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GENDER INEQUALITY AND RENEWABLE ENERGY:
How Women's Interests and Lack of Participation Leading to Women Marginalization in Renewable Energy in Indonesia

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Abstract

The discussion on gender within the realm of renewable energy has not been extensively explored. This article aims to elucidate the forms of gender inequality that occur in the renewable energy sector and the factors contributing to the low participation of women, despite their high interest and concern for environmental and energy issues. This article employs the Feminist Climate Justice framework to examine this issue, including case studies of women's participation in the renewable energy sector in two rural areas of Indonesia, namely South Papua and Nusa Tenggara. The findings of this article assert that the gender inequality occurring within the energy sector, specifically the marginalization of women, is not due to a lack of interest or competence in the energy field. Instead, several other factors are at play, such as cultural norms and customs, societal stigma/stereotypes towards women, the double burden, an unsupportive environment, and renewable energy policies that have not comprehensively addressed the concept of just transition and active women's participation.

Keywords: women; marginalization; renewable energy; gender inequality; just energy transition.

Abstrak

Pembahasan mengenai gender di dalam energi terbarukan belum dieksplor secara luas. Artikel ini akan memaparkan mengenai bagaimana bentuk ketimpangan gender yang terjadi pada sektor energi terbarukan dan faktor-faktor penyebab rendahnya partisipasi perempuan di tengah tingginya minat dan kepedulian perempuan terhadapp isu lingkungan dan energi. Peneliti menggunakan framework Feminist Climate Justice dalam mengkaji isu ini, termasuk studi kasus partisipasi perempuan di dalam sektor energi terbarukan di dua daerah rural Indonesia, yaitu Papua Selatan dan Nusa Tenggara. Temuan dalam artikel ini menyatakan bahwa ketimpangan gender yang terjadi di dalam sektor energi, yaitu marginalisasi perempuan, tidak disebabkan oleh rendahnya minat atau kompetensi perempuan di bidang energi namun terdapat beberapa faktor lain, seperti budaya dan adat istiadat, stigma/stereotype masyarakat terhadap perempuan, beban ganda, lingkungan yang tidak suportif, dan kebijakan terkait energi terbarukan yang belum secara rampung membahas konsep transisi berkeadilan dan partisipasi aktif perempuan di dalamnya.

Kata kunci: *perempuan; marginalisasi; energi baru terbarukan; ketimpangan gender; transisi energi berkeadilan.*

INTRODUCTION

The transition towards renewable energy (RE) continues to evolve as a crucial endeavour and is highly sought after by numerous countries in the global reduction of greenhouse gas emissions. The advancement of renewable energy, when combined with energy efficiency, can decrease carbon gas emissions by up to 94%. The projected level of emission reduction can potentially achieve the global temperature reduction target of 1.5 degrees, in accordance with the Paris Agreement (Gielen et al., 2019). The high emissions of the global energy sector, amounting to 36.8 Gigatons or about 42.15% (International Energy Agency, 2022) of total global emissions in 2022, make the development of RE an inseparable strategy from the efforts of energy sector decarbonization. This trend makes the development of NRE a potential opportunity in realizing a sustainable energy sector. In this context, the role of the state and various stakeholders from all layers of society, especially the role of women, becomes a determining factor in accelerating a fair energy transition.

In the renewable energy sector, women are not a societal group with a vested interest in energy resources. However, women are the primary users of renewable energy and often become the main actors in producing renewable energy, managing energy availability, and energy consumption within households. Ignoring the active involvement of women in renewable energy development plans or projects will result in a discrepancy between the principles and practices of sustainable energy management, and even risk failure. The active participation of women in the energy transition aims to recognize the various differences in needs, obstacles, and challenges faced by women and men at all levels of society (Cecelski, 2000).

The majority of literature discussing gender and energy categorizes women as a vulnerable societal group and the primary victims of the negative impacts of climate change (True, 2003). Women's groups must be protected from the risks of climate crises related to household affairs (Osunmuyiwa & Ahlborg, 2019), especially those residing in developing countries or in the Global South (Terry, 2009). In fact, women often encounter difficulties in accessing primary energy resources for daily productive household activities such as cooking and cleaning (Arora-Jonsson, 2011; Pachauri & Rao, 2013; Skutsch, 2005). These energy-related activities fall within the scope of women's responsibilities, which means they are disproportionately affected by energy issues (Fingleton-Smith, 2018).

The energy sector is perceived as gender-biased due to the majority of its jobs involving physical labour and technical calculations. The Head of the Subdivision of Economy and Natural Resources II Bappeda Maluku, mentioned that there is a societal stigma that energy and its sector are male occupations and affairs, both at the household level and regulatory institutions (IESR, 2021). The mainstreaming of gender in energy regulations and policies in Indonesia has not yet been included, which also impacts the energy regulations and policies in the regions (Oktafiana, Laazulva, Christann, & Saptariani, 2023).

The percentage of women studying in higher education in the fields of Science, Technology, Engineering, and Mathematics (STEM) is only 30%, with the number of men significantly higher at 70%. This disparity in women's participation in STEM automatically affects the number of women professionally involved in the energy sector. The lack of interest and attraction of women in STEM fields is influenced by spending more time at home. In such a culture, women are positioned as housekeepers with all household affairs burdened on them. It becomes taboo in such a culture when women leave the house frequently for work. Another factor causing low participation and interest in STEM is the double burden felt by women due to productive and reproductive work. Discrimination against women's nature also often occurs, such as menstrual sick leave or maternity leave, which is considered detrimental to the company. Factors like these are often overlooked in company policy targets (Ekawati, 2021).

Indonesia ranks the lowest with a 12% participation rate of women in STEM fields com-

pared to other ASEAN countries (BPSDMI, 2018). The low interest of women in STEM education is due to their disconnection from technology access from an early age and the lack of cultural and environmental support (YJP, 2016). Women working in the renewable energy sector are mostly in low-wage positions involving non-technical, administrative, and public relations work. Only about 5% work in decision-making roles. Female energy auditors only number 51 out of 1,128 energy auditors, and only 3.4% or 34 women are energy managers in Indonesia (Dewanti, 2022).

Previous studies have identified the causes of gender inequality in the RE sector to include stigma suggesting that women are incapable of managing renewable energy (Cecelski, 2000), discrimination in terms of income, qualified job types, and educational opportunities (Lieu, Sorman, Johnson, Virla, & Resurrección, 2020), women's access to energy (de Groot, Mohlakoana, Knox, & Bressers, 2017; Johnson, Gerber, & Muhoza, 2019; Pueyo & Maestre, 2019; Winther, Ulsrud, & Saini, 2018), representation of female labor and decision-making in the energy field (Emmons Allison, McCrory, & Oxnevad, 2019; Fraune, 2015), and the losses and obstacles experienced by women as a result of environmental degradation (Bonnin, Friedman, & Todes, 2016; Macgregor, 2010). Gender-related literature in the energy sector mostly discusses the stigma of women in the energy sector, discrimination in access and opportunities, representation of women in the workforce, and the impact of environmental degradation on women. Discussions about the factors and causes of women's marginalization in the energy sector, especially renewable energy in Indonesia, are rarely discussed and studied in the form of scientific articles. Therefore, this article will analyze how the low participation of women amidst the high interest and awareness in renewable energy issues can occur.

This study aims to examine the challenges of women's participation in the renewable energy sector and how the lack of women's participation causes their marginalization in this sector. The analysis focuses on women's participation in communities in the renewable energy in two Indonesian areas: South Papua and Nusa Tenggara.

This article is divided into four sections to analyze the marginalization of women in renewable energy. The first section discusses Feminist Climate Justice as theoretical framework to understand the marginalization problems. The second section explains the factors that affect women's participation, such as (1) socio-cultural views and (2) women's capacity and skills. The third section examines the issues of (3) community participation and (4) infrastructure and facilities. The fourth section discusses how these factors cause the marginalization of women in the renewable energy sector.

THEORETICAL FRAMEWORK: FEMINIST CLIMATE JUSTICE

The term 'climate justice' was first introduced and used in academia to discuss the moral and ethical dimensions of climate change, and was later adopted by civil society through activism to prioritize individuals and groups who contribute the least to climate change but suffer the most severe impacts (Newell, 2022).

Climate justice focuses on an effective global just transition that addresses the implications and impacts of climate change targeting vulnerable groups (Baptiste & Rhiney, 2016; Fuller, 2017; Kortetmäki, 2016; Mihr, 2017; Shaw, 2016; Skillington, 2017). The urgency of reducing carbon emissions requires an integrated conceptual approach to ensure justice during the energy transition process (McCauley & Heffron, 2018). In the context of climate justice, a broad and fair transition framework is used to explain the major challenges and obstacles that may occur in the future faced by countries in the Southern region (Baptiste & Rhiney, 2016; Fuller, 2017).

Climate justice provides an understanding of a fair energy transition in Southern region countries and the dominance of climate change issues (Ambrey et al., 2017). Climate justice provides a long-term temporal aspect to the concept of a just energy transition (Gearty, 2014; Mihr, 2017; Skillington, 2017) that refers to a series of specific contexts that emphasize

material access, use and control of resources, knowledge of innovative livelihoods, and a just future in the social, economic, and ecological fields (Bond, 2011). Climate justice is not just a single coherent theory with a uniform political subject, but is heterogeneous, both in terms of approach and interpretation, with various different actors within it (Routledge, Cumbers, & Derickson, 2018).

Discussions about gender and energy tend to focus on procedural equality and energy distribution to the limited representation or participation of women and women's access to energy (Melin, Magnusdottir, & Baard, 2022). Gender can also be included in other power categories, such as socio-economic status (Kaijser & Kronsell, 2014; Nagel, 2012), which will shape patterns of energy production and consumption (EIGE, 2017), so intersectionality will deepen understanding related to relevant justice issues in the context of energy politics.

Incorporating a feminist perspective in climate discussions brings up an alliance between gender studies and natural system studies through different gender perspectives related to environmental knowledge and practices (Hovorka, 2006; Paulson, Gezon, & Watts, 2003), sustainability (Leach, Mehta, & Prabhakaran, 2016), and literature does not discuss women's vulnerability to bring up collaborative social action (Buechler & Hanson, 2015). Feminist approaches have been widely applied and used in science and technology studies (Harding, 2006; Lanza Rivers, 2017), environmental work and ecofeminism (Hamilton, 2018; Hultman & Pulé, 2018)and research on climate change (Cohen, 2017; Kaijser & Kronsell, 2014; Macgregor, 2010).

Feminist climate justice employs a gender perspective by demonstrating how the causes of climate and environmental damage are also the structural causes of gender inequality (Nikiema, 2017). Feminism is both an analytical method and a progressive action to transform institutions, laws, policies, and practices towards better gender equality.

Gender inequality exacerbates vulnerability to the impacts of climate change, which in turn endangers the hard-won rights of women. Feminist climate justice aims to create a world where women, girls, and communities with different genders can thrive in a healthy and sustainable environment. The vision of feminist climate justice is a world where everyone can enjoy all human rights, free from discrimination, and thrive on a healthy and sustainable planet. To achieve this, economic and social policies must be substantially changed from efforts to pursue growth at the expense and benefit of a few.

Based on the justice theory pioneered by Nancy Fraser, climate justice requires: recognition and respect for diverse identities, experiences, and forms of knowledge; redistribution of resources; and meaningful representation and participation of women and marginalized groups in decision-making related to climate change (Fraser, 1998). Although not specific to gender equality, these dimensions reflect the definition of climate justice proposed by the Intergovernmental Panel on Climate Change (IPCC): "distributive justice refers to the allocation of burdens and benefits among individuals, nations, and generations; procedural justice refers to who decides and participates in decision-making; and recognition requires basic respect and strong involvement and fair consideration of diverse cultures and perspectives". In addition, the intergenerational dimension of climate change requires reparative justice, including reparations for past and future losses. This theoretical framework is intended to provide conceptual clarity about the barriers to feminist climate justice and practical guidance on how public action can drive the necessary transformation at all levels and sectors.

Feminist climate justice also discusses the decline of the global food system due to climate change. Climate change triggers a failure to meet the world's food needs, which can exacerbate disparities. This is one of the main sectors that need to be changed to advance feminist climate justice. The voices of women and other historically marginalized groups are often not heard in food governance, so communities most affected by climate change on the food system do not have the right to determine how the food system functions (UN Women, 2023).

The representation dimension in the feminist climate justice framework demands that this issue be addressed, from communities to global policy-making, both for justice and to enhance the accountability of climate action. Feminist climate justice demands that the exclusion of women in decision-making in households, communities, and movements also be addressed. Women's participation in collectives is associated with greater productivity and more responsive practices to climate change in various contexts (Bryan, Alvi, Huyer, & Ringler, 2023).

WOMEN COMPETENCE ON RENEWABLE ENERGY

The low participation of women in the renewable energy (RE) sector is inversely proportional to their interest. The results of the National Public Opinion Survey related to the Just Energy Transition Partnership (JETP) conducted by Celios indicate that the majority of women are more aware of JETP than men. JETP is a cooperation program between the European Union, the United States, Canada, and Japan with Indonesia to realize the acceleration of energy transition. Through JETP, a fund of 20 million dollars will be disbursed over the next three to five years to support the implementation of renewable energy in Indonesia (Koty, 2023). The survey results show that women have a higher awareness of environmental issues and energy transition, meaning that the minimal participation of women is not based on a lack of interest in the RE sector.

In addition, a survey conducted by The Baseline Citizen Survey (USAID, 2021a) found several facts that cause the low role and participation of women in the energy sector in Indonesia. In the report of The Baseline Citizen Survey USAID, several findings are mentioned that state that Indonesian policies and regulations do not contain discriminatory regulations against men or women. However, in fact, the number and percentage of women in the workforce, especially in STEM fields, are still relatively low in various sectors. Traditional culture and social norms embedded in Indonesian society give rise to the stigma that men play and are assigned as breadwinners (providers) and women as caregivers and housekeepers. With such a culture, men tend to have a higher average formal education compared to women. As many as 96% of respondents agree (some strongly agree) that working women still have to be responsible for taking care of household affairs. Most groups of respondents in the survey who agree with this role tend to create a relatively non-initiative environment to foster women's confidence in STEM and the energy sector, so it is taboo for women to make decisions in the family or at work. In career and professional levels, women often face a double burden between housework and office work. Women often decide to leave work to take care of household and family affairs, which affects the participation and number of female workers, especially in the energy sector.

IDI findings state that the crucial factor influencing this is the limited role model in career prospects for women in the energy sector. The same source also shows that habits (culture) have an influence on gender equality in recruitment and treatment of workers, resulting in small opportunities for women in job opportunities. Bias against women in the recruitment process is rarely realized, so this bias remains and is always rooted in Indonesian society. In the field of technicians, recruiters tend to prefer male applicants over female applicants even though female applicants meet the required qualifications. As many as 50% of applicants are women but companies prefer male candidates. It is still unknown whether this is due to bias against women or because they do not meet the qualifications. There is a stigma that says that men are more skilled in using equipment compared to women, especially in offshore operations, such as oil rigs, which makes companies prefer male applicants over female applicants.

The primary factor influencing women's interest in the energy sector is culture. Culture gives birth to and shapes habits, morals, and thoughts or stigmas about certain things. In this case, Indonesian culture and customs form a stigma related to the traditional role of women as household caregivers who are

responsible for ensuring household needs are met, including energy distribution. This stigma ultimately forms another stigma that says women are not suitable and not competent to be and work in the STEM sector, especially in the renewable energy sector. This hinders women's steps and poses its own challenge for women to be actively involved in the energy transition agenda. A good societal and environmental awareness is needed for women to be actively involved and develop in all sectors, not excluding the energy sector. In the Feminist Climate Justice framework, equality can be said to have been achieved if women and other marginalized groups are free from discrimination and can thrive in a good, healthy, and sustainable place.

WOMEN PARTICIPATION IN RENEWABLE ENERGY

National policies and regulations related to the development of renewable energy have been formally implemented since 2014, marked by the emergence of two important regulations governing Renewable Energy, namely: Government Regulation of the Republic of Indonesia Number 79 of 2014 Concerning National Energy Policy and Presidential Regulation No. 2 of 2015 Concerning RPJMN which regulates Renewable Energy (RE) policies. These two RE regulations represent an opportunity and potential to facilitate community access to energy, especially for the lower-middle class. However, Indonesia needs further renewable energy regulations that regulate public participation in general, especially women's participation (Koalisi Perempuan Indonesia, 2019).

In promoting women's empowerment through renewable energy, NGOs (non-governmental organizations) play an important role. One NGO that works in empowering women through renewable energy is the Girls and Women in Renewable Energy Academy (GAWIREA), which plays a significant role in empowering rural women in Indonesia. GAWIREA endeavors to facilitate the development of the potential of girls and women in the renewable energy sector as part of women's empowerment efforts. The challenge still faced by communities in Papua is food security. One village in Papua that still faces food security challenges is Samurukie Village. Papuan communities that use sago as the main staple food commodity require technology and renewable energy to improve the quality of their sago production. The improvement of sago production quality and efficiency is hampered by infrastructure and electrification that still need to be developed. In the customs and culture of the Papuan community, women play a major role in management and food security. Even so, women are still considered taboo if they work with things related to the energy sector. In addition, the price of fuel oil is quite expensive with a price tag of IDR 50,000/liter. As a result, the domino effect that occurs due to the difficulty of electricity access is food security, education, and gender inequality (Muamar, 2022).

The innovation presented in Samurukie Village, Wani Yinio Sagoo House, is a solar-powered sago grater that can guarantee the availability of energy access so that women can use it to improve sago production efficiency without leaving their customary duties. In addition to providing energy access for village communities, other benefits that can be obtained from this innovation are the reduction of greenhouse gas emissions, preservation of local food sources, women's empowerment, fulfillment of basic needs, and increased productivity.

Assuming the daily sago grating time is three hours and the sago yield percentage is 20%, fresh starch is obtained in one day as much as 187.188 kg per day. A drying process is needed to obtain dry sago flour which can reduce the weight of new starch by up to 50% so that sago flour production is approximately 93.594 kg per day. We obtained a PV rooftop system design for all sago processing equipment. As many as 3.24 kWp PV modules are used. A 48 V 80 A solar charge controller is used to charge 12 batteries of 12V 100 Ah, with a total battery system voltage of 48 V and a full capacity of 300 Ah. The load used is a sago grater machine with a capacity of 1.1 kW with a daily consumption of 3.3 kWh, with a 500 W water pump with a daily consumption

of 1.5 kWh (GAWIREA, 2023). This project undertaken by GAWIREA focuses on the application of renewable energy as a solution to the challenges of food security and women's empowerment.

Three Women Farmers Groups/Kelompok Wanita Tani (KWT) in Central Lombok Regency, namely KWT Kaki Rinjani in Karang Sidemen Village, KWT Suli Asli in Aiq Berik Village, and KWT Elong Tune in Lantan Village are targeted for the intervention of Pro Women project. Interventions to be carried out in this project include training, mentoring, monitoring and evaluation, and technology. With these interventions, it is hoped that the beneficiaries can have a complete understanding of a fair energy transition and facilitate the work process they do, thus improving the quality of the products produced (Annur & Ramadhan, 2023).

The Rumah Energi Foundation/Yayasan Rumah Energi (YRE), with the support of the Ford Foundation and the Ministry of Home Affairs, is currently implementing the Pro Women for Renewable Energy project in Central Lombok Regency, West Nusa Tenggara Province. This project aims to advocate for gender equality in the sustainable energy transition in rural areas of Eastern Indonesia. With this program, it is hoped that equal energy access for women, especially in rural areas, can be created to overcome the challenges faced in the energy transition and can save the daily economy.

YRE is currently testing the installation of two solar dryer units and one rooftop solar power plant unit. From this rooftop solar power plant, as many as 97 people have benefited from this green energy power plant. The economic effect is that their production has increased up to fourfold. Interestingly, all of their production is absorbed. From the usual 50 kg coffee production to 200 kg and it is all absorbed. This program also increases the income of communities that utilize biogas, said Rebekka Angelyn on this occasion. With this program, it is hoped that equal energy access for women, especially in rural areas, can be created to overcome the challenges faced in the energy transition and can save the daily economy (SuaraNTB.com, 2023).

Kopernik, supported by ENERGIA, the International Network for Gender and Sustainable Energy, and with funding from the governments of Finland, Norway, and Sweden, started the WWEI program in September 2014. This program also received funding from USAID, the MAMPU program of the Australian Department of Foreign Affairs, the Ford Foundation, and Plan International Indonesia. The long-term goal of this program is to provide women and men with equal and equitable access and control over sustainable energy services as an essential right in development. This is achieved by first improving access and energy services to consumers in remote communities in Indonesia, and second by narrowing the gender gap in the provision, use, and decision-making of energy at the household and community levels.

The Wonder Women receive training in the use and maintenance of technology, sales and marketing, after-sales service, bookkeeping, and public speaking. They are also trained to hold technology demonstrations, referred to as "technology exhibitions," to introduce the technology to their potential customers. Kopernik provides subsidies for recruitment and training, as well as financing the initial costs, shipping, and marketing of the technology.

The Wonder Women Eastern Indonesia (WWEI) program recruits and trains "Wonder Women" or "Inspirational Mothers" in Indonesian, to become agents of clean energy technology in their communities. Between 2014 and 2017, Kopernik collaborated with 488 Wonder Women in 25 districts in East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB) to distribute 25,620 technologies. WWEI is one of several Kopernik programs that contributed to the distribution of 55,280 environmentally friendly energy technologies throughout Indonesia during the same period. Kopernik uses several types of clean energy technologies to be distributed in this program, such as biomass stoves, ceramic water filters, and solar-powered lamps and home systems.

Wonder Women sell their technology at wholesale prices plus a small margin to

long-distance customers. Ongoing mentoring helps them develop new skills and grow their businesses, often by including other women and men as "downlines," thus creating economic opportunities for other community members. The development of Wonder Women in this program, from the personal realm to the household and community realms, is mapped into an "Empowerment Journey." So far, Kopernik's partnership has enabled this program to expand access to environmentally friendly energy to reach more people, fund the development of skills and women's empowerment, invest in creating demand, and reduce the administrative costs of operating programs in remote locations (Kristanto, 2018).

In general, women have an important role and a large responsibility in ensuring energy and food needs are met. The responsibilities imposed on them, mostly do not facilitate women to reach and fulfill the tasks of these responsibilities. Climate change and crises will add to the burden and hinder women in carrying out their duties. Climate change will affect the quantity and quality of food in the future.

Policies regarding climate change and energy transition should explicitly discuss active participation and involvement. The meaning of "justice" in the just energy transition agenda needs to be clarified. In the Feminist Climate Justice framework, policies should acknowledge that women can offer unique knowledge and skills—including among indigenous communities, rural areas, and the younger generation—that can be used to support effective climate action. The context of active women's participation in this also takes into account women's position as decision-makers in the environmental and energy sectors. Active involvement of women in the energy transition will accelerate the implementation agenda of renewable energy, accelerate the reduction of greenhouse gas emissions, and reduce the number of gender inequalities within it. In the context of representation, women should indeed be given an equal portion and place with men.

GENDER INEQUALITY ON ENERGY: WOMEN MARGINALIZATION IN THE RENEWABLE ENERGY

Discussing gender and energy in the implementation of the energy transition, women are categorized as a vulnerable and marginalized group because the energy transition agenda does not sufficiently consider the role of women in it. In fact, women play a crucial role in managing energy consumption and availability, especially in the household sector. The findings in this paper explain several factors that marginalize women in the energy transition agenda.

Culture and customs are one of the significant factors influencing women's interest and involvement in the energy sector. Culture is born and applied from generation to generation until it takes root and forms societal habits. In Indonesian culture, women traditionally play the role of housekeepers who spend most of their time at home and are responsible for household affairs and chores. This culture will give birth to a stigma against women that assumes that women are indeed obliged and required to be at home, so it will be taboo for women who choose to leave their traditional roles. Then another stigma will grow that considers women unsuitable and incompetent if they have to work with things related to the energy sector because the energy sector is considered a masculine field. Women who work tend to face a double burden between obligations and responsibilities at home and outside the home or office. This tendency makes women more likely to choose to leave their careers and jobs and take care of the household. The tendency of women who choose to take care of the household is not a problem, but women who have to sacrifice their careers and dreams solely due to stigma will raise social problems, namely gender inequality. A culture and societal stigma like this will also form an unsupportive environment for women. In such an environment, women will face challenges that hinder women's movement and progress in active participation in the energy transition. These aspects as a whole hinder and complicate women in accessing energy. The obstacles experienced by these women will place wom-

en as a vulnerable and marginalized group in the energy sector, both on a household scale and professional or career (USAID, 2021).

Reviewed from the Feminist Climate Justice framework, the marginalization of women as a form of gender inequality can be avoided and overcome through recognition and respect for diverse identities, experiences, and forms of knowledge; resource redistribution; and meaningful representation and participation of women and marginalized groups in decision-making related to climate change (UN Women, 2023). The aspects mentioned in Feminist Climate Justice have not been realized and applied well in the just energy transition in Indonesia. The concept of "justice" in renewable energy policies has not explicitly explained what and how the context of this justice is, so it is still unclear whether gender issues are included in the study and target of the just energy transition. Thus, it will be difficult in the future to realize a just energy transition that is appropriate and benefits all community groups from all levels or classes of society, including marginalized groups.

It is necessary to examine several aspects to ensure that gender inequality and low participation in the renewable energy sector are not solely caused by a lack of interest or competence among women.

CONCLUSION

In general, women exhibit a higher level of awareness and concern towards environmental issues and energy transition compared to men. However, the reality is that women's participation in the energy sector tends to be low, leading to gender disparities and the marginalization of women. This creates a discrepancy between women's high interest and their low participation in the energy sector, particularly in renewable energy.

The low participation of women in the energy sector can be attributed to several factors. These include ingrained cultural norms and traditions, which give rise to negative stigmas against women involved in the energy sector, the double burden faced by women, and an unsupportive environment that adds obstacles and challenges for women. The challenges and obstacles faced by Indonesian women can be overcome through an actively engaged government that demonstrates and strives for care towards women in the public sector, particularly in the renewable energy sector. Policies and agendas for a just energy transition must explicitly mention the involvement and active participation of women in the energy sector. Furthermore, government regulations should be favorable toward women. This is necessary to create harmony between the principles and practices of implementing a just energy transition agenda. In this context, Feminist Climate Justice effectively elaborates on the factors, challenges, and obstacles experienced by Indonesian women in the renewable energy sector, both at the household and professional/public levels.

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