

Women Engendering the Just Energy Transition



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Abstract In this chapter, the role of women as actors in the energy transition is described using an energy justice and gender lens and with a policy perspective. Based on the concept of agents of change, three roles of actors in the energy transition are identified: consumers, producers and/or decision-makers. Caused by the gender inequalities in society, the agency of women and men are different. Against the backdrop of international commitment, national governments feel the urgency to transform their energy policy towards renewable and efficient energy resources to meet the needs of consumers as well as a commitment to climate change and sustainability goals. Policy interventions towards a just energy transition aim to provide clean and sustainable energy sources for all citizens. The energy justice framework identifies energy injustices based on three tenets: distributive, recognitional, and procedural justice. Insights into the gendered inequalities of energy needs, use, and access could contribute to designing energy transition policies that acknowledge and address current injustices.

Introduction

In the energy shift from a long history since the nineteenth century of coal extraction to the current uptake of renewables and alternative energy sources, the Upper Silesia is the backdrop of this book chapter. In this edited volume, women's perspectives on the change in the Upper Silesia coal mining region in southern Poland are voiced in the different chapters using several methods and theories. How do women position themselves in the energy transition from coal to renewables in the supply side of the energy system? What is the current role of women in the energy sector, and what could be their potential role towards a just energy transition? Within this chapter, I am taking a policy perspective by describing the gender-energy nexus in international commitments, like the SDGs and the EU policies and how they are

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implemented in national and local policy instruments. I am adding to the narrative of this edited volume a theoretical contribution juxtaposing the energy justice framework with the concept of agency to deepen the understanding of gender inequalities and energy injustices.

The current context and future consequences of climate change require a change of how we produce and consume energy on macro, meso, and micro level. In order to secure a just and inclusive energy transition, there is a need to understand both the effects of a low-carbon energy transition on different policy levels and groups in society, as well as how people can engage in such a process on an equal basis. Social inequalities and energy justice are two key emerging streams in the energy policy literature, with yet little but growing attention to gender equality. Social inequalities are the heart of social justice theories and shaping the gender lens of feminist theories. Three roles of women as actors in the energy transition can be identified: consumers, producers and decision-makers (Clancy & Feenstra, 2019). However, gender inequality embedded in societies might limit the agency of women in these roles and to participate in the energy transition. Agency in this chapter follows the definition of Kabeer (1999, p. 438): the ability to define one's goals and act upon them. Policy interventions can create enabling conditions to strengthen the agency of the women and men to participate and benefit from just transitions. Women as actors in the energy transition are claiming energy justice by overcoming social inequalities in energy access. Their role is embedded in the Sustainable Development Goals (SDGs) that address gender equality (SDG5), eradicate poverty (SDG1) and access to affordable and clean energy (SDG7). Despite the global commitment, enforcement of national governments is limited, creating a lack of implementation at the local level.

A successful low-carbon energy transition requires equal attention to the political and social dimensions. There is an urgent need to recognise both the effects of the global energy transition on different policy levels and societal groups and how people can engage in the process on an equal basis. Further, we need to understand how this knowledge can be translated into policies, interventions, and communication (Grübler et al., 2016). A socially inclusive energy transition is necessary to ensure social acceptance (Sovacool, 2017) and avoid detrimental consequences (Fuller, 2019; Standal et al., 2018; Clancy et al., 2017). Given that energy access, consumption, and services globally are gendered (Clancy & Feenstra, 2019; Standal et al., 2018; Fraune, 2015; Bell et al., 2015; Clancy & Röhr, 2003), establishing an energy system that reflects gender differences and that is aware of gendered relations in society is essential for a just energy transition.

This chapter explores how gender relations frame women's and men's participation, decision-making and benefits in the energy transition on the household and community level from a theoretical perspective. Based on the existing scientific literature, I illustrate how the agency of women and men influences their engagement with energy transitions. I discuss the triple role of actors in the energy transition and juxtapose it with energy justice as a conceptual framework. This conceptual discussion could provide insights into shifts in energy communities, like the mining community in Upper Silesia.

This chapter starts in Section “The Gender-Energy Nexus: A Policy Perspective” by describing the gender-energy nexus and engendering energy transitions. Section “Women as Change Agents in the Energy Transition” describes the role of women as potential change agents to engender a just energy transition. Three roles for change agents are discussed: producer, consumer, and decision-maker. Section “Gender Just Energy Transition” explains the theory of energy justice and the concept of just energy transitions. To understand the shifts in the energy system, three dimensions of just energy transitions are distinguished: the technology, policy, and governance shifts. The conceptual frameworks of the sections are then combined to conclude with proposing policy choices acknowledging the triple role of actors in engendering the energy transition. Throughout the chapter, a policy perspective is leading, meaning that both gender inequalities and energy injustices need a policy reaction to overcome them.

The Gender-Energy Nexus: A Policy Perspective

Globally, energy access, consumption, and services are different for women and men (e.g. Khamati-Njenga & Clancy, 2002; Listo, 2018). Therefore, the aim is to establish an energy system that reflects gender differences and is aware of gendered social relations. Acknowledging the socially constructed and dynamic nature of gender relations, energy policy should acknowledge cultural differences in their social context and should contribute to the overall aim of gender equality (Feenstra & Özerol, 2021). The literature on the low-carbon energy transition has only recently begun to include gender dimensions. The general literature on the energy-gender nexus is dominated by engineers and economists (Listo, 2018) or “grey literature” (Winther et al., 2017). This approach to studying energy is also discernible in the low-carbon energy transition literature (Strengers, 2013). Here the main focus has been towards technical innovation such as renewable energy sources (RES) and different economic models to evaluate its usefulness within market logic. Within social science, the inclusion of gender has emerged within studies that take into account people’s experiences and perspectives, as well as governance and justice issues (Feenstra & Özerol, 2021).

The Gender-Energy Nexus

In understanding the impact of energy policy decisions on gender relations, gender analytical frameworks provide insights and knowledge. The value of gender analysis in energy policy development is that the gender analytical framework seeks to understand the differentiated needs and pre-dispositions of women and men. It enables an understanding of the existing gender situation before and after a policy intervention by assessing the intervention’s impact on access to and control over

resources (Khamati-Njenga & Clancy, 2002). However, the universal applicability of gender analytical frameworks is contested (Feenstra & Özerol, 2021). The influence of normative approaches of international organisations, activists, and NGO's is recognised in the way many gender analytical frameworks are a product of co-design between academics and practitioners. The body of grey literature on gender frameworks in relation to energy access is extensive compared to the limited academic publications on the gender and energy nexus (Feenstra & Özerol, 2021). Furthermore, with a background in development studies and a substantial research tradition with empirical evidence from the Global South, applying a gender framework to energy access may be considered unsuitable for the Global North (Feenstra & Clancy, 2020). The Global South and Global North are concepts not used in a strict geographic sense but in a political economic sense of large disparities in wealth and political instability.

Considering the free-market economy and non-discrimination law, the assumption is made that industrial countries have gender-neutral energy policies. In the definition of Khamati-Njenga and Clancy (2002), a gender-neutral energy policy is based on the idea that a good policy, programme, or project will benefit both male and female equally in meeting practical needs. However, the few research publications on gender and energy policy in the Global North conclude the opposite (Clancy & Röhr, 2003; Clancy et al., 2017; Fraune, 2015; Wiliarty, 2011). As Fraune (2015) points out, women and men reveal different preferences for energy policy options, especially when it comes to energy transition and the adaptation of renewable energy. Furthermore, energy consumption is not gender-neutral (Clancy & Röhr, 2003; Rätty & Carlsson-Kanyama, 2010). Social norms and gender relations shape consumption patterns and behaviour like purchasing power, preferences, needs, and everyday practices (Fraune, 2015). Energy poverty is understood as the inability to afford the energy consumption needed for a decent and comfortable life (Bouzarovski & Petrova, 2015). Energy poverty has a strong gender dimension since more women than men are living in poverty and is an emerging concern for the European Parliament, which is starting to support research on gender and energy poverty in the EU (Clancy et al., 2017).

Despite the political attention for just transitions that benefit all, there is a policy gap in relation to gender in the low-carbon energy transition. On the policy level in the EU, there has been an emerging focus on engaging consumers to foster sustainable energy consumption and to empower people to become managers of their energy needs (Standal et al., 2018; Mengolini, 2017; Schuitema et al., 2017). Energy policies thus do not consider that women and men have different opportunities and ways of engaging with energy in policy, research, business (Standal et al., 2018; Pearl-Martinez & Stephens, 2016; Clancy & Röhr, 2003) and as individuals (Winther et al., 2019; Bell et al., 2015; Carlsson-Kanyama & Lindén, 2007), though empirical studies suggest otherwise.

In the policy context of the Global South, the gender-energy nexus has gained more traction, stimulated by donor organisations and financial support by international institutions like the UN and World Bank to stimulate compliance to international agreements (Standal et al., 2018). However, women have mainly been

presented under policy agendas that focus on women as vulnerable (without agency) or neoliberalist ideas where energy access is instrumental in transforming women to become productive citizen's securing economic growth and well-being to their families, communities, and national level (Listo, 2018; Standal et al., 2018).

These policy logics, including the gender blind/neutral logic of the Global North, do not treat the underlying mechanisms of discrimination that reinforce gender inequality in the political economy of energy and therefore provide an inadequate understanding of women's roles and resources concerning energy. A just energy transition can be engendered by highlighting women's agency not only in the Global South but also in the energy system of the Global North. Agency can both be used in a positive sense, the power-to, as in a negative sense, the power over (Kabeer, 1999). A just energy transition enables that all actors in the energy system have the capacity to define their own choices and to pursue their own goals by ensuring that both choices and goals will "leave no one behind" in access to clean and sustainable energy.

Enabling Conditions to Engender Energy Transition

The current context and future consequences of climate change necessitate that we accelerate towards a decarbonised energy future by replacing fossil energy with renewable energy sources (RES) and reducing energy consumption. This challenge comes in addition to making access to sustainable energy universal in the Global South and North to ensure development and social justice. Global commitments such as the Paris Agreement, Sustainable Energy for All (SEforAll) and the Sustainable Development Goals (SDG); SDG#7—"clean and affordable energy for all" and SDG#13 on "climate action," are important frameworks for government policy implementation in the energy transition. The SE for All initiative has three major targets by 2030: (1) ensuring universal access to modern energy services, (2) doubling the rate of improvement in energy efficiency and (3) doubling the share of renewable energy in the global energy mix (United Nations, n.d.).

The energy transition is often presented as being dependent on technological innovation and market mechanisms. Replacing fossil fuels like coal with RES in electricity production is highly beneficial and has been hailed as a win-win solution that reduces emissions and ensures continued energy security. Solar energy has lower greenhouse gas emissions than coal, and the costs of solar are competitive. However, the two sources of energy have different qualities in the electricity production and supply and national or regional electricity supply cannot be powered by solar alone. European policies, like REDII and the European Green Deal, are promoting local energy initiatives to stimulate the uptake of RES and facilitate prosumers, energy consumers that are producing their own energy through, for example solar panels. Men are still more participating in local energy initiatives and are overrepresented as prosumers (Standal, 2018; Standal et al., 2018).

Table 1 Conditions of an enabling environment for engendering energy policy

Enabling condition	Description
Participatory planning	An approach involving a range of actors (including civil society) is considered more likely to create a greater opportunity for women's voices to be heard than traditional approaches to policy-making.
Gender methodology	Involves having a gender strategy, collecting sex-disaggregated data and conducting gender analyses to develop a gender-aware energy policy.
Legislation on gender equality	Form and scope: e.g. is gender equality enshrined in the constitution?
Political commitment	Putting pledges into practice: e.g. the existence of a National Gender Policy.
Institutional support	This support can come from within the government, such as a Ministry for Women's affairs or a gender ministry, or civil society, for example NGOs active in gender and energy.
Financial commitment	Allocation of sufficient resources to implement gender-aware policies.

Source: Feenstra (2002)

Although the energy transition is a major concern for many policy-makers and reflected in a range of policies both at the local, national, and European level, reflecting gender and overcoming gender inequalities and energy injustices keep lacking in energy policy (Feenstra & Clancy, 2020). To overcome gender blindness in energy policy, Feenstra (2002) identified six enabling conditions that support or hinder the process of engendering energy policy. These factors are summarised in Table 1, which shows how policy analysis can identify the enabling conditions engendering a just energy transition. Implementing these conditions could create an enabling environment to strengthen the agency of the actors in the energy system.

A diverse terminology, using terms such as “gender-sensitive,” “gender-mainstreaming,” “gender-responsive,” and “gender-aware” is used to address gender in policymaking (Feenstra, 2002). This chapter uses the term “gender-aware” that draws on the definition of Feenstra (2002) where a gender-aware energy policy (1) recognises that women and men have different energy dynamics (role in the household, decision-making areas, energy needs, responses to crises or coping mechanisms); (2) makes available energy technologies and services that match those dynamics; and (3) employs appropriate policy instruments (such as taxation) to provide an enabling environment.

Engendering energy policy is defined as the process that aims to create a gender-aware energy policy (as just described in the definition above), in which the needs and the rights of both women and men are addressed to realise a gender-equal policy outcome (Feenstra & Özerol, 2021). Engendering energy policy resonates with the prevailing academic debate on energy justice and equal access to energy services, as is reflected in international commitments and national policy plans towards a just energy transition (ibid). If governments strive to implement an energy transition policy that “leaves no one behind” and that resonates with the justice discourse, the costs and benefits of the energy transitions need to be equally distributed in society, taking into consideration the existing inequalities and injustices. The role of different

actors in the energy system depends on the capacity to act upon the agency these actors possess, as will be described in Section “Women as Change Agents in the Energy Transition”.

Women as Change Agents in the Energy Transition

The national level is a suitable scale to formulate a gender-aware energy policy. National governments are urged to acknowledge the universal declaration to provide Sustainable Energy for All (SEforALL). This is a global commitment that requires local action and nationwide implementation under country action plans supported by international partners (AGECC, 2010). To understand the extent to which gender is being mainstreamed in SEforALL-related activities, Prebble and Rojas (2017) analysed 61 SEforALL country action plan documents from 52 countries. Their main finding was that 82% of these documents included gender considerations to some extent and, in which women were mentioned as potential beneficiaries of activities and actions, but seldom were they characterised as agents of change.

The methodology used by Prebble and Rojas (2017) included a framework for context-specific analysis using a characterisation of women in policy documents. These characterisations are recognisable in the terminology used in national policy documents, and four descriptions of women can be identified: vulnerable, beneficiaries, stakeholders, and agents of change. The first two mostly refer to women as end-users or a target group for a specific programme or policy outcome, without an element of their participation or influencing the policy at stake. On the contrary, documents that referred to women as stakeholders identified women’s role as decision-makers or as a group targeted for participation in decision-making. As demonstrated by Prebble and Rojas (2017), only a few policy documents described women as driving sustainable energy development activities as agents of change that also had a voice in policymaking.

Recognising women’s knowledge and capacities is a key objective of agency theories. Ignoring women’s agency hinders their access to sustainable and affordable energy services and limits their participation in the energy sector. The World Bank used the concept of agency as “an individual’s or group’s ability to make effective choices and transform those choices into desired outcomes” (World Bank, 2014). Acknowledging the potential of women as change agents in the energy transition is receiving growing interest in the gender-energy literature (Clancy & Feenstra, 2019). However, the main body of literature on gender-energy nexus is based on empirical data from the Global South and has limited the applicability of the agents of change theory to the European context. Clancy and Feenstra (2019) warned that it might be too early to correlate gender equality and a just energy transition. Too little empirical data is available to draw conclusions whether women can be change agents in energy transitions in Europe. Scholars studying the gender-energy nexus in the Global South are shifting their focus to the Global North, applying the same methodology and using similar theoretical lenses to research women’s role in the EU energy

transition. This is demonstrated by Clancy et al. (2017), who drew on their experiences in studying the energy access of women in the Global South to analyse the feminisation of energy poverty in the EU.

Women are acknowledged as agents of change within development agencies to boost socio-economic development and cultural change (World Bank, 2014). The gender-energy nexus literature gives women's role in influencing the energy transition more critical attention. Three roles of change agents have been identified in the energy transition (Clancy & Feenstra, 2019):

1. Consumer—i.e. demanding the use of energy services (a consumptive role)
2. Producer—i.e. producing and supplying energy services to end-user (a productive role)
3. Decision-maker—i.e. governing the energy sector (a decisive role)

Agents of change are a social phenomenon embedded in a socio-cultural context (Kabeer, 1999). Gender is a socio-cultural phenomenon, too, and women and men can manifest agency in different ways. Looking at agency in energy access from a gender perspective, a gendered difference in the rights and needs of women and men in the energy system can be identified (Clancy & Feenstra, 2019). Engendering energy transition is a way to reflect and support women's and men's agency towards a just energy transition (Feenstra & Clancy, 2020).

Studies have found that women and men reveal different preferences for energy policy options, especially when it comes to energy transition and the adaptation of RES (Fraune 2015; Ryan, 2014; Clancy et al., 2011; Köhlin et al., 2011). Furthermore, energy consumption is not gender-neutral (Winther et al., 2019; Standal, 2018; Bell et al., 2015; Carlsson-Kanyama & Lindén, 2007). Purchasing power, preferences, needs and everyday practices and routines are shaped by social norms that differentiate access to income and resources (Standal et al., 2019; Winther et al., 2019; Standal, 2018; Fraune, 2015). The ways in which energy consumption is gendered also impacts on women's ability to benefit or lose out in the low-carbon energy transition. Women do most of the energy-related domestic work in both Global North and Global South contexts (Winther et al., 2019; Standal et al., 2018; Bell et al., 2015; Carlsson-Kanyama & Lindén, 2007). In the Global North, there are two additional dimensions of gender inequality in energy. First, women have less decision-making power over what technology is being bought and used in the household (Winther et al., 2019; Standal et al., 2019; Standal, 2018). Furthermore, the recent attention to energy poverty reveals a strong gender face, with women substantially more affected than men (Clancy & Feenstra, 2019; Clancy et al., 2017). This adds to women's contextual vulnerability in the face of climate change and energy transition.

Some literature has pointed to how technological innovation in the low-carbon energy transition is assumed to be gender-neutral but is immersed in hegemonies of gendered identities. In Kenya, Marshall et al. (2017) point to how the private sector approaches to "low-carbon energy development" places a masculine identity in their understanding and communication on the "climate technology entrepreneur." The women entrepreneurs are portrayed in line with feminine values of caring and

nurturing, while men entrepreneurs are presented as competitive, ambitious, and technologically skilled. In Norway and the UK, a study of prosumers (who have invested in rooftop household solar systems) are also generally perceived and communicated in media and advertisement as “techno-savvy, middle-class men with high environmentalist interests” (Standal et al., 2019). Though the decision to become prosumers were made jointly, there was a gendered division of labour where men took care of the process of becoming prosumers, while women had a notable disinterest in the technical side, but took responsibility to change their energy practices such as doing laundry when the sun was shining (Standal et al., 2019). Strengers (2013) has denoted the masculine identity of low-carbon energy technologies (e.g. smart home) in the term “resource man” who is recognised in the image of the male-dominated industries of engineering, economics and computer science, and because visions of him exclude most household labour, which is still predominantly carried out by women.

Gender balance in the energy sector and political representation has also been taken up in research literature. The number of women working with RES is higher than for the traditional energy sector (IRENA, 2017). However, these jobs are mostly low-paid and non-technical, and there is little prioritisation in the industry towards an inclusive energy workforce (Pearl-Martinez & Stephens, 2016), and there is still a gender gap in STEM education recruitment (Clancy & Feenstra, 2019; Diekman et al., 2015). It is important to note that a low-carbon energy transition also does open new opportunities for gender equality. Working with RES appeal more to women than conventional energy sector jobs (Clancy & Röhr, 2003; Ryan, 2014) and providing clean energy access universally offers new prospects and benefits for women such as expanded time and reshuffling of work, new income-generating activities, as well as social and network support through enhanced communication (Standal, 2018; Winther et al., 2017).

When identifying women’s agency in the context of the energy landscape of Silesia in Poland, a marginalising of women in the process of reconstructing mining in Silesia can be identified. The unheard voices of women and their invisibility in the mining discourse results in the absence of their needs and their stories in the energy transition in Silesia. Mining is still perceived as a masculinised industry, with women working in the coal sector facing obstacles to express their agency as producer and decision-maker (IRENA, 2017; Clancy & Feenstra, 2019). Also, women as consumers in the Silesia region are facing challenges in meeting their energy needs. Coal is with 70% still the main household heating fuel, despite the extreme air pollution levels caused by domestic heating and industrial coal use. Thirty-three out of 50 of the most air-polluted towns in Europe are found in Poland of which 14 in Upper Silesia. Energy efficiency and behaviour changes to use less-polluting energy sources are encouraged, but when the domestic gender perspective in coal-based home-heating is not taking into consideration, these policies will not be effective. Only when households are efficiently supported to participate in energy transition and when clean energy sources are affordable and available for domestic use, the energy transition will benefit all consumers, men, and women.

Gender Just Energy Transition

The quest for a just energy transition is rooted in the energy justice debate. Energy justice is an emerging framework in energy social science that has developed to analyse energy transition and energy policy. Three main tenets of energy justice are articulated as distributional, recognitional, and procedural justice (Sovacool & Dworkin, 2015). Energy justice has three functions: (1) conceptual, (2) analytical framework for energy policy feeding into the use of energy justice, and (3) a decision-making tool to enable a move towards a just energy transition. The energy justice concept aims to contribute to a just energy transition with a just distribution of rights, recognition of needs, and just decision-making within the energy system (Sovacool et al., 2016).

The energy justice framework is contributing to the development of a just energy policy design by asking the normative questions as laid out in Table 2.

These evaluative questions could be asked to monitor and assess a just energy policy in the implementation phase. However, designing a just energy policy needs agenda-setting and political awareness of energy justice issues. Thus, the contribution of energy justice questions is to assess the *status quo* of an energy policy system in any given country and identify the injustices that should be addressed in the political agenda. The answers to the normative questions can contribute to designing a just energy policy to accelerate a just energy transition. Using these evaluative and normative questions reveals the existing inequalities and injustices in the energy system.

Transition is a complex phenomenon with multiple dimensions that demands a holistic view, including an intersectional approach. The energy transition can be analysed with three dimensions: the technological—aiming at decarbonisation; the policy—creating a policy shift; and the governance—asking a different governance perspective from the actors involved in the energy system. And energy justice lens, with its three tenants, addresses all these dimensions of the energy transition.

The most common understanding of the energy transition is in the technological dimension of decarbonisation, i.e. moving from fossil fuels to RES. Decarbonisation has a strong distributional focus by enabling a just distribution of, and access to, clean energy sources. RES can foster off-grid solutions for those communities not previously connected to the grid, and so renewable energy transitions have the potential to increase connectivity to energy sources and access to the benefits of electricity (Miller et al., 2015). However, distributional justice needs to be assured to prevent the unequal distribution of risks, cost-benefits, and energy rights.

Table 2 The evaluative and normative contributions of energy justice to policy design

Tenets	Evaluative	Normative
Distributional justice	Where are the injustices?	How should we solve them?
Recognitional justice	Who is ignored?	How should we recognise?
Procedural justice	Is there a fair process?	Which new processes to develop?

Source: Based on Jenkins et al. (2016)

Decarbonisation is also the policy aim of many energy efficiency programmes implemented in the EU member states. Distributive energy justice is acknowledged in the programme by providing financial support, such as low-interest rates, to enable homeowners to invest in energy efficiency.

The policy dimension of energy transition highlights the shift from supply-oriented towards demand-driven policy. Recognition justice identifies the end-user and whether their demand and the needs of the consumer are fulfilled (McCauley et al., 2013). Currently, many policies recognise households as the end-users. However, the household is a contested entity for its use in a demand-driven energy policy. Policy often contains a heterogeneity approach to households as end-users and designs policy interventions with a rather simplistic approach—i.e. one size fits all. Whereas, in reality, there is no standard end-user, and households are more complex than assumed. As Bell et al. (2015) explained, a household is a fluid system with a wide variety in its composition, particularly with the everyday dynamics of diverse, caring arrangements with extended family members. Feenstra and Clancy (2020) argue for a demand-driven energy policy that looks behind the front door of households and invests in recognising the diversity of consumers and their behaviour.

Governance can be considered as the third energy transition dimension. From a governance dimension, we see a shift from a regulative government approach characterised by tariffs and regulations towards a facilitating approach that promotes subsidies and stakeholder participation. With the shifts in the energy sector, combined with the energy transition, more actors are entering the energy market, and this is pushing governments into the role of broker between the energy sector and the community. Energy projects have and are becoming more and more characterised as public-private partnerships (Miller et al., 2015).

This governance shift challenges procedural justice in the energy sector. The procedural justice resonates with the governance structure within a country and the legal frameworks and institutions enforcing and implementing the legal framework. Many changes are taking place with little input from community or consumer voices, and the procedural justice questions whether there is a fair process in danger (Jenkins et al., 2016). Furthermore, the existence of an organised civil society and stakeholder participation in the energy system calls upon recognition justice of the needs and rights of actors within the energy system. Stakeholder participation also enables procedural justice and strengthens a just energy transition. While decarbonisation is seen as mainly a technological dimension with distributional implications, the issue described in this governance paragraph, i.e. the neoliberal shift, also has distributional and behavioural implications.

What the policy and governance perspectives of energy transition stipulate is to put the consumer central in policy-making (Feenstra & Clancy, 2020). Nevertheless, such a development places the responsibility on individuals and not government institutions. It assumes a strong agency of the end-user to participate in the energy system and claim the role of “actor” in decision-making processes. Gendered power relations result in social differentiation, limiting how women and men can take part in, benefit from and take ownership of the energy transition. A just transition is in

danger when there is gender inequality in a society, resulting in unequal access to energy services between women and men. A gender lens in the energy transition reveals the inequalities and contributes to planning a just energy transition.

The energy transition takes place within a specific governance context, which has implications for energy justice. The key policy goal of the energy transition is decarbonisation: moving from fossil fuels to renewable energy sources and increasing energy efficiency, a plan agreed collectively by EU countries and beyond. The process of decarbonisation requires us to pay close attention to distributive justice: to prevent the unequal distribution of risks, cost-benefit, and rights, a key aspect needing attention is monitoring and measuring energy poverty.

The second point of attention is an expectation that decentralised self-generation will play a greater role in meeting decarbonisation targets. It is expected that the energy transition will include a policy shift from supply-oriented towards demand-driven energy policy. The EU, for example envisions an internal energy market where citizens take ownership of the energy transition, benefit from new technologies to reduce their bills and participate actively in the market. In short, it places citizens central to empower households to self-generate, sell or store necessary supplies, participate in citizen energy communities, or enter into dynamic price contracts which will allow (and require them) to respond to peaks in (cheaper) renewable energy at any time of the day (Diestelmeier & Hesselman, 2018). This will be made possible by new (smart) technologies and demand-driven policies. With this shift, it thus becomes essential to ask who will become the energy providers, who will (chiefly) remain end-users, and who will be able to navigate all these new options and invest in relevant technologies (e.g. solar panels, batteries, smart tech). More questions are also key in considering recognition justice: who may face specific challenges in participating and reaping benefits of the transition fully, and how to ensure that a range of interests and needs are represented in decision-making and policy action (McCauley et al., 2013).

This goal of decarbonisation is set within a larger shift in energy systems. A governance shift in energy systems from governments acting as public service providers, in pre-liberalised areas, to governments becoming regulators as markets opened up, to governments becoming facilitators of energy transition and various partnerships of corporate, government, and civil society actors, collaborating in a triple helix. In this context, more actors are entering the energy market, pushing the government into the role of broker between the energy sector and consumers. Energy projects are increasingly characterised as public-private-partnerships collaborating in a triple helix (corporate, government, and society). This governance shift challenges procedural justice in the energy sector because, with an increase of actors and entanglement of roles and mandates, energy governance becomes less transparent and fair procedures could be in jeopardy (Jenkins et al., 2016). The possibility for procedural justice in governance of the energy transition relies on the governance structure within a country being open to collaborative working strengthened by the legal frameworks and institutions enforcing and implementing such processes. Furthermore, the existence of a well-organised and cooperative civil society and

space for stakeholder participation in the energy system relies on the recognition of the needs and rights of actors within that system.

The above articulation of the policy and governance context of the energy transition in light of the energy justice framework suggests that several justice issues need close attention here. First, from a perspective of recognition and participatory justice, citizens are vital to the process of energy governance, given the potential for that process to have positive or negative consequences for them. The energy transition might open new ways for citizens to participate in energy governance. This might also be a pathway for marginalised groups to shape energy policy and secure better outcomes. Secondly, while placing the consumer as central in policy-making is important, it also risks suggesting that responsibility for the transition is transferred from government to individuals. There are risks associated, too, assuming that the end-user has the agency to participate in the energy system and can claim the role of an actor in decision-making processes.

Conclusion

In this chapter, the role of women as actors in the energy transition is described using an energy justice and gender lens and with a policy perspective. Against the backdrop of international commitment, national governments feel the urgency to transform their energy policy towards renewable and efficient energy resources to meet the needs of consumers as well as a commitment to climate change and sustainability goals. The question remains how to design such a policy that recognises both women's and men's needs and the rights to energy services. The enabling conditions, as listed in Table 1 are a first step to assist policy-makers to create just energy transition policies. Insights into the gendered inequalities of energy needs, use, and access could contribute to designing energy transition policies that acknowledge and address these injustices.

Just transition will therefore require close attention to all three tenets of energy justice, in this sense that *recognitional justice* may reveal which persons face specific challenges in participating and reaping benefits of the transition fully or fairly, whilst *procedural and distributive justice* may play a role in ensuring that a range of interests and needs are both represented and met in decision-making and policy action (McCauley et al., 2013).

The possibility for procedural justice in governance of the energy transition relies on governance structures open to collaborative working strengthened by legal frameworks and institutions enforcing and implementing such processes. Furthermore, the existence of a well-organised and collaborative civil society and space for stakeholder participation in the energy system relies on the recognition of the needs and rights of actors within that system.

When juxtaposing the energy justice framework with the three roles of actors in the energy system, the matrix below illustrates how engendering the energy transition entails different policy choices based on the role of actors involved in the energy

Table 3 Policy choices for engendering energy transition with examples

Agency role	Energy justice		
	Distributional justice	Recognition justice	Procedural justice
Consumer	<i>Lack of access to energy services and energy poverty is gendered</i>	<i>Recognising gender differences in energy need and uses</i>	<i>Give women and men an equal voice in interactive energy policy formulation</i>
Producer	<i>Closing the gender gap in employees</i>	<i>Create support systems for women working in the sector</i>	<i>Equal pay and equal career opportunities for women and men</i>
Decision-maker	<i>Equal distribution of energy services for women and men</i>	<i>Acknowledging the gender difference in energy needs and uses</i>	<i>Equal rights for women and men to participation in energy policy design</i>

Source: Own work

system. The lack of enabling conditions in a country (Table 1) creates questions on injustices and inequalities in the energy system (Table 2) that could be identified and potentially solved by taking a holistic approach in policy design, as presented in Table 3.

By dissecting the actors in the energy system into their main role in the energy transition (either consumer, producer or decision-maker), policy-makers are assisted to understand how a variety of policy interventions are needed to engender the energy transition. From a consumer perspective, policy-makers need to be aware of the gendered difference in energy access and the capabilities of women and men to act upon their role and express their voices to claim their rights to recognise their energy needs are gendered. When stimulating more gender equality in the energy sector, women working at the productive side of the energy system are facing limitation to enact their agency by feeling a lack of power over their career choices and goals (IRENA, 2019). Employer could create a more enabling environment by developing policies to support women working in the sector, like childcare facilities and mentoring and ensure equal pay and career opportunities for all (Clancy & Feenstra, 2019). From a decision-making perspective, creating enabling conditions for both women and men to overcome distributive, recognitional, and procedural injustices is the policy responsibility towards a just energy transition. This chapter demonstrates a possible theoretical framework in which the Silesian energy shift can assist in how to use the momentum of change to not only invest in the energy shift but also to make this energy transition just for all citizens by reducing gender inequalities and energy injustices.

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