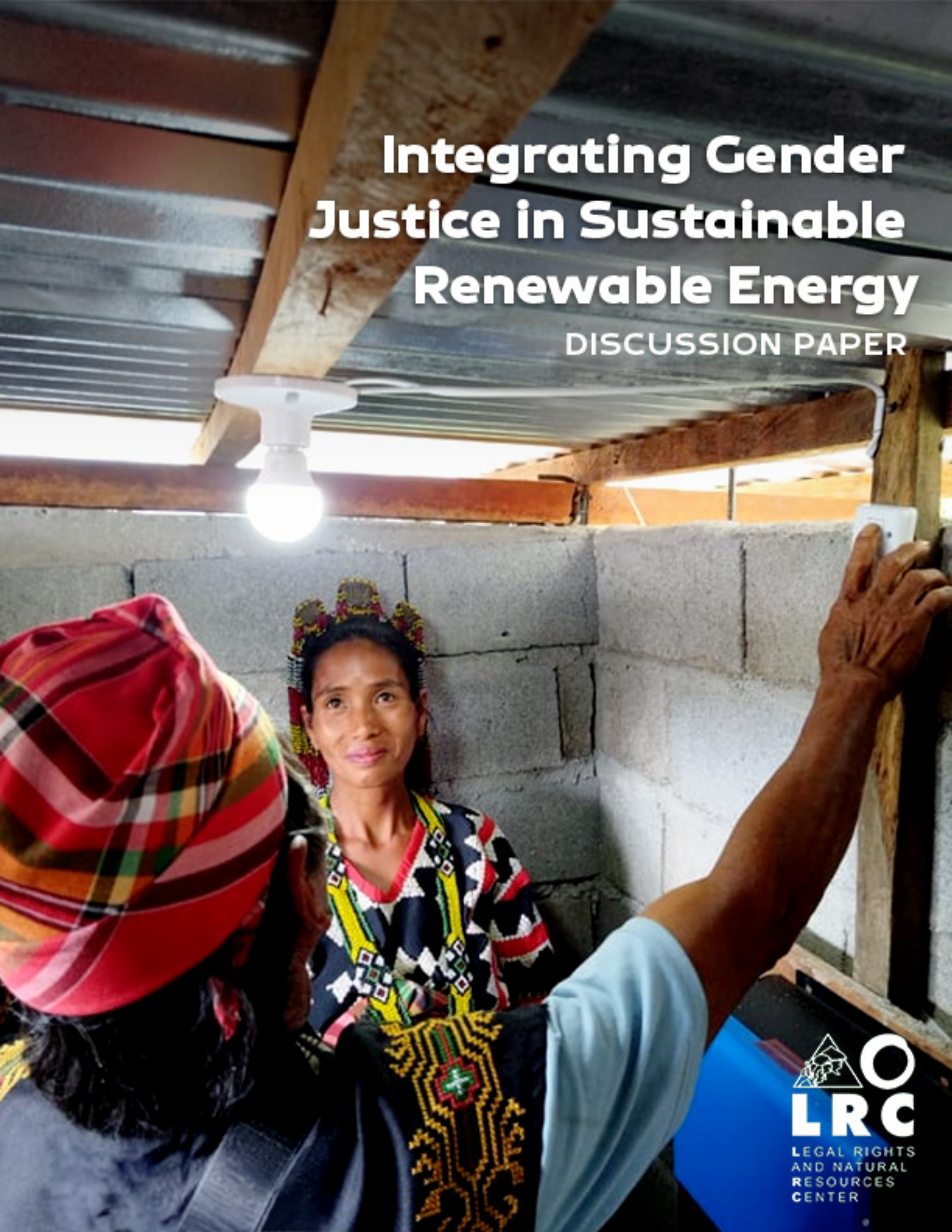
Integrating Gender Justice in Sustainable Renewable Energy

DISCUSSION PAPER



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Integrating Gender Justice in Sustainable Renewable Energy
Discussion Paper

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Cover: A T'boli indigenous woman watches as a solar-powered light bulb is turned on for the first time. Credit: Jean Marie Feraris/LRC.

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INTRODUCTION

Without gender justice, a truly just and equitable energy transition remains an illusion.

The devastating consequences of large-scale fossil fuel extraction have disproportionately burdened poor and minority women, manifesting globally through a consistent pattern of environmental racism, increased care work, pollution, threats to fertility and reproduction, the dangers of 'man camps' and the resulting violence, and profound mental health challenges.[1]

Despite this, the current energy system has left some 685 million people[2] without access to electricity in 2022, exposing stark energy inequity. For women, energy poverty leads to drudgery, health issues, and time poverty.[3] In fact, women are the ones who bear the brunt of energy poverty, as they are responsible for gathering biomass fuels for cooking or collecting water. In some regions, women were found to spend up to eight hours daily collecting fuel,[4] reducing time for education and income-generating activities. Moreover, the immense toll of air pollution linked to biomass burning, estimated at 2.8 million deaths in 2018,[5] persists in 2024,[6] with women and children continuing to be the most vulnerable.

Globally, four out of every five individuals displaced[7] by the impacts of climate change are women and girls, highlighting their heightened vulnerability to climate-induced displacement.[8] In developing economies, women dominate informal and precarious work[9] (e.g., waste picking, subsistence farming), which lacks social protections and is at risk during economic transitions. Less than 1% of climate finance[10] is gender-targeted, despite evidence that women-led climate adaptation projects have higher success rates.

For women, energy poverty leads to:

drudgery

health issues

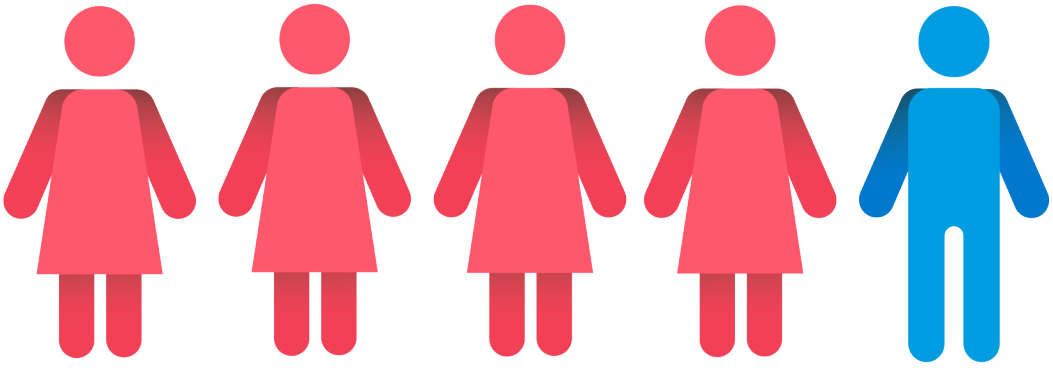
time poverty

The transition to renewable energy (RE) is often framed as a purely technical[11] or economic[12] challenge, ignoring the deeply political nature of energy systems: who controls them, who benefits, and who is left behind.[13] In other words, without the full and equal participation of women in the just transition, the shift to a low-carbon economy risks reinforcing and even exacerbating existing gender inequalities, leading to further economic, social, and environmental harms. A feminist policy perspective demands that we recognize women as political actors, not just passive beneficiaries, in shaping a just and equitable energy future.

Renewables must avoid these pitfalls, and the transition itself should open the door to the transformation of the lives of women and marginalized groups.

GENDER JUSTICE IN SUSTAINABLE RENEWABLE ENERGY: COMMUNITY EXPERIENCES

In the Philippines, the Sustainable Renewable Energy (SRE) Initiative, convened by the Legal Rights and Natural Resources Center (LRC), recognizes the potential of solar, wind power, and micro hydro for sustainability and justice in the transition. Although they are no less immune to committing egregious harms such as land dispossession or biodiversity disruption, these projects have minimal environmental footprint compared to other RE technologies. Therefore, a truly just transition, anchored in SRE, demands that its mechanisms actively dismantle gender disparities[14] to guarantee a shift to a sustainable, low-carbon economy that eradicates existing inequalities. Women, particularly those in marginalized communities, face unique challenges.



Four out of every five individuals displaced by the impacts of climate change are women and girls.

Care must be undertaken not to fetishize renewables and accept hook, line, and sinker the "power of the machine" or the "seemingly autonomous productive capacity of technology."[15] In fact, renewables are more minerals-intensive[16] than fossil fuels. To precisely avoid or mitigate these harms, the implementation of these projects requires extraordinary due diligence, thorough impact assessments, and robust consent processes, among other crucial measures.

In the Philippines, renewables, especially solar and wind, are increasingly being dominated by the same actors who traditionally dominate fossil fuels. This raises concerns for communities, civil society groups, and other stakeholders who have witnessed firsthand human rights violations in the sector. It is thus important to create an overarching framework that will guide the transition using a rights-based approach, including gender justice.

"In the Philippines, renewables, especially solar and wind, are increasingly being dominated by the same actors who traditionally dominate fossil fuels. This raises concerns for communities, civil society groups, and other stakeholders who have witnessed firsthand human rights violations in the sector.

Gender justice pertains to a vision of a "world where everybody enjoys autonomy, freedom and equality, and is able to share equitably in the distribution of power, knowledge and resources. Achieving this means recognizing the history of injustice, oppression and subjugation faced by women as a social group."[17]

This brief threshes out emerging women's issues from community engagements or entanglements with utility-scale renewables and suggests practical guidelines for ensuring gender justice within the SRE space.

• Women as political subjects

> ***Because most households, especially in rural areas, remain traditionally led by men, RE projects should challenge rather than reinforce social norms.***

Typical community consultations leave out women based on the assumption that household leadership is male by default and is immutable. Excluding women inevitably leads to policies that fail to address their distinct realities and needs. Because most households, especially in rural areas, remain traditionally led by men, RE projects should challenge[18] rather than reinforce social norms. In many households, women play a crucial role in gathering fuel, fodder, and water for daily needs. Additionally, they contribute through home gardening, small family-run businesses, and post-harvest activities. Evidence reveals that entrenched gender inequalities, including how domestic duties are assigned and valued, affect decisions on transitioning to cleaner fuel sources.[19] Gendered power dynamics in domestic energy decision making directly constrains women's access to sustainable energy technologies and services. Despite often serving as primary household energy managers, women remain systematically excluded from both recognition for this critical role and meaningful participation in sustainable energy policy formulation and implementation.

In rural areas, women contribute through

home gardening

small family-run businesses

post-harvest activities

Women experience energy poverty more intensely than men, yet energy policies often fail to account for this. Without adequate energy access, women and girls bear the brunt of time-consuming unpaid household work. Such cases highlight the critical need to examine the social factors influencing energy use patterns before developing implementation strategies for energy policies. Renewable energy solutions offer dual benefits of health improvements and gender empowerment. When women spend less time on energy-related domestic tasks, they gain capacity to participate in income-generating activities, either through entrepreneurial ventures or formal sector employment. This is buttressed by the Committee on the Elimination of All Forms of Discrimination Against Women (CEDAW), which issued General Recommendation 37,[20] calling States Parties to,

> Encourage women's entrepreneurship and create incentives for women to engage in businesses involved in sustainable development and climate resilient livelihood activities in areas such as the clean energy sector and agro-ecological food systems… and that they can use and economically benefit from climate change adaptation and mitigation technologies, including those related to renewable energy and sustainable agricultural production.

Alarmingly, the prevailing gender and development[21] approach often confines women in energy transitions to the role of passive beneficiaries—mere recipients of aid or pre-designed solutions, rather than active agents of change.

This limited perspective exposes a critical flaw in current frameworks: an energy transition that simply incorporates women without challenging existing power structures cannot be truly just or emancipatory. That the Philippine Renewable Energy Act 2008[22] makes no account of gender issues highlights this point. To realize the just transition, the lack of women's participation in decision making in the energy sector must be addressed.

True feminist energy justice requires dismantling the systemic barriers that confine women to marginal roles and reimagining energy systems in ways that center their autonomy, leadership, and collective power.

In the fisheries sector, male fisherfolk are identified as primary stakeholders, and local fisheries councils are exclusively composed of and led by men. Credit: Independent Mind Productions.

While increasing women's participation in RE initiatives is a necessary step, it is not sufficient on its own. True feminist energy justice requires dismantling the systemic barriers that confine women to marginal roles and reimagining energy systems in ways that center their autonomy, leadership, and collective power. Without this shift, projects risk perpetuating the very inequalities they claim to address, treating gender inclusion as a box to tick rather than a transformative principle.

Hence, women should have a voice on proposed RE projects. This demands gender-balanced representation in consultations and in free, prior, and informed consent (FPIC) processes. Recognizing the ongoing changes within traditionally male-led indigenous political structures (IPS) is also crucial for achieving genuine inclusivity.

A tangible example of evolving IPS is the Timuay Justice and Governance, representing the Teduray and Lambangian peoples, which now includes a woman representative from the women's group *Inged Fintailan*. Highlighting the proactive role of indigenous women, the *Katutubong Kababaihan ng mga Dumagat* (KGAT), an active IP women-led group, sought consultation with LRC concerning their rights regarding a wind farm in their ancestral domain. The lack of such consultation, as lamented by Dumagat elder Merry Concepcion for the same project, underscores a critical gap.

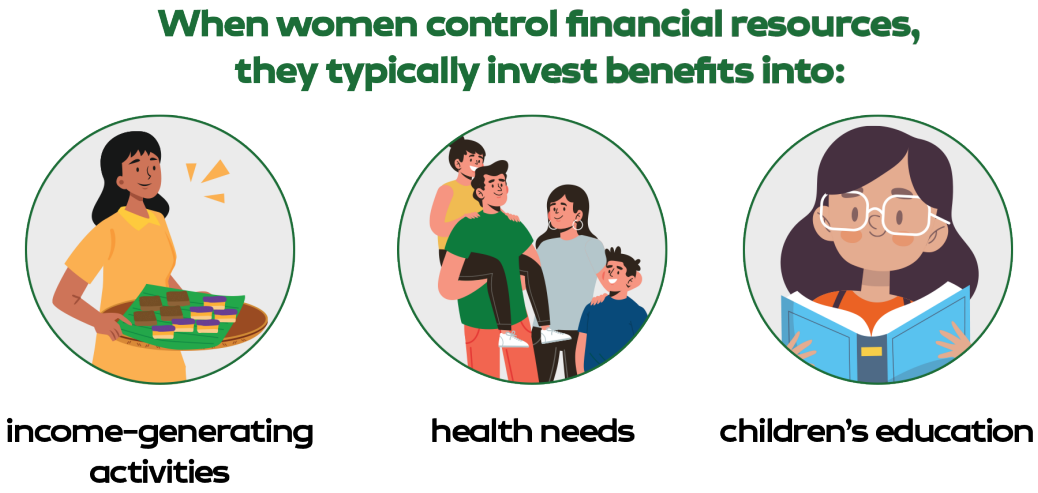
Meanwhile, in the floating solar farm project in Laguna de Bay, male fisherfolk are identified as primary stakeholders, and local fisheries councils are exclusively composed of and led by men. Women in the fisheries sector are primarily involved in marketing, aside from the upkeep of the home. As the project moves forward, consultations should invite women, who are often left with the unenviable task of managing small household budgets.

Traditional energy policies often portray women as victims of energy poverty[23] or climate change, rather than agents of change. A feminist approach reframes women as decision makers in energy governance (e.g., community solar cooperatives, policy councils), as innovators in decentralized renewable solutions (e.g., women-led microgrids in rural India), and as advocates for gender-responsive energy policies (e.g., influencing national just transition plans).[24] This also underpins the need to support feminist energy research to challenge dominant technology narratives and techno-solutions.

• Benefit sharing for women

Women's approval of RE projects must be reciprocated with direct and proportionate benefits. A study found that when women control financial resources, they typically invest benefits into income-generating activities, health, or education needs of their families.[25] Men typically invest in hardware, such as the purchase of vehicles, as well as spend a portion of benefits on leisure and vice.[26]

The Department of Energy Circular No. DC2018-03-005[27] mandates that host communities in non-highly urbanized areas receive financial benefits from RE projects. Specifically, these communities are entitled to 25% of the Development and Livelihood Fund (DLF) and 25% of the reforestation, watershed management, health, and/or environment enhancement fund (RWMHEEF). These funds are sourced from one centavo per kilowatt-hour (₱0.01/kWh) of the total electricity sales. This ranges from 5% for indigenous communities to 35% for host municipalities.



Failure to include women from the very beginning of RE projects could lead to a situation where men disproportionately control and benefit from these allocated funds. Local government units must tailor its menu of social development projects to respond to typical investments of poor women in food, health, and education. While the rapid expansion of RE projects is often celebrated as a win for both climate action and social equity—often beneath the rhetoric of 'green growth'[28] and 'community benefits'[29]—the current benefit-sharing model remains deeply exclusionary, failing to address systemic gender inequities in participation, rights, and resource access.

Renewable energy, when designed with inclusivity as a priority, can empower women in local communities by improving their electricity access and water resource management. These projects can generate shared benefits, expand women's access to essential services, and create new economic opportunities. This, however, must be premised on a key priority, that is to guarantee women's active involvement and decision making in climate resilience strategies that allow them to create pathways to economically benefit from renewable energy innovations and projects.

• Women in agriculture

Utility-scale renewables are a potential source of conflict for small-scale food producers. Solar energy expansion, for example, presents both opportunities and challenges for rural farming communities. While it can offer economic benefits, it may also accelerate trends like rising land costs, industrialization, and the prioritization of amenity services. Moreover, claims that solar development preserves farmland[30] should be approached cautiously, given the uncertainty of future ecological, social, and economic conditions. Lease agreements cannot guarantee farmland restoration, and expanded electricity infrastructure may encourage further industrial encroachment. 'Green grabbing'—where corporations acquire land under the guise of sustainability—often sidelines smallholder farmers, particularly women who lack formal land rights.

Women in Agriculture

Globally, a third of women's job are in agriculture.

Solar farms could eat into small family farms, affecting women's livelihoods.

LRC provided a paralegal training to members of the National Coalition of Rural Women on RE laws and just energy transition. Credit: LRC.

Land is more than an economic asset; it is a foundation for livelihoods, cultural identity, and social power. Yet, women remain disproportionately excluded from land ownership.[31] Particular to women in agriculture, without careful policy safeguards, the green energy transition risks replicating historical patterns of land dispossession while exacerbating women's economic and social marginalization. It is important to note that Article 14 of the CEDAW, of which the Philippines as a signatory is obliged to comply, states that States Parties "shall take into account the special problems of rural women and the significant roles they play in the economic survival of their families and shall ensure to them all rights in this convention."[32]

In discussions with LRC, the National Coalition of Rural Women has shared concerns on the impact of renewables on agricultural livelihood and women's rights.

Globally, a third of women's jobs are in agriculture.[33] Although agrivoltaics (agricultural produce growing on solar farms) are gaining popularity, pure solar farms are far more numerous. In an initial consultation by LRC with farmers, a company is keen on buying up small landholdings from agrarian reform beneficiaries in Southern Luzon. Being land-intensive, solar farms could eat into small family farms, affecting livelihoods and reversing the hard-fought gains of agrarian reform.

Land-use plans crafted by local governments should clearly allocate land for exclusive agricultural uses before entering into agreements with renewables; the national government must renew efforts to prioritize the National Land Use Act (NLUA) to preserve agricultural lands. Large-scale renewable energy infrastructure, particularly photovoltaic and wind power installations, frequently necessitates substantial land conversion that may displace productive agricultural areas. This land-use competition can potentially create trade-offs between clean energy generation and food production capacity, with implications for local food security and commodity prices.

The Department of Agriculture's Renewable Energy Program for the Agriculture and Fishery Sector (REPAFS) will pilot technologies, such as solar-powered irrigation systems and biomass gasifiers, among others, across the country.[34] It can expand its menu of support to include care work and other gender-based projects.

• Economic opportunities from renewables for women

One of the demands of (male) fisherfolk leaders from the Laguna de Bay solar farm project is for concessionaires to employ them to install and then maintain the solar installation. This will tide them over during lean fishing seasons and supplement their income. Moving forward, the list of demands could also include opportunities for women at the project site. Solar installation, in particular, is principally civil engineering; training is straightforward and inexpensive.

Women lose jobs without alternatives. Many women work in sectors vulnerable to transition[35] (e.g., informal labor, agriculture, fossil fuel-dependent industries). Without targeted reskilling, they face unemployment. In coal-dependent regions, men often receive retraining for green jobs, while women—who perform important care work at home (e.g., cleaning, catering)—are left behind. The RE sector (solar, wind) is already suffering from a gender gap; without intervention, women will miss out on future opportunities.

Only 32% is female in the global energy work force.

An IMF report found that women are significantly underrepresented in green jobs within advanced economies, holding only 6% compared to over 20% of men[36]. This underrepresentation is even more severe in developing markets. This is consistent with the energy workforce as a whole, where only 32% is female.[37]

Without investments in girls' education in STEM (science, technology, engineering, and mathematics), which is the foundation for most green jobs, the energy transition could serve to reinforce existing recruitment preferences and biases.[38]

A feminist approach to work consists of correcting gender disparities in the workplace and of an inclusive and expanded definition of work, including care work.[39] UN Women also espouses women's sustainable energy entrepreneurship.[40] Thus, to emphasize an earlier point, by reducing women's domestic energy burdens other economic empowerment opportunities are created, making it possible to increase their participation in entrepreneurial activities and formal labor opportunities.

• Women environmental defenders

Environmental conflicts often conceal the unique and underreported hardships faced by women.

Members of the Women Environmental Defenders Network, which LRC convenes, have routinely reported assuming peacekeeping and negotiating roles in conflicts. Women pacify military personnel or private armies who carry out orders to assist corporations operating environmentally critical projects (ECPs). This has taken a toll on women environmental defenders (WEDs), who absorb enormous psychological stress to stave off tensions.

The 2023 Environmental Justice Atlas documented a staggering

532 cases of violence against women environmental defenders, globally including 81 assassinations.

WEDs themselves have become targets as leaders of community resistance against ECPs. As of 2023, the Environmental Justice Atlas documented a staggering 532 cases of violence against WEDs globally, including 81 assassinations.[41] Tragically, 19 of these assassination cases occurred in the Philippines, representing 26 individuals (in some instances, attacks targeted multiple defenders), making the country the most dangerous place for WEDs worldwide.

A study found that "Impoverished, rural, Indigenous, and otherwise multiply marginalized women are at high risk of vulnerability and retaliation in environmental conflicts because of how extractive industries contribute to a loss of agency and status."[42] It points to mining and logging as especially "deadly to Filipina defenders partly because such industries institutionalize and exacerbate violent, gendered subordination."[43] The CEDAW General Recommendation No. 35 (2017)[44] takes cognizance of the layered oppression faced by Indigenous women stemming from gender, ethnicity, and economic marginalization, which intensify their vulnerability to rights abuses; and which require tailored legal and policy interventions to address these disparities.

This should be a cautionary lesson to duty bearers, lenders, investors, and energy developers to embed gender justice in the transition, given the prevalence of violence in large-scale 'development' projects. Energy transition minerals (ETMs) are part of the renewables value chains and, this early, their extraction is mirroring the violations for which the mining industry is infamous in general. For instance, between 2010 and 2022, the Business and Human Rights Centre (BHRC) documented a concerning 630 allegations of human rights abuses linked to ETMs, with a quarter of these being direct attacks on human rights defenders.[45]

A mother and her children share stories under an electric bulb powered by a micro grid solar installation. Credit: Mai Taqueban/LRC.

A VISION FOR THE FUTURE: FEMINIST ENERGY SYSTEMS

Implementing SRE projects with gender justice is a necessary step, but a feminist and just transition demands far more. It is a facet that is not only rooted in the principle of inclusivity but is a right ensured by international convention.[46]

The Philippine Energy Plan 2023-2025[47] generally mentions the Department of Energy's (DOE) goal to strengthen inclusivity and gender mainstreaming by aiming for equal contributions and benefits from energy access for both men and women. Presently, its Gender and Development (DOE-GAD) Program is anchored on the Women in Development and National Building Act or Republic Act (R.A.) 7192[48] and Magna Carta of Women or R.A. 9710,[49] touting it as the cornerstone of gender-responsive energy policy in the Philippines. What this translates to is having a share in the mandated 5% annual budget allocation under the government's General Appropriations Act (GAA). This mainstreaming of GAD is embedded in its efficiency and conservation program[50] under its mandate from the Energy Efficiency and Conservation Act or R.A. 11285.[51] The DOE reported that it enables institutional initiatives mainly through partnership with state universities to promote clean energy adoption and women's technical participation; and through information, education and communication campaigns in various local government units.[52]

Current gender-mainstreaming approaches in energy programming risk reinforcing women's roles as *passive beneficiaries*—recipients of pre-designed technologies or training—rather than recognizing them as *active agents of change* in the energy transition. While initiatives like the DOE's university partnerships and IEC campaigns demonstrate institutional commitment, their impact is constrained by limited avenues for women's leadership in technology co-design, community energy governance, and policy decision making. This paradox emerges when well-intentioned programs prioritize women's access to solutions over their agency in shaping those solutions, inadvertently perpetuating the very power asymmetries gender policies aim to dismantle. Transformative change requires restructuring programs to center women's expertise—not just as end-users, but as innovators, project developers, and policymakers in sustainable renewable energy systems. Unless these mechanisms are ensured and institutionalized, women will remain peripheral in the discourse of renewable energy and in the broader transition process.

Bell and others propose feminist energy systems comprising four interrelated dimensions.[53] The **political dimension** proposes publicly owned and democratically managed energy systems as the most ideal arrangement. They caution against political power being used as a handmaiden to capital and renewables being peddled as "an attractive asset that can be conducive to the continued expansion of commodity consumption.[54] In 2022, a Department of Energy Circular amended the Renewable Energy Act to allow 100% foreign ownership of renewables,[55] driving the final nail in the coffin of energy sovereignty.

Alternative energy systems supporting 'community economy' instead of limitless growth capture the **economic dimension**. The **socio-ecological dimension** assumes the existing energy systems are inherently violent. The needs and welfare of people and all living beings must be considered before or in pursuing energy projects. A comprehensive feminist framework examines more broadly the impacts of the transition through the lens of intersectionality (race, religion, class, gender identity, and disability).[56]

Finally, under the **technological dimension**, distributed fuel power is preferred, as it corresponds to decentralized people power.

A framework for a feminist just transition can benefit from a deeper examination and application of these elements of feminist energy systems.

RECOMMENDATIONS

Several international policies, frameworks, and agreements explicitly or implicitly advocate for women's participation in RE projects, though enforcement remains inconsistent. Important to note are frameworks from the United Nations, particularly Sustainable Development Goals (SDG) 7 and 5, where affordable and clean energy (SDG 7) and gender equality (SDG 5) are interlinked and must guide national policy frameworks.[57] Target 7.1.2 explicitly tracks "proportion of population with primary reliance on clean fuels and technology by sex."[58] They not only call for women's participation in energy access and but also in decision making.

In addition, the United Nations Framework Convention on Climate Change Gender Action Plan (GAP), which was adopted at COP23 in 2017, requires gender-responsive climate policies, including energy projects and women's participation in National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs).[59] The GAP, however, acutely illustrates the significant disparity in women's participation in decision making, where they occupy a mere 30% of the seats.[60]

If women remain outside energy decision making, the renewable transition will inevitably replicate patriarchal energy systems (i.e., centralized, profit-driven, exclusionary), fail to address energy poverty for households (where women manage energy use), and miss out on transformative solutions (e.g., decentralized solar, demand-side management).

Within the immediate, if limited, firmament of SRE advocacy, gender justice can be realized under the components of a just transition as a 'legal geography', as proposed by Rafael Heffron.[61] In no way exhaustive, the checklist below (Table 1) is an intimation of the range of possible gender-responsive interventions in SRE projects.

Table 1. Just Energy Transition Matrix for Gender Justice.

Dimension	Recommendations
Procedural justice (community decision making on energy choices)	• Involve women in decision-making processes. • Ensure gender balance in representation. • Harness the potential of projects to promote women's leadership, especially in traditionally male-dominated spaces. • Form and support broad solidary alliances to ensure the security of WEDs. • Address women's time poverty by designing projects that are sensitive to their multiple burdens, ensuring their meaningful participation in consultations and other processes.
Distributive justice (equitable sharing of benefits)	• Ensure women's inputs on benefit-sharing plans and allocation are heard. • Guarantee women's direct access to benefits. • Prioritize investments in social support (health, education, livelihoods), recognizing women's track record of reinvesting financial benefits effectively. • Broaden the definition of work (and include care work) and strengthen women's economic capacity, ensuring equal wages for all genders.
Remedial justice (access to legal remedies and grievance mechanisms)	• Include women in paralegal capacity building. • Provide psychological support for women as negotiators and conflict resolution responders. • Establish grievance and redress mechanisms that include gender-based violence. • Legislate gender-responsive just transition laws.

Dimension	Recommendations
Restorative justice (correction or avoidance of environmental harms)	• Involve women in consultations for environmental impact assessments. • Strengthen social assessments within environmental impact assessments to thoroughly evaluate impacts on women's resource use for health and livelihoods. • Require the government to mandate total economic valuation (TEV) that comprehensively captures social, economic, and environmental costs of projects, including specific costs to women, to inform robust cost-benefit analysis for RE projects. • Involve women in natural resource governance projects as a key component of environmental enhancement programs. • Repurpose large-scale or utility-scale renewables crossing low efficiency thresholds for community use, easing women's household burdens and improving their sense of security.
Universal recognition (affirmative action for marginalized groups)	• Embed guidelines for women's voice, participation, and rights within multilateral and bilateral agreements for ETMs. • Conduct both gender assessments and gender audits across the renewables value chain in all projects.
Space (consideration of relationships between the center and the periphery; land use, etc.)	• Attune energy transitions to local needs and community lifeways, designating places such as indigenous sacred sites administered by women as off-limits to disruptive projects. • Protect rural women's livelihoods and ensure renewable energy technologies enhance, not undermine, their economic standing.
Time (speed of the transition)	• Uphold due diligence requirements, including the securing of consent, within the express green lane for renewables (Executive Order No. 18), to prevent violence and reprisals resulting from top-down and rushed approvals.

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