

# **The Role of Gender Diversity on Public Participation in Energy Governance**

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### **Abstract**

This study investigates the role of gender diversity in public engagement within energy governance, with a focus on community energy projects. Drawing on ecofeminism and post-modernist feminist theory, the research explores the intersection of gender and public participation in this male-dominated field. Through interviews with individuals more or less engaged in energy governance, our study reveals significant underrepresentation of women due to financial constraints, traditional gender roles, and perceived complexities in energy cooperatives. Key results highlight that women in energy communities encounter undervaluation, normative gender expectations, and unprofessional, sexist behavior, which diminish their engagement. The study emphasizes that diversity enhances decision quality and acceptance, yet formal diversity policies making diversity in energy community management mandatory remain largely absent. Social influence plays a critical role to increase female participation, with supportive networks and targeted recruitment strategies suggested as potential solutions. This research calls for systemic changes and inclusive policies to foster a diverse and equitable energy governance landscape.

*Keywords:* energy governance, public participation, gender diversity

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## **The Role of Gender Diversity on Public Participation in Energy Governance**

When looking at pro-environmental behavior, women often seem to show an increased responsibility for sustainability (McCright & Xiao, 2014). This can be seen through attention to environmentally-oriented behaviors, for instance, recycling and driving less (Hunter et al., 2004). Additionally, women seem to be more willing to change their everyday behavior to conserve energy, and they seem to be more open to energy conservation initiatives (Carroll, 2022).

In the policy framework “Clean Energy for all Europeans” the European Commission made clear that the energy transition is essential in reducing greenhouse gas emissions. It was also stated that all levels of governance are involved, from EU level to a local level. They also emphasized that it has to be a fair transition (European Commission, Directorate-General for Energy, 2019). According to the United Nations Development Programme, “good energy governance is critical for enhancing people's quality of life. It promotes an inclusive and equitable approach to energy transition and ensures no one is left behind” (UNDP, n.d.). Part of an inclusive and equitable approach to energy transition is the inclusion of all genders, however, the consideration of gender has been largely left out of EU energy transition policies (Carroll, 2022).

A specific form of bottom-up-led energy governance that gained importance over the last decade is Renewable Energy Communities (REC) (Energy Communities Repository, n.d.). REC is defined as an open and voluntary involvement of local people in renewable energy projects that provides environmental, economic or social community benefits for its shareholders and the local areas (Energy Communities Repository, n.d.). It is important to note that public participation has a complex interplay on the success or failure of an energy project by enabling its success when done right but also enabling resistance, division, and controversy when people

are not involved correctly or benefits are not shared among local people (Bidwell, 2016; Walker & Devine-Wright, 2008).

Several studies showed that most people engaged in community energy show similar characteristics; most striking, 80% are men, furthermore, the majority are older than 35 years old, well-educated, have a medium- to above-average income, and seem to have normative motivations such as environmental concerns (Karakislak et al., 2023; Yildiz et al., 2015).

However, according to Perlaviciute (2022), diversity seems to be an important factor in public participation. A heterogeneous group of people in energy governance sparks higher-quality decisions and increases acceptance after a decision has been made (Perlaviciute, 2022).

The energy sector seems to overlook and not explicitly aim to include women, because the male-dominated sector has a male bias and men often do not see gender as a relevant issue to address (Mang-Benza, 2021). Egalitarian views that assume people of all social groups are able to participate equally have led to a lack of attention to diversity (Lazoroska et al., 2021; Van Ingen & Van Der Meer, 2011). Community energy tends to be dominated by older men with higher education, who seem to be more present in managerial positions, which means they are in control of decisions (Carroll, 2022). The lack of diversity in REC shows that “even if diverse groups can participate, the paradox of exclusion might remain, if not everyone is equally motivated to participate” (Perlaviciute, 2022, p. 5).

Some of the reasons for women not being engaged in community energy seem to be stereotypical societal roles, the low number of women graduates in the fields of science, technology, engineering, and math (STEM), and the perception that energy cooperatives are technologically complex (Carroll, 2022). The capacity to provide an initial financial investment also seems to be a common factor for participation in community energy (Li & Okur, 2023). In

Germany, there is an essential gap in the average personal wealth between men and women, with women on average only having 72 percent of the amount of wealth accumulated by men (Grabka & Westermeier, 2014). This personal wealth gap is also mirrored in the capacity to invest in REC: women's investment into community energy represents only 20% of the total, men largely dominating the financial input made in REC's (Fraune, 2015). Additionally to the gender pay gap (European Parliament, 2023), there seem to be factors like domestic responsibilities preventing women from having the time and energy to engage in energy governance (Karakislak et al., 2023).

Gender has been recognized to be relevant for climate change issues in the Global South whereas that seems to be less the case in the Global North (Mang-Benza, 2021). While there seems to be quite some research in the form of case studies on gender in the context of energy governance in the Global South there are not as many studies in the Global North (Johnson et al., 2020).

The relationship between gender and public participation in energy governance seems complex, which leads to the main research question for this paper: *How does gender diversity play a role in public engagement within the context of energy governance?* This study looks at this question of inclusion of women within public participation in energy governance through an analysis of in-depth interviews conducted with citizens (dis)engaged in energy governance.

The current state of the art is that gender is more complex than the binary -men and women- and this has to be acknowledged in energy studies as well (Fathallah & Pyakurel, 2020). However, due to the limited availability of gender study research in the context of energy governance, this study is mostly focused on gender in binary terms and will therefore focus on the inclusion of women.

## **Methodology**

### **Data Collection**

Given the explorative nature of our research questions outlined earlier, a qualitative approach to data collection and analysis seemed most appropriate.

A convenience sample was adopted where citizens currently, living in a town in the Netherlands, were interviewed regarding their current (dis)engagement in public participation related to energy governance issues and processes. For our investigations, it was necessary to target participants from different populations, including energy communities and people currently engaged in climate activism. At the same time, we aimed to recruit a sample as diverse as possible to gain insight into different views on the topic.

The research procedure consisted of collecting answers through semi-structured interviews, following a protocol of 10 questions, and collected by leading the interviews in person. Interviews help to reach people's opinions and thoughts through direct human contact without any form of intermediaries (Robson, 2011).

The purpose of the interviews was to ask people about their feelings, impressions, opinions, and potential involvement in decision-making on energy. The interview protocol (see Appendix) has been designed to open up the conversation with the participants to get information about their interest in energy decision-making. It was composed of five central open questions, each followed by a series of sub-questions and prompts, in case of lack of understanding of the main questions. The protocol offered a guideline to ask specific questions, however, the interview was also taken as an open and explorative conversation to discover people's interest in energy decision-making. The questions were structured in themes, beginning with a personal level (i.e. opinion on energy transition, connection to energy governance), then a contextual level



(i.e. perceptions of public participation in energy governance, perceived obstacles), and lastly their preferences for future engagement in energy governance.

### **Participants**

The research team of three students has conducted 8 interviews with participants living in a town in the Netherlands. Participants were between 20 and 40 years old, with a mean age of 27 years. The sample included 4 female-identifying participants and 3 male-identifying participants, as well as one participant using any pronouns. The participants were assured confidentiality, which is why we do not present any information that could disclose their identities, and pseudonymised any referenced quotes from the participants' answers within the present study.

### **Data Analysis**

Interviews were held between 22 and 60 minutes with a mean of 37.5 minutes ( $SD = 11.83$ ). The interviews were transcribed and translated manually and analyzed using Atlas.ti in a qualitative content analysis using deductive and inductive coding

The conceptual framework for this study draws upon ecofeminism and post-modernist feminist theory to guide the investigation into the role of gender diversity on public participation in energy governance. Ecofeminism argues that the same social and economic structures that cause environmental damage also marginalize women (Shiva & Mies, 2014). Therefore women are in a better position to argue on nature's behalf and effect a change into a sustainable way of living (Buckingham, 2004). Grassroots environmental movements are much more likely to be organized by women and protest and community politics are the currently most effective ways of engaging because women are a minority in the decision-making stages (Buckingham, 2004). Post-modernist feminism points out the differences between men and women but also between women themselves in contemporary societies. It takes gender as not rooted in two fixed sexual

dispositions (biological sex), but lets people choose their own identity. It acknowledges that current reality is still defined and dominated by men, because they dominate the creation of the discourses that shape reality (Inglis, 2018).

Both movement's core is to deconstruct capitalist patriarchy. Ecofeminism highlights the connection of environmentalism and gender which is the foundational lens for this paper. This is expanded by post-modernist feminist's view of gender as a construct existing in a patriarchal society/reality. This paper combines both of these core standpoints into a framework for the analysis of participants' statements helping to answer this paper's research question.

The choice of this conceptual framework is justified by its relevance to energy governance and its alignment with existing literature. Lazoroska et al. (2021) already insisted on the need to develop research on specific factors, including sexuality and gender, as they seemed to play a significant role in engagement in energy governance.

## Results

Throughout the interviews, a collection of themes emerged that focused on the gender aspect in energy governance. One theme that developed was the role of identity for engagement in energy governance. Also mentioned are different factors for the involvement and non-involvement in energy governance, another aspect that came up were normative gender roles. Also striking were obstacles in REC and their consequences. Lastly, the interviews revealed the prominent role of social influence on engagement in energy governance.

### Identity

Post-modernist feminism as described by Inglis (2018) criticized the idea that there is only one homogeneous female identity and argued that differences and intersecting identities shape individuals. During one interview with a young woman who is engaged in an energy community, it became clear that intersecting identities are what make up her identity. Part of her identity was not just being a woman but especially being a young woman, because, in the context of working in energy governance, she was often alone among “white males over 60” (Interview A1). Those differences made it especially salient, that she was different regarding both gender and age. Because of these differences, the participant felt in opposition with the rest of the energy community. The participant also highlighted that she was hired because the chairman of the energy community “thinks we should have young people and he started with me” (Interview A1). She earlier pointed out that her role in this energy community was to increase diversity. It becomes clear that the participant is a token young woman in the REC. Now the question arises of how she perceives the potentially conflicting aspects of her identity (she is a woman, she is young, she has expertise through her studies) and the reasons for being hired (was it just because she is young, have her female identity and her expertise been ignored?).

Another part that seemed important to some participants' identity was their involvement in energy governance. One example is the participant that stated in her beginning introduction that she was "ideological", which was later reflected in "all the things that I do, want to do, also where I make money with, and that I want it to be ... good, in my opinion, for the environment, and for energy." (Interview A1) which was directly influencing her way of engaging: partly working and partly volunteering in community energy.

After the interview had just dealt with obstacles as a woman in the energy community, participant A1 started talking about someone in a different energy community, a "girl", but then quickly corrected herself to saying "woman" instead. The way she corrected her wording to a more respectful term hints towards social desirability bias. She might have anticipated a negative judgment from the interviewer.

### **Factors for the (Non-) Involvement in Energy Governance**

When it comes to the reasons why people are engaging in community energy, a female participant explained that she is "partly working but also partly volunteering" (Interview A1). Working describes a financial factor for involvement in energy governance, but her engagement goes beyond that, as was explained above. A male participant described that his main driver for wanting to engage in energy governance was financial: "in Greece, it became really... unaffordable, energy and electricity, so that was one of my personal drivers to also get involved in energy governance" (Interview C1).

On the other hand, the reasons for people to not get (more) involved have also been stated as

financially ... I'm a student so I can't always go for what I want ... if I now had to move somewhere else and had to do all the energy contract thingies [sic] myself, I

also wouldn't be able to go for the choices that I want necessarily because I...  
don't have that much money. (Interview A2)

as well as “I think that there's also a big economic barrier to participate more actively” (Interview B1). The following quote might be connected to the financial aspect, but from the way the participant conveyed what she said a different interpretation seems possible as well: “because there is nothing in my neighborhood, I'm also not doing anything.” (Interview A2). The neighborhood one lives in is closely related to the financial aspect, so the possibility of energy governance initiatives only existing in neighborhoods that might be more inclined to have a higher engagement rate could hinder people living in neighborhoods where there are no engagement possibilities from engaging in energy governance. However, in this case it could also be a mix of passivity and lack of personal interest that led to this statement as an easier excuse than having to explain personal reasons for disengagement.

When explaining reasons why she is not involved, one participant showed lacking knowledge and self-efficacy: “Personally I think I just don't know enough ... not as much as I think I should be knowing” (Interview C1), this quote clearly shows that she has little belief in her ability and is consequently limiting herself.

### **Normative Gender Roles**

Another theme that came up throughout the interviews and that might be connected to the reasons why people do not get involved in energy governance is normative gender roles. One female participant engaged in an energy community mentioned:

But he said women cannot [slight hesitation] talk to waterboards for example ....  
And then he asked me to print out some stuff and make sure that everything was  
in order and I said, well, I'm not a secretary, also that's not my studies, so I draw a

line there. And that's when I wasn't welcome [in a particular working group in the REC] anymore. (Interview A1)

It becomes clear that even when a woman is willing to engage in an energy community and can legitimately claim higher positions in this professional setting given her education, she does not obtain these and remains treated “like a secretary”, which is a work generally associated with lower education and with women working in a traditionally dominated position. Women are not seen as competent enough to act in this male-dominated sphere. Another female participant has not had experiences in that domain but already had the idea that this might be an issue with being perceived as legitimate when she will work in that field “I can see that ... I have the idea that some people are like *oh she, she doesn't know about it* [emphasis added] or something even though I study *it*.” (Interview A2)

Similarly, one can see normative thinking in the way that participants talked. One male participant for example gave several examples throughout his interview answers and it was striking that on the one hand when talking about his mother he mentioned how she is engaging in energy governance by getting informed about activism. On the other hand, when he talks about the possibility of installing solar panels on the roof -a concrete action-, he only associated that with the father (Interview B3), even though his mother seems to be informed as well. Thus, it seems the participant applied a stereotypical perception of gender-associated roles in his household by perceiving the mother less competent than the father for decision-making and concrete action. Another participant shares a similar idea when talking about a possible information session for energy governance in a neighborhood:

I feel like if you have a household with a male and a female and you have this information session, I feel like the male will go. So, they ... should try to make

sure that everyone goes, because it's for everyone. But I don't know how to do that [laughs]. (Interview A2)

We cannot talk about gender roles without mentioning that they are part of social norms which are in turn influencing the participant's engagement in energy governance. Norms are affected by rhetorical framing, but framing is also evoking norms (Chang et al., 2019). The following quote shows an example of different framing and its impact:

You know it's funny they changed the name of my bachelor's from *technische planologie*, which is *technical planning* so to say, to *spatial planning and design* and that's actually when a lot of more women went into that study which was also my first year. (Interview A1)

The participant talked about it as a “fun fact”, however, the influx of women only after the program had a different name might show self-censorship in education.

### **Obstacles/Problems in REC and their Consequences**

For the people who were already engaged in REC, the interviews revealed several obstacles that might have an influence on the participant's further engagement. One participant described a problem in her energy community:

lately, there's even been a case where the ... chairman was quite ... touchy and ... well I have been here for like a year or so, but my friend, she was just joining us and he was touchy with her as well, even more, and back when it happened with me, I didn't have anybody to talk with about it. So I ... wanted to but wasn't brave enough to actually do it and then now that she was there and she also ... now I was brave enough ... so we talked to him, together, to say: “please don't”. And ...

yeah that was a big thing for us. I think not so big for him, but for us, it was a big thing. (Interview A1)

Even though the participant did not say it literally, it becomes clear that there is a professionalism issue concerning abusive behavior that shows patriarchal domination from her superior. The quote also shows the importance of a female ally; being a collective helped the participant boost their courage to stand up for themselves. Furthermore, the incident essentially demotivated her further engagement “I’m much less motivated now, I feel like. Maybe there just needs to be some time to get over it. But yeah ... I think I’ll get over it. At some point.”

(Interview A1)

When asked about obstacles in their engagement, male participants spontaneously raised problems from technical or institutional perspectives, however, gender inequalities were not mentioned. This is evidence that gender inequalities are not issues relevant to men.

In community energy there is an institutional issue to integrate more diversity, one participant engaged in an energy community described “There *is no* [emphasis added] policy on diversity. Nowhere. So the cooperative that I’m now joining is I think the first one, because I am there, that actually does this. But nowhere else have I seen anything, for this.” (Interview A1)

One approach to more gender diversity in community energy is suggested, a shift in recruitment: “For example, saying at least 15% should be other than... males over 60 [laughs]. I think *a lot* [emphasis added] of people would object that, I think *a lot* of people would be against that. Would be cool though.” (Interview A1). In her statement the participant already anticipated resistance against a possible quota. She did not make clear who precisely would be against a quota but we can assume that she drew parallels to other situations in political decision-making where gender quotas were introduced and an opposition was prominent.



## Social Influence

Throughout the interviews, there were several mentions of how participants participate in energy governance. A popular theme was voting in elections, a normative action to participate in society, it was mentioned by four participants. Also mentioned is choosing renewable energy contracts, however, there was also the inability to choose by being dependent on parents or landlords, “if I could choose which energy company I could get energy from, I would choose one that uses renewables only.” (Interview A2).

Influence through social surroundings seems to be influential in energy governance, as shown in the following paragraphs. One participant talked about turning around what is currently socially acceptable:

Maybe it would've been great if it would've been *really* [emphasis added] weird to have only white male people above 60 in your cooperative that would be like *dude what you doing*, instead of the other way around, that now it's quite weird to have me in such a cooperative. (Interview A1)

Participant A1 described how she is defying the norm of people engaged in REC because she is one of the only people that is not a “white male above 60”. Furthermore, she mentioned that social norms are dictating what is seen as socially acceptable and what is seen as “weird”, and it seems as if she wished she would be in the norm instead of different.

Oftentimes, people’s interests and topics of discussions are influenced by the social groups that they spend their time with, and it could also influence engagement in energy governance. Examples are:

my friend, the one that is quite like open and outspoken about this ... they just kinda inspire other people and ... it just starts with yourself honestly and then it's kind of like a domino effect maybe at some point. (Interview C2)

One participant talked about the group dynamics in her study surroundings. There seemed to be friendly competition: “we discuss *Oh how can you save energy* [emphasis added] or I don't know in winter everyone is like *I haven't turned on the heater yet.*” (Interview A2). Also in the example of one participant who is part of an energy community: “What I try to do is make as many people in my surroundings, make them aware that this is important. But that is a very individualistic thing that I do.” (Interview A1). This participant developed an active strategy to influence others around her. However, she perceived this as too individualistic and therefore indicated a need for systemic change. Her strategy is even part of the energy community's diversity strategy: “Well, for us it's just me being there and making sure that I also target ... also other people.” (Interview A1). This strategy is called the block leader approach, where one *block leader* uses their social ties to inform and influence the people around them (Burn, 1991). One participant noted that even though friends could influence her into becoming more active “I don't think that if people are against it then I will turn against it because I have very strong views” (Interview A2), this shows the boundaries of social influence when someone has strong principles.

On the other side, the social surroundings can act as a buffer from noticing gender inequalities, one female participant described “I don't personally think I did [experience challenges or obstacles] because I feel like with the people around me, they're quite supportive” (Interview C2) and another participant clearly stated that they do believe in systemic gender inequalities but “I don't experience it myself because I am in a relationship so I don't see that so

much” (Interview B1), the participant is in a dissonance between recognizing the problem but not admitting that it may apply to themselves. Even though the participant has the partner's income in addition to their own, which might momentarily seem as a buffer to experiencing a gender pay gap there remains a dependency and power imbalance in the relationship in case of disagreement or fight.

From her experience of being the only young woman in an energy community, one interviewee took action:

I made sure I got her information and I called her [a young woman in another REC]. And we just talked about the whole energy cooperative situation and just being a young woman in this field. So I think it's important to have these connections ... but it's very difficult to do things on your own. (Interview A1)

Connecting with others in the field and ensuring “that we know that we exist.” (Interview A1) seems to be a good starting point to have mutual validation for young women that are actively engaged in energy governance. The participant also suggested “Maybe there could be a networking opportunity for us. Something like that. Once a year, a day where we just meet, talk about it, could be cool.” (Interview A1).

This shows the importance of social influence, may it be networking or the influence of friends. This further shows the potential of diversity in energy governance and how the trickling down of diversity can bring opportunities to engage for all.

## Discussion

The purpose of this paper was to investigate the role of gender diversity on public participation in energy governance, with a focus on REC. This study extends the existing literature by providing evidence for new connections between the role of gender diversity and women's engagement in energy governance.

In parallel to post-modernist feminism, identity is made up of many factors. One young woman's experience, for instance, illustrates the intersection of gender and age in shaping identity, particularly in male-dominated fields where this intersection is especially salient. This intersection shows that looking at gender as an isolated factor is too simplified. Furthermore, the combination of being young and female creates a unique experience that can be linked to tokenism which describes low proportions of women in workplaces dominated by men (Kanter, 1977). One effect of tokenism is visibility, the increased awareness of the presence of the token (Kanter, 1977). Another effect is the exaggerated perception of differences between the token and the dominant category of people (Kanter, 1977).

Throughout the interviews, the use of language seems to be an essential factor that reflects and reinforces social norms (Lamm, 2014), as well as respect within professional settings. Furthermore, correcting oneself could indicate an awareness of these norms. The naming and framing of educational programs can influence gender participation and perceptions of suitability, leading to gender-based self-censorship and educational choices. It was shown by Chang et al. (2019) that framing evokes norms, which in turn influence behavior and choices. This framing can be related to post-modernist feminism which claims that discourses shape reality and are defined and dominated by men (Inglis, 2018).

Motivations for involvement included ideological reasons, financial incentives, and personal values. Barriers to (more) engagement in energy governance were financial constraints, lack of self-efficacy, and geographic convenience. Financial limitations and insufficient knowledge restricted involvement, even though this was not a factor for women only, financial limitations might be amplified for women compared to men, due to gender wealth or gender pay gap (European Parliament, 2023; Grabka & Westermeier, 2014). Additionally, women with less belief in their ability are more likely to show self-limiting behavior (Dickerson & Taylor, 2000).

Traditional gender stereotypes persist in people's minds and influence the perception of women's competence in professional settings (Heilman et al., 2024). Furthermore, deviations from these roles might lead to negative consequences, such as exclusion (Heilman et al., 2024). One participant had not experienced gender stereotypes in professional settings and their consequences but already had a preconceived notion of how her legitimacy might one day be perceived. A preconceived notion of stereotypes might lead to stereotype threat, the fear of fulfilling negative stereotypes about one's group (Spencer et al., 2016). Stereotype threat may negatively affect women's performance in fields where traditional gender stereotypes still persist prominently, this may also include engagement in energy governance.

Patriarchal power dynamics manifest in professional settings and negative experiences and lack of supportive work environments can reduce motivation and engagement (Liang, 2024). Therefore it is especially important to address abusive behavior to maintain motivation and involvement. There needs to be a structure to prevent abusive behavior in REC, just like this should be the case in any company. The role of social support (e.g., having a female ally) in empowering individuals to confront such behavior seems also important.

Male participants did not spontaneously raise gender inequalities as obstacles in their engagement, gender equality and the energy transition do not seem to intersect for men, they are seeing the energy transition as neutral (Carroll, 2022). Male bias endorsed by mainly male decision-makers fosters the issue that energy transition policies do not mainstream gender as a topic towards a fair transition (Carroll, 2022).

Formal policies and institutional frameworks could help promote diversity because their absence perpetuates homogeneity and exclusion in community energy organizations. It cannot be forgotten that involvement in voluntary associations is still selective; being unable to participate is not necessarily a lack of motivation but can be due to a lack of resources (Van Ingen & Van Der Meer, 2011). One participant suggested a quota of 15% women in community energy, however, that is not enough. According to ecofeminist literature a 30-35 % minimum ratio of women to men could create a critical mass that is needed in decision-making to allocate and control resources and support each other (Buckingham, 2004).

The concept of social influence describes that people's behavior is influenced by other people, their behavior, and opinions (Strong, 2000). One effective social influence strategy is the block leader approach (Burn, 1991) where one person impacts their social surroundings, for example, neighborhood or friend groups, to engage in energy governance or become active in an energy community. Supportive social surroundings mitigate the perception and experience of gender inequalities, this buffering effect impacts individual engagement in energy governance. Achieving a critical mass of women creates the possibility of supporting each other and will become a catalyst for the inclusion of more women (Buckingham, 2004). A promising solution proposal to more women engaging in energy governance is networking, for mutual support, validation, and information exchange among underrepresented groups in energy governance.

Networking might have a promising role in overcoming individual challenges and fostering collective engagement.

### **Limitations**

Convenience samples may raise issues related to the social proximity between interviewers and interviewees, since existing social relationships between both stakeholders may increase the subjective characters of questions and answers provided by both parties.

Nonetheless, it was mentioned that the interviews are conducted in a specific frame (Bachelor Thesis research project) which requires professional attitudes from both parties. Besides, student researchers tried, as much as possible, to interview participants who do not belong to their direct social circle (family and direct friends). However, more participants had an academic background and were familiar with the topic of the energy transition than could be expected in random sampling. Furthermore, due to limited time capacities, the sample size of this study was relatively limited.

### **Conclusion**

The research explores the complex interplay between gender diversity and public participation in energy governance, revealing findings that emphasize the underrepresentation and challenges faced by women in a male-dominated field. Women's involvement in community energy projects is limited, due to financial constraints, traditional gender roles, and the perception of energy cooperatives as technologically complex. The study highlights several key points:

Traditional gender roles persist, with women often being undervalued and seen as less competent in energy governance. Instances of sexist behavior by male superiors and the lack of supportive work environments demotivate women from participating.

Diversity in energy governance can lead to higher-quality decisions and greater acceptance of outcomes (Perlaviciute, 2022).

Social surroundings significantly impact engagement in energy governance. Participants are influenced by friends and networks, highlighting the importance of social support and the potential benefits of networking opportunities for women in this field.

Addressing these issues requires both individual actions and systemic changes for inclusive and diverse engagement. This study calls for the implementation of formal diversity policies and quotas to promote gender diversity in community energy projects. Addressing financial barriers and societal norms is crucial to enable more women to participate. Additionally, creating supportive environments and addressing unprofessional or sexist behavior are necessary to retain and motivate women in energy governance roles.

In conclusion, women's participation in community energy projects is hindered by financial, societal, and institutional barriers. Addressing these issues through formal diversity policies, supportive work environments, and targeted recruitment strategies can foster more inclusive and effective energy governance.



## References

- Bidwell, D. (2016). Thinking through participation in renewable energy decisions. *Nature Energy*, 1(5), 16051. <https://doi.org/10.1038/nenergy.2016.51>
- Buckingham, S. (2004). Ecofeminism in the twenty-first century. *The Geographical Journal*, 170(2), 146–154. <https://doi.org/10.1111/j.0016-7398.2004.00116.x>
- Burn, S. M. (1991). Social Psychology and the Stimulation of Recycling Behaviors: The Block Leader Approach. *Journal of Applied Social Psychology*, 21(8), 611–629. <https://doi.org/10.1111/j.1559-1816.1991.tb00539.x>
- Carroll, P. (2022). Gender Mainstreaming the European Union Energy Transition. *Energies*, 15(21), 8087. <https://doi.org/10.3390/en15218087>
- Chang, D., Chen, R., & Krupka, E. (2019). Rhetoric matters: A social norms explanation for the anomaly of framing. *Games and Economic Behavior*, 116, 158–178. <https://doi.org/10.1016/j.geb.2019.04.011>
- Dickerson, A., & Taylor, M. A. (2000). Self-Limiting Behavior in Women: Self-Esteem and Self-Efficacy as Predictors. *Group & Organization Management*, 25(2), 191–210. <https://doi.org/10.1177/1059601100252006>
- Energy Communities Repository. (n.d.). *Energy Communities Repository - General information*. [https://energy-communities-repository.ec.europa.eu/energy-communities-repository-energy-communities/energy-communities-repository-general-information\\_en](https://energy-communities-repository.ec.europa.eu/energy-communities-repository-energy-communities/energy-communities-repository-general-information_en)
- European Commission, Directorate-General for Energy, (2019). *Clean energy for all Europeans*, Publications Office. <https://data.europa.eu/doi/10.2833/9937>
- European Parliament. (2023, April 4). *Understanding the gender pay gap: Definition and causes*. <https://www.europarl.europa.eu/topics/en/article/20200109STO69925/understanding-the->

gender-pay-gap-definition-and-causes

- Fathallah, J., & Pyakurel, P. (2020). Addressing gender in energy studies. *Energy Research & Social Science*, 65, 101461. <https://doi.org/10.1016/j.erss.2020.101461>
- Fraune, C. (2015). Gender matters: Women, renewable energy, and citizen participation in Germany. *Energy Research & Social Science*, 7, 55–65.  
<https://doi.org/10.1016/j.erss.2015.02.005>
- Grabka, M. M., & Westermeier, C. (2014). Anhaltend hohe Vermögensungleichheit in Deutschland. *DIW Wochenbericht*, 81(9), 151–164.
- Heilman, M. E., Caleo, S., & Manzi, F. (2024). *Women at Work: Pathways from Gender Stereotypes to Gender Bias and Discrimination*.
- Hunter, L. M., Hatch, A., & Johnson, A. (2004). Cross-National Gender Variation in Environmental Behaviors \*. *Social Science Quarterly*, 85(3), 677–694.  
<https://doi.org/10.1111/j.0038-4941.2004.00239.x>
- Inglis, D. (2018). *An Invitation to Social Theory*. John Wiley & Sons.
- Johnson, O. W., Han, J. Y.-C., Knight, A.-L., Mortensen, S., Aung, M. T., Boyland, M., & Resurrección, B. P. (2020). Intersectionality and energy transitions: A review of gender, social equity and low-carbon energy. *Energy Research & Social Science*, 70, 101774.  
<https://doi.org/10.1016/j.erss.2020.101774>
- Kanter, R. M. (1977). Some Effects of Proportions on Group Life: Skewed Sex Ratios and Responses to Token Women. *American Journal of Sociology*, 82(5), 965–990.  
<https://doi.org/10.1086/226425>
- Karakislak, I., Sadat-Razavi, P., & Schweizer-Ries, P. (2023). A cooperative of their own: Gender implications on renewable energy cooperatives in Germany. *Energy Research &*

- Social Science*, 96, 102947. <https://doi.org/10.1016/j.erss.2023.102947>
- Lamm, E. (2014). Forever united: The co-evolution of language and normativity. In D. Dor, C. Knight, & J. Lewis (Eds.), *The Social Origins of Language* (pp. 267–283). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199665327.003.0019>
- Lazoroska, D., Palm, J., & Bergek, A. (2021). Perceptions of participation and the role of gender for the engagement in solar energy communities in Sweden. *Energy, Sustainability and Society*, 11(1), 35. <https://doi.org/10.1186/s13705-021-00312-6>
- Li, N., & Okur, Ö. (2023). Economic analysis of energy communities: Investment options and cost allocation. *Applied Energy*, 336, 120706. <https://doi.org/10.1016/j.apenergy.2023.120706>
- Liang, T. (2024). Sexual Harassment at Work: Scoping Review of Reviews. *Psychology Research and Behavior Management*, Volume 17, 1635–1660. <https://doi.org/10.2147/PRBM.S455753>
- Mang-Benza, C. (2021). Many shades of pink in the energy transition: Seeing women in energy extraction, production, distribution, and consumption. *Energy Research & Social Science*, 73, 101901. <https://doi.org/10.1016/j.erss.2020.101901>
- McCright, A. M., & Xiao, C. (2014). Gender and Environmental Concern: Insights from Recent Work and for Future Research. *Society & Natural Resources*, 27(10), 1109–1113. <https://doi.org/10.1080/08941920.2014.918235>
- Perlaviciute, G. (2022). Contested climate policies and the four Ds of public participation: From normative standards to what people want. *WIREs Climate Change*, 13(1), e749. <https://doi.org/10.1002/wcc.749>
- Robson, C. (2011). *Real World Research*. Wiley.

- Shiva, V., & Mies, M. (2014). *Ecofeminism*. Bloomsbury Publishing.
- Spencer, S. J., Logel, C., & Davies, P. G. (2016). Stereotype Threat. *Annual Review of Psychology*, 67(1), 415–437. <https://doi.org/10.1146/annurev-psych-073115-103235>
- Strong, S. R. (2000). Social influence theory. In A. E. Kazdin (Ed.), *Encyclopedia of psychology*, Vol. 7. (pp. 343–346). Oxford University Press. <https://doi.org/10.1037/10522-148>
- UNDP. (n.d.). *Energy Governance*. Retrieved February 29, 2024, from <https://www.undp.org/energy/our-work-areas/energy-governance>
- Van Ingen, E., & Van Der Meer, T. (2011). Welfare state expenditure and inequalities in voluntary association participation. *Journal of European Social Policy*, 21(4), 302–322. <https://doi.org/10.1177/0958928711412219>
- Walker, G., & Devine-Wright, P. (2008). Community renewable energy: What should it mean? *Energy Policy*, 36(2), 497–500. <https://doi.org/10.1016/j.enpol.2007.10.019>
- Yildiz, Ö., Rommel, J., Debor, S., Holstenkamp, L., Mey, F., Müller, J. R., Radtke, J., & Rognli, J. (2015). Renewable energy cooperatives as gatekeepers or facilitators? Recent developments in Germany and a multidisciplinary research agenda. *Energy Research & Social Science*, 6, 59–73. <https://doi.org/10.1016/j.erss.2014.12.001>

## Appendix

### Interview Protocol

0. Can you briefly introduce yourself?

#### *Personal level of understanding of the topic PPEG (Public Participation in Energy Governance)*

1. What is your opinion on the importance of transitioning towards renewable energy sources compared to traditional fossil fuels?
  - a. Fanny: What role does the approach of challenging underlying economic and political structures to combat the climate and energy crises play in how you identify yourself?
    - i. Prompt: Would you say it is a central part of how you see yourself/your identity? (implicit measure of centrality as a component of social identity)

2. What is your connection to energy governance? How do you, in your current life situation, relate to energy governance?

Prompt 1: Defined here as public participation in energy decision-making; concerning issues about the production, distribution, and use of energy?

Prompt 2: This can be on an individual level, a community/neighborhood level, on an institutional level or a global scale.

Prompt 3: What about, for instance, your energy consumption, energy-saving measures, community energy, environmental movements?

- a. Franka: How did you initially become involved in these initiatives?  
What motivates or inspires your participation in community energy projects?
- b. Fanny: How do you usually receive information about collective action addressing climate change and energy issues? (prompts: through the media, personal conversations, radio, TV)

#### *Contextual level of understanding of the topic (PPEG)*

3. How do you typically see others around you engaging in discussions or decision-making processes related to energy governance issues? And how does it affect you?

- a. Franka: How do you perceive the attitudes towards women among your colleagues/peers? And how do you perceive their attitude towards you?
  - b. Fanny: How connected and in solidarity (or not) do you feel to the climate activist community employing non-normative tactics?
4. Have you encountered any challenges or obstacles in your involvement? Specific moments? /What are the reasons that lead you (or the public) to (not) be willing to get more involved in energy governance?

Prompt: e.g. personal or structural obstacles (e.g. time or money)

- a. Franka: (Has there been any obstacles that might have had to do with you being a woman?) Have you noticed any specific policies or practices that promote or hinder gender diversity within energy governance structures?
- b. Fanny: How legitimate do you perceive non-normative climate activism as a response to the energy crisis and how effective do you consider it in putting forward solutions?
- c. Meg: When it comes to engaging with local energy governance, what do you believe is generally approved or disapproved of by people in your social group?

***How do you want to engage through PPEG***

5. Reflecting on your own experiences, what role do you personally believe individual citizens should play in shaping (local) energy governance, and how does that belief influence your own actions and participation?
- a. Franka: How would community energy evolve in the future?  
Are there any examples of successful initiatives that improve community energy?  
(Initiatives that foster gender diversity within your community or institution?)

***Ending***

6. Is there anything you feel like we haven't touched upon in this interview but that you consider important?