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Making a Case for (En)Gendering Energy Transition: Legal Basis and Levers for Change

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Energy transition is a pressing global priority for a variety of environmental, social and economic reasons. The current energy transition discourse is mainly linked to addressing the climate change crisis which disproportionately affects populations that are in vulnerable situations. Moreover, achieving energy transition requires an inclusive approach that tackles the structural causes of vulnerability. In connection with this, gender inequality is closely linked with adverse climate change impacts, energy poverty, and other complex human development challenges which need to be overcome for a just energy transition. The UN 2030 agenda prioritises gender equality as a Sustainable Development Goal (SDG) alongside other goals on climate action, energy security, etc. Taking the issue of women's vulnerability to climate change and related risks in the energy transition process, this paper recognises women as crucial stakeholders and agents of change for a just transition. Against this backdrop, the paper interrogates the intersections between gender, climate change and energy transition particularly focusing on the legal basis for advocating for gender equality and its relevance in the international energy transition and climate change governance framework. The paper explores the two key approaches that have been adopted to integrate gender in climate action, namely: reporting under the UNFCCC framework and strengthening women's leadership in climate change governance. In light of the prevailing gender gaps, this paper proposes four levers of change to address gender vulnerability and capacity gaps for a gender just energy transition through promoting worker's rights and safety; education; gender inclusiveness; and intersectionality, particularly at the national and subnational levels.

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1. INTRODUCTION

Gender equality is a dynamic concept that has evolved significantly over the past few decades. The idea of gender equality lies at the heart of achieving inclusive and sustainable development. In 2020, the United Nations Millennium Declaration that was passed by the United Nations General Assembly highlighted fundamental values and principles for international relations particularly focused on peace, security and disarmament, poverty eradication, environmental protection, human rights, protecting the vulnerable, and good governance[1]. As part of the Millenium Declaration, the United Nations General Assembly resolved *inter alia* "[T]o promote gender equality and the empowerment of women as effective ways to combat poverty, hunger and disease and to stimulate development that is truly sustainable." This underscores the relevance of gender equality and women's empowerment for addressing complex development challenges linked to the economy, health and environment and advancing sustainability overall. In connection with this, the Millennium Development Goals (MDG) which set out eight goals for realising the global values and principles of the Millennium Declaration by 2015 mainstreamed gender equality as a critical development objective.

The Millennium Development Goal 3 focused on promoting gender equality and empowering women.[2] Specifically, Target 3.A was dedicated to eliminating gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015. The indicators of success for MDG 3 include: (a) ratios of girls to boys in primary, secondary, and tertiary education; (b) share of women in wage employment in the non-agricultural sector; and (c) proportion of seats held by women in national parliament. These are relevant indicators for women's empowerment for climate adaptation through education and access to climate information and democratic governance institutions. The overall assessment at the end of the MDGs indicated that the goal was achieved and developing regions were successful in eliminating gender disparity in primary, secondary and tertiary education and there was increased female representation in national parliaments.[3] Further, the recorded increase in the percentage of women

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1 United Nations Millennium Declaration, Resolution Adopted by the General Assembly A/RES/55/2, UN General Assembly, 18 September 2000

2 United Nations, The Millennium Development Goals Report (United Nations, New York 2015)

3 Rwanda is the foremost country in the world with the highest number of female parliamentarians (61.3%), followed by Cuba (55.7%) and Nicaragua (51.7%). Notwithstanding, as of 2022, there was a mixed picture across Africa of the number of female parliamentarians compared to males, with other countries like Senegal recording 46.06% of women in parliament compared to 3.91% (in Nigeria). See https://www.

in paid employment outside the agricultural sector is particularly significant from a climate change adaptation perspective, as this means less exposure of women to economic shocks due to climate impacts on agriculture.

Similarly, the post-2015 global development agenda mainstreams gender equality as a global development objective. The Sustainable Development Goal (SDG) 5 is dedicated to achieving gender equality through eliminating all forms of discrimination, sexual violence and harmful practices against all women and girls; rewarding care and domestic work that is often provided by women and girls and unpaid; ensuring women's effective participation and leadership in public life; universal access to sexual and reproductive health and reproductive rights; and undertaking relevant reforms, adopting technology and implementing laws for women and girl's empowerment and equality. There is limited data on the level of progress with the goal. But all the available evidence suggests that the world is off track to achieving the gender equality goal. At the current rate of progress over 340 million women and girls will be living in extreme poverty by 2030 and more women and girls will experience moderate or severe food insecurity due to climate change.[4] It is also relevant that energy poverty disproportionately affects women and girls and that they are mostly exposed to indoor air pollution from the use of dirty fuels for cooking and other economic and social deprivations due to their dependency on biomass.[5] These challenges adversely affect women's livelihoods and wellbeing, particularly in low and middle income areas in the global South.[6]

The intersections between gender justice and energy transition are therefore multidimensional and complex. Gender norms significantly influence the impacts of climate change on people and access to energy and other livelihood resources. Women are also underrepresented in the leadership of national energy policies and programs.[7] Hence, the risk of perpetuating the existing patterns of gender inequality if the energy transition process does not mainstream feminist perspectives and gender justice as a priority.

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statista.com/statistics/1248493/percentage-of-women-in-national-parliaments-in-african-countries/ accessed 20 July 2024.

4 United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) and Department of Economic and Social Affairs (DESA), Progress on the Sustainable Development Goals: The Gender Snapshot 2023 (UN Women)

5 UNDP, Our Work Ares: Energy and Gender Equality https://www.undp.org/energy/our-work-areas/energy-and-gender-equality

6 A. Leduchowicz-Municio, Women, equality, and energy access: Emerging lessons for last-mile rural electrification in Brazil (2023) 102 Energy Research & Social Science 103181. https://doi.org/10.1016/j.erss.2023.103181; A. T. Zhang et al., Evidence of multidimensional gender inequality in energy services from a large-scale household survey in India (2022) 7 Nat Energy, 698–707. https://doi.org/10.1038/s41560-022-01044-3

7 UNDP (n 7)

Notwithstanding, most energy transition policies adopt a primarily technocratic approach which does not account for the significant nuances resulting from gender and other social constructs. This creates a misfit between the energy transition policies and the real challenges women and girls face in addressing the energy quadrilemma trilemma (reliability, affordability, sustainability, and social justice). This paper interrogates the legal basis and rationale for mainstreaming gender equality in just transition policies and proposes basic tenets for strengthening the gender dimensions of just transition laws and policies. As a background, the first section of the paper following this introduction highlights the legal basis for mainstreaming gender equality in the just transition discourse, drawing from the international climate change governance agenda. The second section explores the theoretical justification for promoting gender responsive just transition, drawing on feminist legal theory. The third section proposes basic tenets for integrating gender equality in the just transition process. The fourth section analyses the related challenges and opportunities. The fifth section is the conclusion of the paper.

2. LEGAL AND THEORETICAL UNDERPINNINGS

It is critical to establish the legal basis for gender equality and its relevance to the just transition discourse. This is not least because terms such as 'gender' and 'gender equality' are sometimes conflated with sexuality and embroiled in the controversies surrounding "western" ideologies on sexual orientation, gender identity, and reproductive health rights, among others. As an example, there has been much controversy including objections in countries in the global south such as Jamaica, Namibia, Nigeria, Trinidad and Tobago, and Uganda, over the Samoa Agreement.[8] The Samoa Agreement is a partnership pact between the EU and its member states and the member states of the Organisation of African, Carribbean and Pacific States (OACPS). The Samoa Agreement covers six priorities, including: (a) human rights, democracy and governance; (b) peace and security; (c) human and social development; (d) inclusive, sustainable economic growth and development; (e) climate change; and (f) migration and mobility.[9] The controversial provisions include those that commit parties to "systematically

[8] Lisa Correnti, Developing Countries Revolt Against EU Gender Agenda in New Trade Agreement (C-Fam 30 November 2023) https://c-fam.org/friday_fax/developing-countries-revolt-against-eu-gender-agenda-in-new-trade-agreement/; BBC Global Disinformation Team, Nigeria-EU Deal Sparks False Claims Over LGBT Rights (BBC News 11 July 2024) https://www.bbc.co.uk/news/articles/cqv53ej2d33o

[9] Eric Pichon, European Parliament Briefing: The Samoa Agreement with African, Caribbean and Pacific States https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/757563/EPRS_BRI(2023)757563_EN.pdf

promote a gender perspective and ensure that gender equality is mainstreamed across all policies",[10] and to "support universal access to sexual and reproductive health commodities and healthcare services…".[11] Without delving into the history or context for the controversies surrounding gender, gender equality and related terms, in this paper, gender is used in relation to the socially constructed differences and norms between men and women which understandably varies from place to place and across times.[12] At the global level, the UN Statistics Division describes gender as being socially constructed rather than biological.

> Gender refers to socially constructed differences in attributes and opportunities associated with being female or male and to the social interactions and relations between women and men. Gender determines what is expected, allowed and valued in a woman or a man in a given context.[13]

Similarly, the Convention on the Elimination of Discrimination Against Women (CEDAW) refers to gender as socially constructed identities, attributes, and roles for women and men, as well as society's social and cultural meaning for these biological differences resulting in hierarchical relationships between women and men, and in the distribution of power and rights favouring men and disadvantaging women.[14] Acknowledging the role of social context and norms and the underlying power differentials and political economy is critical to achieving a just transition. For this purpose, gender is not simply a synonym for 'woman'. Rather, it is an imperative for considering the socially constructed roles of men and women and assessing how just transition policies, laws and processes impact on women differently, compared to men, mainly due to societal norms, expectations, and opportunities.

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10 Article 2.5

11 Article 29.5

12 Gender is a complex construct which encompasses a broad range of values and concepts. Tools such as the gender bread person highlight several dimensions of gender, including gender identity, gender expression, sexual orientation, and biological sex. See Sam Killerman, The Genderbread Person (2011) https://www.samkillermann.com/work/genderbread-person/

13 Office of the Special Advisor on Gender Issues and Advancement of Women, Gender Mainstreaming: Strategy for Promoting Gender Equality. https://www.un.org/womenwatch/osagi/conceptsandefinitions.htm#:~:text=Gender:%20refers%20to%20the%20social,women%20and%20those%20between%20men.

14 Committee on the Elimination of All Forms of Discrimination against Women (CEDAW Committee), 'General Recommendation No. 28 on the Core Obligations of States Parties under Article 2 of the Convention on the Elimination of All Forms of Discrimination against Women' (16 December 2010) UN Doc CEDAW/C/GC/28, para. 5.

Overall, there are gender inequalities in energy access; women are more exposed to energy poverty due to several factors including lower income overall, poor access to relevant information and lack of ownership of land and other resources that are required for energy production. The increased mining of critical minerals for energy transition also presents risk to eco-systems health and biodiversity, due to the pressure on land surface. Similarly, renewable energy infrastructures also frequently require more land space compared to conventional energy sources. The adverse environmental impacts of the energy transition affect women's health and livelihoods, particularly for those who are farmers or are otherwise dependent on natural resources for their income. Another important dimension of the gender inequalities in the energy transition is that women are still underrepresented in the energy sector workforce, particularly in the higher paying STEM roles.

Gender offers insights into what is feasible and acceptable, even in terms of women's energy behaviour and the adoption of alternative sources. Moreover, gender norms and the resulting differences between men and women and the ways in which they experience laws, policies, processes, very often results in a disadvantage for women. Therefore, beyond promoting energy access for women, to ensuring women's full and effective participation in the energy transition process as policymakers, innovators, and entrepreneurs. In relation to this, feminist theories propose various approaches for advancing equality for women with the underlying tenets being that gender norms are social constructed and can therefore be altered to address the power differentials between men and women.

From a legal perspective, feminist legal reasoning enables the critical evaluation of legal institutions to appreciate how laws affect women's lives, interests and wellbeing, relative to men. This also raises questions of the legality of special treatment and the balance with the legal duties of non-discrimination and equality or rule of law.[15] A formal equality approach prioritises the equal treatment of women and men and the elimination of gender-based distinctions in the law, policies or processes which offer men an advantage over women. In relation to industrial mining, for instance, scholars have explored the implications of 'protectionist' legislations for women's employment. From a formal equality perspective, Lahiri- Dutt (2020) interrogates the wider impacts of the British Mines Act of 1842 and argues that the translation into laws of gender ideologies regarding decent and safe work for women has historically prevented women

[15] P Obani, Local content laws and gender equality in Africa's oil and gas sector (forthcoming)

mining sector.[16] An alternative view based on Marxist capitalist theory is that the protection of women as a 'special' class of workers, mainly due to their reproduction capability is essential for the functioning of capitalist systems. Building on the capital logic,[17] the protections which women are afforded are far from altruistic but instead motivated by the need to protect the reproduction of labour even at the women.

The emerging variations in the modern family relations and roles however challenge some of the assumptions underpinning the historical debates on protectionist laws and women's roles as the primary carers in the family and society. The increasing use of artificial intelligence and digitalisation of industrial processes also raises questions around the relative importance of reproduction and women' role in the energy transition process. Nonetheless, these changes are occurring within the wider context of patriarchy with women still experiencing various forms of discrimination in most societies. And the energy quadrilemma highlights the criticality of context in energy transition, rightly so. Feminist legal reasoning is therefore imperative to address the embedded structures of power in the society which normalize masculinity and compromise women's rights and wellbeing in the energy transition process. This requires unpacking the reasons for the gender-based distinctions in laws, policies and processes that put women at a disadvantage. Otherwise, a blanket removal of the distinctions could also further compromise women's rights. Furthermore, an anti-essentialist approach is important to understand the unique context and circumstances of each woman and how these intersect to impact on their experiences of energy transition and related legal reforms.

3. GENDER IN INTERNATIONAL CLIMATE CHANGE GOVERNANCE

The international climate change governance framework has adopted two key approaches in response to gender equality. One approach has been to integrate gender and gender responsiveness in climate action, also taking into account the

[16] Kuntala Lahiri-Dutt, The act that shaped the gender of industrial mining: Unintended impacts of the British mines act of 1842 on women's status in the industry (2020) 7(2) The Extractive Industries and Society, 389 – 397 https://doi.org/10.1016/j.exis.2019.02.011. See also, Peter Alexander, Women and coal mining in India and South Africa, c1900-1940 (2007) 66 African Studies, pp. 201-222 https://doi.org/10.1080/00020180701482701

[17] Jane Humphries, Protective legislation, the capitalist state, and working class men: the case of the 1842 Mines Regulation Act (1981) 7 Fem. Rev, 1-33

cross-cutting aspects of gender in climate action. Second, there has been a focus on strengthening women's leadership in climate change governance.

3.1 Integrating gender in climate action

There is an emerging recognition of the importance of gender considerations in addressing climate change issues within the international climate change governance framework. In 2012, the eighteenth Conference of the Parties (COP 18) of the United Nations Framework Convention on Climate Change (UNFCCC) committed to "promoting gender balance and improving the participation of women in UNFCCC negotiations and in the representation of Parties in bodies established pursuant to the Convention or the Kyoto Protocol."[18] COP 18 also decided to maintain gender and climate change as a standing agenda item within the COP. In 2014, twenty years after the entry into force of the UNFCCC, COP 20, produced the first work programme on gender - the first Lima work programme. The Lima work programme clearly underscored the relevance of gender in addressing climate change at the global level and the need for gender balance in climate action. Remarkably, COP 20 integrated gender considerations into the work of the parties and the UNFCCC Secretariat, as part of efforts towards achieving gender responsive outcomes from climate actions. One year later, the Paris Agreement further emphasised the importance of gender equality in climate action. The preamble to the Paris Agreement states that:

> …climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity.

The Paris Agreement also makes references to gender responsive adaptation action[19] and capacity-building.[20] In analysing the gender dimensions of the Paris Agreement and its implications for Africa, the Africa Working Group on Gender and Climate Change highlights key gaps, stating that:

> The term "gender" features only three times throughout the whole Paris Agreement: once in the Preamble; once in Article 7 (adaptation-focused); and once in Article 1 (capacity building-focused). Gender references were progressively removed when tracking the evolution of

[18] Decision 23/CP8
[19] Article 7
[20] Article 11

> the text that became the Paris Agreement. In the February and August intersessionals Parties called for gender language in the Preamble, the Objective/General section, adaptation, finance, technology and capacity building. By November, the draft Agreement and the draft decision text included reference to "gender equality", "gender-responsive" and "gender-disaggregated data". Gender was missing from mitigation and technology transfer.

The minimal references to gender in the Paris Agreement belies the gendered implications of adaptation and mitigation. There has been further recognition of the importance of gender in several other international agreements and climate change governance frameworks. In 2017, the COP 23 adopted the first gender action plan seeking to support the implementation of the gender-related decisions of the UNFCCC over two years. The gender action plan had five priority areas, including: (a) capacity building, knowledge sharing and communications; (b) gender balance, participation and women's leadership; (c) gender responsive implementation and means of implementation; (d) monitoring and reporting; and (e) coherence.[21] Subsequently, in 2019, COP 25 adopted the five-year Enhanced Lima Work Programme on Gender and a gender action plan underscoring the importance of gender responsive climate action. The IPCC Sixth Assessment Report reiterates that gender-specific policies that promote equitable outcomes are a core element of a just transition.

Gender responsiveness is critical for the effective implementation of adaptation and mitigation that is just, taking into account the differentiated roles of men and women in the society and how these affect their experiences of climate change. Moreover, finance, technology, and other similar strategies that are deployed as part of climate action would risk perpetuating existing inequalities through perpetuating the structural power differentials between men and women. This makes the integration of gender in climate action necessary for just and equitable outcomes. Remarkably, despite the limited references to gender in the Paris Agreement, an increasing number of State Parties' reports and communications under the UNFCCC reference gender (see Table 1).

[21] At the national level, there are also examples of mainly global south countries producing gender action plans in connection with environmental protection or climate change dating as far back as 2010 (Jordan). Other examples include Egypt (2011), Haiti (2011), Liberia (2012), Nepal (2012), Bangladesh (2013), Tanzania (2013), Cuba (2014), Mozambique (2014), Peru (2015), Zambia (2016), Dominican Republic (2018), Costa Rica (2019), Uruguay (2019), Cote D'Ivoire (2020), Nigeria (2020), Benin (2022), Jamaica (2022), Pakistan (2022), Panama (2022), Central African Republic (2023), Ecuardo (2023), Guatemala (2024), and Zimbabwe (2024).

Table 1: Comparison over time of the percentage of Parties' reports and communications under the UNFCCC that refer to gender

	LT-LEDS		*NAPs*		*NCs*	
Reference to gender	*As at 2022 report*	*As at 31 July 2024*	*As at 2022 report*	*As at 31 July 2024*	*As at 2022 report*	*As at 31 July 2024*
Significant mention	19.6	25.3	81.6	90.0	54.9	65.1
Limited mention	21.6	29.6	5.3	5.0	27.7	28.7
No mention	58.8	45.1	13.1	5.0	17.4	6.2

Source: UNFCCC, 2024: [22]

State Parties through their Nationally Determined Contributions (NDCs) are increasingly mainstreaming gender issues in their commitments to climate actions. A majority of the NDCs submitted by April 2024, 106 out of 120, have integrated gender considerations.[23] This is a 100% increase from 53 in the first round of NDCs. While the inclusion of gender in NDCs is indicative of recognition of the important connections between gender and just transition at the national level, this may not be a conclusive indication of gender equality. Overall, more NDCs highlighting gender issues reflects an increasing focus on the importance of gender considerations in climate action even as most countries raise climate adaptation and mitigation targets.[24] However, it is also important to interrogatethe adopted approach and the motivating factors for integrating gender in climate action and the energy transition process. Integrating gender as a cross-cutting theme in climate change policy could result in a superficial focus on technological and market-based solutions without addressing the underlying drivers and promoting targeted action for gender just climate action and energy transition.[25] A review of gender integration for climate action in the National Determined Contributions of Commonwealth countries that was published in 2022 found that the NDCs of 53% of the member countries integrated gender as a cross-cutting or mainstreaming priority. For the Commonwealth Member States in developing

[22] UNFCCC, Implementation of Gender-responsive Climate Policies, Plans, Strategies and Action as Reported by Parties in Regular Reports and Communications under the UNFCCC: Synthesis report by the Secretariat FCCC/CP/2024/5

[23] UNDP, Advancing gender equality in NDCs: Progress and higher ambitions https://data.undp.org/insights/gender-and-ndc

[24] FCCC/PA/CMA/2022/4

[25] Catherine Allinson, Gender Integration for Climate Action: A Review of Commonwealth Member Country Nationally Determined Contributions (second edition, The Commonwealth, London 2022) ; Gill Allwood, Mainstreaming Gender and Climate Change to Achieve a Just Transition to a Climate-Neutral Europe (2020) 58 JCMS: Journal of Common Market Studies 173–186. https://doi.org/10.1111 /jcms.13082

regions, the report showed that the integration was mostly in the planning process due procedural factors (the format of the NDC document) and funding from international development partnerships for updating NDCs. The dominance of external push factors influencing the integration of gender in climate action and the energy transition discourse poses a risk of incoherence with non-aligned internal institutional frameworks and normative structures that underpin the disproportionate gender dimensions of energy poverty and climate change impacts.

An analysis of the global trends also reveals a predominant focus of gender integration on sectors that benefit from or advance women's traditional caregiving role which aligns with the stereotypical expectations of women's reproductive and caring roles in the society. There are 73 NDCs with express references to gender in adaptation measures in food security and agriculture, health and freshwater resources. In addition, 53 NDCs contain gender references in the mitigation plans for energy, agriculture and LULUCF. The analysis of NDCs and their references to gender also portray a predominant focus on adaptation compared to mitigation (Figure 1). While the gender gap in leadership and empowerment for energy transition are yet to be integrated in the NDCs. Furthermore, there are significant differences between developed countries and developing and least developed countries in their integration of gender in the UNFCCC reports. The reports of developed countries, particularly the national communications and long-term low-emission development strategies, often contain minimal or no reference to gender while the reports of developing and the least developed countries systematically integrate gender in their reports.[26] The gender dimensions of climate change impacts and energy poverty are however relevant for developed countries also, and as highlighted in the recent challenges in Switzerland and the European Court of Human Rights in connection with climatejustice for women.[27]

[26] UNFCC (n 24)

[27] P. Obani, 'Climate Litigation in South Africa and Nigeria: Legal Opportunities and Gender Perspectives', in K. Bouwer et al. (eds) Climate Litigation and Justice in Africa (Bristol, UK: Bristol University Press 2024). Available at: https://doi.org/10.5668 7/9781529228977-017; KlimaSeniorinnen v Switzerland (ECtHR) 2024 https://climate casechart.com/non-us-case/union-of-swiss-senior-women-for-climate-protection-v-swiss-federal-council-and-others/

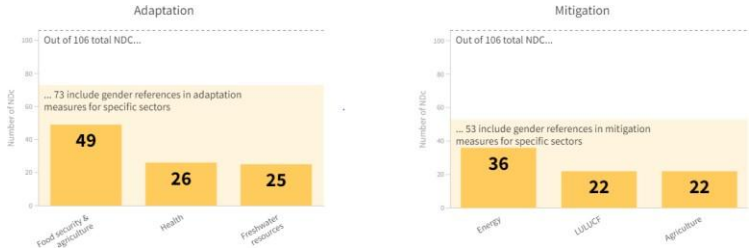

Figure 1 Reference to gender in the NDCs
Source: UNDP (n 25)

3.2 Women's Leadership in Climate Change Governance

One key challenge affecting gender equality in the just transition process is the dominance of women in the informal sector and agriculture, which are characteristically exposed to climate shocks. Consequently, focusing on the formal sector to the exclusion of the informal sector in the just transition process would affect women who have historically been underrepresented in the formal energy sector. Even within the formal sector, there are significantly fewer female workers employed in the energy sector, compared to male workers.[28] Women account for 39% of the global work force, compared to 16% of the workforce in the traditional energy sector.[29] There are also fewer women in leadership roles.[30] This is as a result of complex stereotypes, cultural biases and legal restrictions resulting in women's exclusion from engagement in the energy sector; the just transition process.[31] A second challenge is the gender pay gap which limits women's economic benefitsfrom their work, compared to men in similar roles and skills. Data for the energy sector shows a conditional gender wage gap of nearly 20% among compared to male employees, which is higher than other sectors and the difference is not as a result of gender differences in skill levels but due to various barriers that women

[28] IEA (2024), Gender and Energy Data Explorer, IEA, Paris https://www.iea.org/data-and-statistics/data-tools/gender-and-energy-data-explorer

[29] https://www.iea.org/topics/energy-and-gender

[30] IEA (2024), Gender and Energy Data Explorer, IEA, Paris https://www.iea.org/data-and-statistics/data-tools/gender-and-energy-data-explorer

[31] Kuntala Lahiri-Dutt, The act that shaped the gender of industrial mining: Unintended impacts of the British mines act of 1842 on women's status in the industry (2020) 7(2) The Extractive Industries and Society, 389 – 397 https://doi.org/10.1016/j.exis.2019.02.011. See also, Peter Alexander, Women and coal mining in India and South Africa, c1900-1940 (2007) 66 African Studies, pp. 201-222 https://doi.org/10.1080/00020180701482701

face.[32] Women are also often disproportionately impacted by unpaid care and social work. To counter these challenges, it is important to ensure women's empowerment through education and training to ensure their meaningful engagement in the just transition process including participation in leadership in climate change governance.

Against this backdrop, the international climate change governance processes mostly prioritise gender balance and women's participation in decision making. This aligns with liberal feminist approaches that value formal equality and necessary changes within the existing social systems or structures. Recognising that women are denied equal opportunities due to discrimination, there is a direct focus providing enabling opportunities for women's leadership in climate change processes and negotiations at various levels of governance, although there is still no gender parity in climate change governance leadership.[33] Particularly at the international level, several COPs have advocated for Parties to take action to improve female representation in climate change governance leadership. COP 7, in 2001, considered the need for gender balance of officers elected to the bodies established under the UNFCCC and the Kyoto Protocol.[34]

In line with the goal of improving the representation of women in the bodies established under the UNFCCC or the Kyoto Protocol, COP 18 invited Parties to actively consider the nomination of women for elective posts in any relevant body and requested the UNFCCC secretariat to bring this decision to the attention of Parties for future vacancies and to maintain information on the gender composition of each body with elective posts established under the Convention or the Kyoto Protocol.[35] Decision 21/CP.22, paragraph 27, mandated the development of a gender action plan to support the implementation of gender-related decisions and mandates under the UNFCCC process. Decision 3/CP.23 also included the establishment of a gender action plan and invited Parties to take into account the imperative of a just transition of the workforce when implementing the gender action plan.

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[32] IEA (2022), Average gender wage and employment gaps by sector, IEA, Paris https://www.iea.org/data-and-statistics/charts/average-gender-wage-and-employment-gaps-by-sector, Licence: CC BY 4.0

[33] DECISION 3/CP.25 reiterated the importance of the "full, meaningful and equal participation and leadership of women in all aspects of the UNFCCC process" and focused on gender-balance, women's participation and leadership as a priority.

[34] DECISION 36/CP.7, PREAMBLE

[35] Decision 23/CP.18 advocated for a "gradual, but significant increase" in the participation of women in the UNFCCC. COP 22 invited Parties to "continue to assist" in the training and awareness-raising on gender balance, and capacity building for women delegates to better prepare them for the negotiations. See DECISION 21/CP.22 (2016).

Despite the COP decisions, women are still underrepresented in Party delegations though there have been some improvements. In 2008, COP14 had 31% female participation, compared to 35% in COP22. [36] Also, in COP27 there were 77% of Party delegations with more men which was a slight improvement from 82% of Party delegations having more men in COP14.[37]

With over 80% of the new jobs in the energy transition occurring primarily in male-dominated sectors, there is the risk of women still being left behind. This would exacerbate the gender inequities in access to resources and livelihood assets, poverty, and other adverse impacts of climate change. Women's participation in the UNFCCC negotiations, the energy sector and the just transition process generally is therefore important for inclusive outcomes. In addition to ensuring the legitimacy of the outcomes, women's participation in climate action and the decision-making process is also particularly important for broadening the just transition discourse beyond catering to the needs of the workers within the sector.

4. LEVERS OF CHANGE

Levers of change can advance the integration of gender considerations in climate change governance frameworks and gender responsive labour policies in the energy sector. Within the context of this paper, a lever of change refers to "an area of work that has the potential to deliver wide-ranging positive change beyond its immediate focus".[38] In other words, levers of change are interventions that can potentially improve gender equality in the energy transition process. According to UN Women, "[W]hile building a low-carbon and sustainable economy, a just transition can ensure that women are not left behind, and their existing and potential contributions essential for stimulating green growth and achieving sustainable development for all, are not undermined".[39] Four important levers of change for advancing just transition for women are: (a) worker's rights and safety; (b) education and women's empowerment; (c) gender inclusiveness; and (d) intersectionality.

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[36] Gender Climate Tracker, 'Women's Participation Statistics in Climate Diplomacy' Available at https://genderclimatetracker.org/participation-stats/quick-analysis

[37] Ibid.

[38] United Nations, 'Food Systems Summit 2021' Available at https://www.un.org/en/food-systems-summit/levers-of-change#:~:text=A%20lever%20of%20change%20can,gender%20equality%20and%20women's%20empowerment.

[39] Carla Kraft and Seemin Qayum, Policy Brief: A Gender-responsive Just Transition for People and Planet (UN Women, New York 2023) https://www.unwomen.org/sites/default/files/2023-11/policy-brief-a-gender-responsive-just-transition-for-people-and-planet-en.pdf

4.1 Workers' rights and safety

Workers rights, safe working environments and fair renumeration are essential for just energy transition. Furthermore, an important opportunity for advancing a gender responsive just transition lies in mainstreaming gender equality in the protection of the right to work and the rights of workers in the energy sector. Women account for 32% of the workers in the energy sector globally and there are even fewer women from racial and ethnic minorities.[40] Women account for one-third ofthe global renewables workforce, but their participation varies widely among countries and industries. Proactive measures for inclusion of women in the leadership and other aspects of the organisation, fair management practices, career development opportunities and workplace safety including protection against harassment and the institutionalisation of effective reporting and accountability measures are necessary to close the gender gap and promote the rights of women workers in the energy sector.[41] The protection of workers' rights needs to be prioritised not only within the context of formalisation, but also within the informal sector, where women are engaged. Poor rights protection is often a marker of employment in the informal sector. Nonetheless, the process of formalisation often places a disproportionate burden on vulnerable populations that are employed in the sector rather than prioritising the protection of their rights.

4.2 Education and women's empowerment

Investments in women's education and training is an important lever of change. There is an underrepresentation of women in the STEM disciplines, which underpin the technical aspects of energy operations and automation. Most women in the energy sector work as administrators (45%) compared to STEM roles (28%).[42] While climate change policies may mandate the representation of women in elected offices or leadership positions within climate change governance, women need to be equipped with the training, education, and resources to enhance their capacity to make meaningfulcontributions to the various operational aspects and related governance processes. This could include having access to livelihood assets, and gender responsive curriculum and educational facilities that address the peculiar context of womenand the related barriers to their education.

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40 Equal by 30 and Diversio, Advancing Diversity & Inclusion in the Energy Sector (Equal by 30 and Diversio 2021) https://www.equalby30.org/sites/equalby30 /files/2022-12/equalby30_reporting_framework_extended_report-en.pdf

41 Ibid. See also Ashley Acker, Liselott Fredriksson and Per Anders Widell (2023), "Gender diversity in energy", in OECD, Joining Forces for Gender Equality: What is Holding us Back?, OECD Publishing, Paris. DOI: https://doi.org/10.1787/ae97515c-en; IRENA, Renewable Energy and Jobs: Annual Review 2021 (IRENA Abu Dhabi 2021) https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_823807.pdf.

42 IRENA (n 43).

4.3 Gender inclusion in just transition

A third lever of change lies in harnessing the synergies between just transition and gender equality, by mainstreaming inclusion in the just transition agenda. This means that the just transition process should acknowledge and value the existence of marginalised and often underrepresented populations, such as women. This lever creates an opportunity to address the imbalance, the inequalities, the inequities that women face, and ensure that women's contributions to green growth are recognized, valued, remunerated and integrated as part of the important processes for achieving a just transition that is truly inclusive. Inclusion also requires that the just transition process should address issues of relational equity to close the differences between those who have and those who do not have, or between those who were better off and those who were disadvantaged in terms of energy security. Otherwise, if the process is only on an average, creating a positive outcome, the energy transition process may end up enriching or benefiting those who are easy to reach and support, whereas those who are energy poor and more difficult to support or those who are more disadvantaged are being left behind. As highlighted in the energy quadrilemma, beyond ensuring energy access, affordability, and relational equity, inclusion extends to environmental considerations and respecting ecological limits.

4.4 Intersectionality

A fourth lever of change is mainstreaming an intersectional approach in the energy transition process. As defined by Crenshaw (1989:149), "Intersectionality is a metaphor for understanding the ways that multiple forms of inequality or disadvantage sometimes compound themselves and create obstacles that often are not understood among conventional ways of thinking."[43] An intersectional approach recognises that individuals have different elements of their identities or different characteristics. An individual's experiences of a policy is not value neutral but instead is the result of the interactions of their identities with various aspects of the system where the policy operates. Hence, the outcome of energy transition policies would be different for women and men due to various factors, including women's identities in the energy sector and beyond. An intersectional approach is therefore necessary to understand and address the structural factors that affect women's energy security, participation and leadership in the energy sector and governance processes.

[43] Crenshaw, Kimberle´ Williams (1989) "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics." University of Chicago Legal Forum 1989:139–67, p. 149

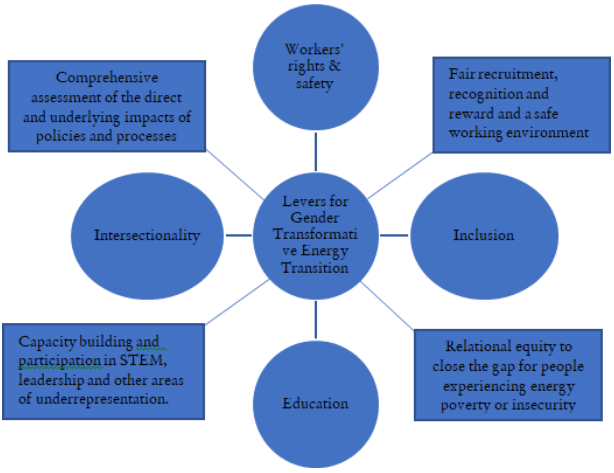

Figure 2: Levers of Change for Gender Responsive Energy Transition

5. CONCLUSION

Gender inequities in the energy sector are widely acknowledged. Generally, women's livelihoods and wellbeing are adversely impacted by high levels of energy poverty. Women are employed in the informal sector and in agriculture, thereby becoming highly vulnerable to climate shocks. Women are also significantly underrepresented in leadership within climate change governance and the energy sector. While the efforts to increase women's participation and leadership in the energy transition are in line with liberal feminist approaches and concerns for formal equality for women, it is important to acknowledge that the policies have had limited outcomes. The integration of gender in high-level policy instruments such as NDCs also indicates the increasing attention on gender issues in the energy transition process though the structural inequities which women face in the energy sector persist. This article proposes four levers of change for advancing gender equality in the energy transition process. The application of the levers would differ based on the baseline and prevailing context in each country. Notwithstanding, the protection of worker's rights, improving women's access to education and empowerment opportunities that are tailored to enhance their capacity for employment and leadership in the energy sector, mainstreaming gender inclusiveness in the just transition process, and assessing policies, programmes and processes through an intersectional lens would strengthen the frameworks for gender equality in energy transition.

In the absence of these levers of change, legal commitments on gender would remain largely ineffective against the complex barriers which women face in the energy sector. Moreover, the energy transition would perpetuate the existing inequities which women face in relation to traditional energy systems which are also becoming apparent even in the renewable energy systems, such as underrepresentation in STEM roles, lack of access to information and energy resources. This is especially important for the majority of global south countries experiencing energy insecurity and exposure to stranded assets risk from the energy transition process which could further exacerbate poverty and various forms of vulnerability for women and other marginalised groups.