan. *Energy Research & Social Science*, 73, pp.1019-28.
- Porto Valente, C., Morris, A., & Wilkinson, S. J. (2022). Energy poverty, housing and health: the lived experience of older low-income Australians. *Building Research & Information*, 50(1-2), 6-18.
- Pueyo, A., & Maestre, M. (2019). Linking energy access, gender and poverty: A review of the literature on productive uses of energy. *Energy Research & Social Science*, 53, pp.170-181.
- Robinson, C. (2019). Energy poverty and gender in England: A spatial perspective. *Geoforum*, 104, pp.222-233.
- Ryan, S. E. (2014). Rethinking gender and identity in energy studies. *Energy Research & Social Science*, 1, pp.96-105.
- Sánchez, C. S. G., Fernández, A. S., & Peiró, M. N. (2020). Feminisation of energy poverty in the city of Madrid. *Energy and Buildings*, 223, pp.110-157.
- Sovacool, B. K., & Dworkin, M. H. (2015). Energy justice: Conceptual insights and practical applications. *Applied Energy*, 142, pp.435-444.
- Sovacool, B. K., Lipson, M. M., & Chard, R. (2019). Temporality, vulnerability, and energy justice in household low carbon innovations. *Energy Policy*, 128, pp.495-504.
- Standal, K., & Winther, T. (2016, January). Empowerment through energy? Impact of electricity on care work practices and gender relations. In *Forum for Development Studies* (Vol. 43, No. 1, pp. 27-45). Routledge.
- Sunikka-Blank, M., Bardhan, R., & Haque, A. N. (2019). Gender, domestic energy and design of inclusive low-income habitats: A case of slum rehabilitation housing in Mumbai, India. *Energy Research & Social Science*, 49, pp.53-67.
- Sunikka-Blank, M., & Galvin, R. (2021). Single parents in cold homes in Europe: How intersecting personal and national characteristics drive up the numbers of these vulnerable households. *Energy Policy*, 150, pp.112-134.
- Tirado Herrero, S. T. (2017). Energy poverty indicators: A critical review of methods. *Indoor and Built Environment*, 26(7), pp.1018-1031.
- Walker, G., & Day, R. (2012). Fuel poverty as injustice: Integrating distribution, recognition and procedure in the struggle for affordable warmth. *Energy Policy*, 49, 69-75.
- Wang, S. (2016). Green practices are gendered: Exploring gender inequality caused by sustainable consumption policies in Taiwan. *Energy Research & Social Science*, 18, pp.88-85.
- Willow, A. J., & Keefer, S. (2015). Gendering extraction: Expectations and identities and women's motives for shale energy opposition. *Journal of Research in Gender Studies*, 5(2).
- Winther, T., Ulsrud, K., Matinga, M., Govindan, M., Gill, B., Saini, A., ... & Murali, R. (2020). In the light of what we cannot see: Exploring the interconnections between gender and electricity access. *Energy Research & Social Science*, 60, pp.101-334.

Yasmin, N., & Grundmann, P. (2020). Home-cooked energy transitions: Women empowerment and biogas-based cooking technology in Pakistan. *Energy Policy*, 137, pp.111074.

Young, I. M. (1990). *Justice and the Politics of Difference*. Princeton University Press.