



University of Essex



Global Initiative
for Economic, Social
& Cultural Rights



Energy, Gender and Health: Mapping the Legal Framework and Potential Policy Solutions

Human Rights Centre Clinic Project Report

Authors: Siân Posy, Genta Suzuki and Zeynep Baysar
(Supervisor: Zainab Lokhandwala) (GI-ESCR)

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Abbreviations

Abbreviation	Definition
CEDAW	The Convention on the Elimination of All Forms of Discrimination against Women
CERD	The Committee on the Elimination of Racial Discrimination
CESCR	Committee on Economic, Social and Cultural Rights
CEWDC	Coastal Electrification and Women's Development Cooperative
CRC	Children's Rights Committee
CSW	The Commission on the Status of Women
ECtHR	European Court of Human Rights
ESCR	Economic, Social and Cultural Rights
EU	European Union
GI-ESCR	The Global Initiative for Economic, Social and Cultural Rights
HRC	Human Rights Council
HRCC	Human Rights Climate Commitments
HRTBs	Human rights treaty bodies
IACtHR	Inter-American Court of Human Rights
ICESCR	International Covenant on Economic Social and Cultural Rights
IHRL	International Human Rights Law
MDGs	Millenium Development Goals
NGOs	Non-governmental Organisations
SDGs	Sustainable Development Goals
STEM	Science, Technology, Engineering, and Mathematics
UN	United Nations
UPR	Universal Periodic Review
WHO	World Health Organization

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1. Introduction

1.1 Energy Transition as an Opportunity to Address Gender Inequalities

The triple planetary crisis, which stems from the compounded effects of climate change, biodiversity loss, and pollution jeopardises all internationally recognised human rights, with consequences that are far from gender neutral. While women are not inherently more vulnerable, the intersection of gender, power dynamics, socioeconomic structures, social norms and expectations results in women experiencing the planetary crisis differently. Gender inequality also intersects with other forms of discrimination based on identity, age, disability, sexual orientation, gender identity, and religion. These intersections exacerbate the effects of the environmental breakdown, intensifying the traditional barriers women face during the climate crisis.¹

The climate catastrophe is accelerating and its already evident impacts on people and ecosystems require a rapid and comprehensive transformation of global energy systems, with renewable energy transition at its core.² Renewable energy encompasses solar, wind, hydro, geothermal, biomass, among other energy sources. Due to the urgent need for a swift change to avert the climate crisis, the transition to renewable energy is already in progress and is increasingly perceived as inevitable partly because of the rapidly decreasing costs associated with these energy sources.³ However, the transition to clean and renewable energy sources will not automatically deliver on more gender-equal outcomes.

The fossil fuel-based energy model of the last two centuries, which has overlooked women's energy needs and capabilities, has created gender disparities regarding access to and control over energy. This historically led to a feminised portrayal of energy poverty, while men have largely dominated the energy sector (including oil, gas, and coal industries) and the formulation of energy policies.⁴ Therefore, the extensive energy transformation cannot be focused only on a technical shift to go from fossil fuels to renewable energy, it must take advantage of the opportunity to address gender power

¹ Alejandra Lozano and Lorena Zenteno, 'The Energy Transition Is Part of the Feminist and a Human Rights Agenda' (*The Global Network for Human Rights and the Environment*, 29 April 2022) <<https://gnhre.org/?p=15140>>.

² Hansika Agrawal and others, 'Enabling a Just Transition: Protecting Human Rights in Renewable Energy Projects: A Briefing For Policymakers' [2023] SSRN Electronic Journal 2 <<https://www.ssrn.com/abstract=4438576>> accessed 21 May 2024; United Nations Framework on Climate Change, Paris Agreement, 2015 (UNFCCC), https://unfccc.int/sites/default/files/english_paris_agreement.pdf; Intergovernmental Panel on Climate Change, Climate Change 2022: Mitigation of Climate Change, AR 6, WG III, 2022 (IPCC), chapter 1, https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter01.pdf.

³ 'Renewable Energy and Gender Justice Briefing Paper' (Global Initiative for Economic, Social and Cultural Rights (GI-ESCR) 2020) 3 <<https://gi-escr.org/en/resources/publications/renewable-energy-and-gender-justice-briefing-paper>>.

⁴ *ibid* 2.

imbalances inherent in the existing energy model and to embed principles of gender equality and justice in the design of new energy systems.⁵

Although transitions to renewable energy systems are crucial for fulfilling global climate change mitigation commitments, merely transitioning to greener energy systems does not inherently result in fairer, more inclusive, or more just systems. Without proactive measures to address existing power asymmetries regarding access and energy resource distribution, these structural inequalities will likely persist and be transferred into new energy frameworks.⁶

The idea that that transition to renewable energy should encompass socio-economic considerations is often represented in the concept of 'just transitions' which indicates that energy transition procedures must ensure fairness through equal distribution, full recognition of rights and labour contributions, equal participation in decision-making processes, and equal opportunities in the outcomes of renewable energy initiatives.⁷ Renewable energy projects can be a means to empower marginalised communities, including women and girls. Furthermore, renewables can combat energy poverty and provide access to affordable and reliable energy, even in remote locations, create local employment opportunities, and promote self-sufficiency in cases of collective ownership and management of projects.⁸

1.2 Methodology

1.2.1 Legal Mapping

This study employs both quantitative and qualitative legal research approaches to examine the interpretation of relevant international human rights treaties, Human Rights Treaty Bodies (HRTBs) statements, and reports of Special Procedures to understand how a feminist energy transition, including the realisation of the right to health, would look like.

A review of literature and reports pertaining to the current state of international human rights law (IHRL) for feminist energy transition was conducted. Sources include academic articles, reports from non-governmental organisations (NGOs), and international human rights bodies.

⁵ 'Women's Participation in the Renewable Energy Transition: A Human Rights Perspective BRIEFING PAPER 2' (Global Initiative for Economic, Social and Cultural Rights (GI-ESCR) 2021) 5. <<https://giescr.org/en/resources/publications/womens-participation-in-the-renewable-energy-transition>>; 'Renewable Energy and Gender Justice Briefing Paper' 3.

⁶ Oliver W. Johnson and others, 'Assessing the gender and social equity dimensions of energy transitions' (Stockholm Environment Institute (SEI) 2020) 4.

⁷ Noel Healy and John Barry, 'Politicizing Energy Justice and Energy System Transitions: Fossil Fuel Divestment and a 'Just Transition'' (2017) 108 Energy Policy 451, 451; Oliver W. Johnson and others 5.

⁸ Agrawal and others 4.

In order to identify patterns and trends within the international human rights framework that addresses the interlinkages between the transition to renewable energy, gender, and the right to health and the potential gaps and opportunities in human rights law, relevant United Nations (UN) observations and recommendations were extracted using the [Universal Human Rights Index](#). This database was adopted as it provides all observations/recommendations made by the Treaty Bodies, Universal Periodic Review (UPR), and the Special Procedures. Such outputs can be used to identify trends in concerns and challenges in the human rights protection system.

The search scope includes all concluding observations, thematic or country visit reports, and reports of the UPR working group issued by all human rights mechanisms. The research time frame is designated from 2000 to 2023.

Following is the list of search keywords:⁹

Terms
Energy
Renewable* (renewables and renewable)
Green
Carbon
Electricity
Transition
'Fossil fuel'
Utilities
'Power plant'
'Just transition'
Mitigation
Adaptation
'Greenhouse gas emissions'
Ecology* (ecological and ecology)
Decarbonisation

The search results were combined into a single spreadsheet, as the 'Legal Mapping'. Items included in the legal mapping comprise particulars such as year, type of document, document title, the UN document number, specific right(s) or areas, concerned persons or groups, relevant extract/quote, link, observations, and relevant keywords. The research team examined the search results to filter down

⁹ The keywords 'climate' and 'environment' were included in the initial search but later excluded due to the large number of search results, but not necessarily the number of relevant recommendations, and was determined to be covered by other keywords.

the relevant observations and recommendations. The general inclusion criteria applied were to include an element of the right to energy, energy poverty, or energy transition from fossil fuel to renewable energy, and those intersecting with gender and/or health were flagged specifically. Whereas the aim of this project is to address the linkage of energy transition with gender and health perspectives, the under-representation of this topic in IHRL may lead to obtaining only an insufficient amount of data for analysis. Therefore, with energy (and related terms such as renewables and carbon) as the central keyword, it was decided to include everything related to the energy transition and human rights in the search and focus on gender/health in the analysis part. Standards about energy and human rights are included in the legal mapping even though they may not necessarily be connected with health and gender. The concerned persons were also not limited to women and girls, including other specific groups such as Indigenous persons or persons in poverty, and as an overall policy, statements related to States' obligation to provide for energy and energy transition were prioritised higher.

There are certain limitations within the legal mapping. First, since the criteria were qualitative and the four-member team split up to conduct the keyword search, there was an opportunity to reconcile the criteria, some fluctuation may exist in the selection criteria depending on the keywords. Second, whether different items in the same article are merged in one result or are listed as separated results differs, depending on how the search results are returned by the Universal Human Rights Index.

1.2.2 Expert Interview

To provide further insight into the research questions, in addition to a legal analysis of the UN documents, interviews were conducted with experts actively working in the field of energy and environmental issues and women's rights. Various scholars and activists were listed as candidates based on the recommendation from GI-ESCR, team members' preferences, and references from the interviewees, and four agreed to be interviewed.

Participants are the following:

- Expert A: Senior expert of a transnational NGO covering sustainable development, climate change, energy, transport, global responsibility and consumption. They have over 15 years of expertise in managing projects at the level of Slovenia and the European Union (EU).
- Expert B: Road engineer, member of a transnational NGO working mainly on the right to energy and the drive for an environmentally and socially just energy transition.
- Expert C: Pioneer in gender and energy policy research with contributions to policy formulation and research design acknowledged by academics and international organisations. Currently leading their own transnational NGO that aims to accelerate the energy transition by focusing on gender equality.
- Expert D: Assistant Professor teaching mostly in the areas of public international law, international environmental law, climate law and human rights and environmental health. Their focus is on human rights, the environment, and the right to energy.

The content, participants, and methods of the interviews were subject to ethical approval as determined by the University of Essex. The interviews were also conducted after obtaining consent from the interviewees on the interview agenda, recording, and usage in the report. The interviews were held via Zoom and took approximately 30 to 60 minutes, depending on the interviewee's availability. All interviews were carried out by at least two student researchers.

The research findings have discerned patterns, and trends, as well as identified gaps and opportunities within the international human rights framework pertaining to the interconnections between the transition to renewable energy, gender, and the right to health. The study underscores the imperative of recognising the right to energy as crucial for promoting a feminist energy transition.

1.3 Notes on Terminology

Within this report, 'gender' is used synonymously with 'sex'. For the purposes of brevity, 'gender' is employed as a catch-all phrase for sex (insofar as they pertain to sex characteristics, socio-political and cultural divisions between genders and sexes, and how this dichotomy pertains to the experiences of women and girls).

This report regularly employs the use of the word 'women' as a homogenous group for the purposes of brevity. However, the writers acknowledge that 'woman' is not a monolith and that there is a rich and varied understanding and expression of these terms, and generally (unless explicitly stated otherwise) this report approaches womanhood broadly – that is, all ages of womanhood including senior women, adult women, adolescents, and girl children, ambiguous as to nationality, race, religion, the status of motherhood, sexuality, and social class unless otherwise stated. Intersex, trans, or terminology that Indigenous nations may use within the umbrella of womanhood will, unless otherwise explicitly stated, be included within this phraseology for the purposes of this report.

In relation to this, feminist theories on energy transition, while focusing on women and gender at its centre, extend beyond the gender-centric perspective to provide multidimensional analyses of justice, injustice, and power.¹⁰ It highlights 'the simultaneous and compounded 'oppressions of gender, ecology, race, species, and nation''.¹¹ However, for the purposes of this report, the feminist transition to renewable energy will be examined from the perspectives of women and girls.

¹⁰ Benjamin K Sovacool and others, 'Pluralizing Energy Justice: Incorporating Feminist, Anti-Racist, Indigenous, and Postcolonial Perspectives' (2023) 97 *Energy Research & Social Science* 102996, 2.

¹¹ Shannon Elizabeth Bell, Cara Daggett and Christine Labuski, 'Toward Feminist Energy Systems: Why Adding Women and Solar Panels Is Not Enough☆' (2020) 68 *Energy Research & Social Science* 101557, 2.

1.4 Structure

This report reflects research focused on reviewing and mapping pertinent international human rights treaties, HRTBs statements, and reports of Special Procedures to elucidate the concept of a feminist energy transition, including the realisation of the right to health. It seeks to clarify current standards concerning the energy transition and examines the perspectives of IHRL on energy transition, health, and gender. By analysing how international human rights institutions have addressed the energy transition and identifying patterns and gaps, the report aims to contribute to the GI-ESCR's efforts to inform and advocate for a feminist transition towards renewable energy.

In Chapter 1, the report provides an overview of the feminist energy transition, emphasising the urgent need for energy transition as an opportunity to address gender inequalities. It introduces the concept of 'just transitions' which advocates for equitable processes that recognise rights, labour contributions, and outcomes for marginalised communities, including women and girls, through renewable energy initiatives. The chapter also outlines the research methodology employed and clarifies key terminology used throughout the report.

In Chapter 2, the report explains the current state of development of international human rights standards in relation to the energy transition. It explains the current state of development from a human rights perspective on feminist energy transition by focusing on several key issues women and girls face regarding to energy transition. Then it looks at the international human rights treaties, norms, and standards on a feminist energy transition to clarify the current state of IHRL.

In Chapter 3, the report delves into the patterns and trends within the international human rights framework that addresses the interlinkages between the transition to renewable energy, gender, and the right to health. It reflects both quantitative and qualitative analysis of the HTRBs statements and report of Special Procedures. The quantitative analysis focuses on the numerical overview and intersection of energy transition, gender and health. The qualitative analysis, on the other hand, examines the most recurrent themes and approaches to the energy transition and patterns and trends within the IHRL framework addressing these interlinkages, offering a comprehensive understanding of the subject with the expert views.

In Chapter 4, the report examines the potential gaps and opportunities in the legal protection of human rights concerning energy transition, gender, and health. It addresses the opportunities and signs of changes and highlights the gaps identified by legal mapping and expert views. The chapter offers considerations for recognising the right to energy under international law and discusses its implications for a feminist energy transition from human rights perspective.

Finally, in Chapter 5, the report provides a conclusion that summarises the findings of this report's research and identification of potential obstacles and solutions.

2. Current State of Development of International Human Rights Standards

2.1 A Human Rights Perspective on the Feminist Transition to Renewable Energy

As the international community advances towards renewable energy sources, the differential impacts on women and girls have become more evident, revealing systemic challenges and human rights violations. For the energy transition to be gender-responsive and just, it must go beyond simply a technical shifting from one form of energy to another. It should fundamentally transform the energy model to ensure it is gender-responsive, fair, and equitable. In this way, communities can redefine their relationship with energy, shifting from considering it as a commodity sold by corporations for profit to recognising it as a fundamental public good and service provided through democratically governed commons.¹²

Cooperative institutional arrangements, such as the Coastal Electrification and Women's Development Cooperative (CEWDC), which was established in September 1999 with 35 women, under the project 'Opportunity for Women in Renewable Energy Technology Utilization in Bangladesh', have demonstrated significant effectiveness in tackling gender inequalities, poverty, energy poverty, and climate change in both the Global North and the Global South.¹³ These arrangements can create employment opportunities, be more responsive to local needs, ensure more just access to energy resources, and challenge negative gender stereotypes by promoting the participation and leadership of women.¹⁴ However, while just transition agenda and inclusive energy transition are finally coming a bit together, we still have a very long way to go.¹⁵

¹² 'Renewable Energy and Gender Justice Briefing Paper' 2-3.

¹³ International Institute of Labour Studies, Providing Clean Energy and Energy Access through Cooperatives. (Geneva: International Labour Office, 2013) 9 <<https://www.ilo.org/publications/providing-clean-energy-and-energy-access-through-cooperatives>>; 'Renewable Energy and Gender Justice Briefing Paper' 2-3.

¹⁴ 'Renewable Energy and Gender Justice Briefing Paper' 2-3.

¹⁵ Interview with Expert C on 16 April 2024 via Zoom

While energy transition has both positive and negative consequences,¹⁶ a human rights perspective on feminist transition to renewable energy emphasises several key issues:

2.1.1 Gendered Impact of Energy Poverty

Although energy poverty and heavy reliance on biomass fuels have an undeniable impact on all parts of society, women are disproportionately affected by it compared to men. In most parts of the societies, women are more in charge of care and chores. Due to these tasks, women tend to spend more time in private spaces where energy uses are more intensive while men spend more in public spaces enduring the effects of energy poverty less.¹⁷

Despite rapid technological progress, approximately 60 per cent of developing country populations and 40 per cent of the global population rely on solid fuels for cooking and heating, with women constituting the majority of those living in energy poverty.¹⁸ These fuels, including fuelwood, charcoal, animal manure, and agricultural waste, are primarily used with traditional cookstoves, which is the most inefficient cooking energy system, as its efficiency is only 10 per cent and the use of solid fuels contributes to deforestation.¹⁹ Approximately 2.1 billion people depend on polluting fuels,²⁰ of which are primarily collected and managed by women by spending significant time. Environmental degradation, which causes fuel sources to be harder to find, forces women to spend more time and effort searching for fuel far from home, leaving less time for other responsibilities or rest resulting in limited opportunities for them to exercise their rights to work, health, study or to participate in public life. This also increases the risk of rape, animal attacks and other threats as they are further away from home. As this work becomes increasingly demanding, girls are more likely to be kept home from school to assist their mothers, leading to the violation of the right to education of girls.²¹

The resulting indoor smoke pollution poses significant health risks, especially for women and children who experience the highest exposure.²² According to the World Health Organization (WHO), about 2.3 billion people worldwide (around one-third of the global population) use open fires or inefficient

¹⁶ Oliver W. Johnson and others 11; Lorena Aguilar, Margaux Granat and Cate Owren, *Roots for the Future the Landscape and Way Forward on Gender and Climate Change* (International Union for Conservation of Nature (IUCN) 2015) 212.

¹⁷ Interview with Expert B on 18 March 2024 via Zoom

¹⁸ Venkata Ramana Putti and others, 'The State of the Global Clean and Improved Cooking Sector' 18; Gold Standard Foundation, 'Guidebook to Gold Standard and CDM Methodologies for Improved Cookstove Projects' (2016) 1 <<https://www.goldstandard.org/publications/ics-methodology-guidebook-energy-factsheet>>.

¹⁹ Karabee Das, Greeshma Pradhan and Sanderine Nonhebel, 'Human Energy and Time Spent by Women Using Cooking Energy Systems: A Case Study of Nepal' (2019) 182 *Energy* 493, 493.

²⁰ 'Ensure access to affordable, reliable, sustainable and modern energy for all' (UN Department of Economic and Social Affairs Sustainable Development Goals) <https://sdgs.un.org/goals/goal7#progress_and_info>

²¹ Interview with Expert B on 18 March 2024 via Zoom

²² Meena Khandelwal and others, 'Why Have Improved Cook-Stove Initiatives in India Failed?' (2017) 92 *World Development* 13, 13.

stoves fuelled by solid fuels, leading to harmful household air pollution which is responsible for an estimated 3.2 million deaths per year in 2020.²³

Furthermore, States are obliged to ensure that essential services crucial for the realisation of economic, social, and cultural rights (ESCR), such as healthcare, education, and water and sanitation, are provided under public control for the benefit of the public under IHRL.²⁴ Thus, insufficient or restricted access to energy can undermine the quality and availability of these services, having a disproportionate effect on women and girls.²⁵

Energy transition and women's access to affordable, reliable and sustainable modern energy can have a profound impact on women's lives.²⁶ However, despite the evident advantages, the capitalism driven energy transitions sometimes only shift inequalities rather than eradicate them and lead to same difficulties.²⁷ This is particularly notable in how different energy sources impact women's workloads.

Numerous studies indicate that solar and biofuel energy have positively affected women's empowerment in rural communities by significantly reducing their workloads, such as cooking and firewood collection and offering flexibility for them to allocate daylight hours to other activities, including community engagement and pursuing alternative forms of employment.²⁸ On the other hand, other research suggests that women's labour simply shifts from one task, like collecting firewood or cooking, to another, such as taking care of children/elderly or livestock care.²⁹ Consequently, despite the introduction of new energy sources, entrenched social norms and gendered divisions of labour persist.³⁰

2.1.2 Underrepresentation in Decision-Making

While the transition to sustainable energy is essential to mitigate the climate crisis, the decarbonisation of energy systems does not inherently guarantee more equitable and just outcomes

²³ 'Household air pollution'(World Health Organization (WHO), 15 December 2023)

<<https://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health>>

²⁴ Alejandra Lozano Rubello, Sarah K. Jameson, Sylvain Aubry and Magdalena Sepúlveda Carmona, 'From gender-responsive to gender-transformative public services' (Global Initiative on Economic, Social and Cultural Rights (GI-ESCR), 8 March 2021) 2

<<https://gi-escr.org/en/resources/publications/from-gender-responsive-to-gender-transformative-public-services>>

²⁵ Sarah K. Jameson and Sylvain Aubry, 'States' Human Rights Obligations Regarding Public Services: The United Nations Normative Framework' (GI-ESCR, 20 October 2020) 6

<<https://gi-escr.org/en/resources/publications/public-services-the-united-nations-normative-framework>>; also see Committee on Economic, Social and Cultural Rights (CESCR) 'Public debt, austerity measures and the International Covenant on Economic, Social and Cultural Rights' (22 July 2016) UN Doc E/C.12/2016/1.

²⁶ United Nations Development Programme (UNDP), 'Gender Mainstreaming: Key Driver of Development in Environment and Energy. Training Manual' (2007) 13 <<https://www.undp.org/publications/gender-mainstreaming-key-driver-development-environment-energy>>.

²⁷ Interview with Expert B on 18 March 2024 via Zoom

²⁸ Rabia Ferroukhi and others, 'Renewable Energy: A Gender Perspective' (International Renewable Energy Agency (IRENA) 2019) 14.

²⁹ Ding W and others, 'Impacts of Renewable Energy on Gender in Rural Communities of North-West China' (2014) 69 Renewable Energy 180, 188.

³⁰ Oliver W. Johnson and others 13.

compared to their fossil fuel predecessors. It is necessary to establish participatory frameworks prioritising the needs of historically discriminated and marginalised groups.³¹ A continuing issue is the underrepresentation of women within the energy sector, particularly in decision-making spaces and governance bodies. Women's involvement in energy policy decision-making is essential to ensure that these policies adequately address and reflect their experiences and needs during the energy transition.³²

It is essential to ensure that women's voices, perspectives, and knowledge are utilised to guide the energy transition and shape the future of renewable energy with a focus on human rights and gender equality. Thus, upholding women's right to participate in energy transition by States and other stakeholders is crucial to ensure that the benefits and burdens of global transformation are fairly distributed, while also advancing broader goals such as democratic governance, gender equality and human rights. Ultimately, it will contribute to the transition from an extractive economy to a sustainable and regenerative one.³³

Nevertheless, gender inequality can be seen evidently in the decision-making levels across the economy. Under-representation on company boards, senior management positions, policy making, governance and the absence of women is even more serious in the energy-related sectors. In cases where a few women manage to secure the top positions, they are often less well-connected with their peers when compared to their male colleagues. Although there have been improvements over the last few decades, underlying cultural and social norms still shape the perspectives towards men's and women's abilities, needs and prerogatives, thus causing gender inequality.³⁴

Women also have significantly unequal land ownership and tenure rights compared to men, often due to direct and indirect discriminatory laws and practices at the national, community and family levels.³⁵ Since renewable energy projects require extensive land areas, these disparities in ownership and tenure security can exclude women from negotiation, consultation, and compensation processes between project operators, including corporations and/or governments, and local communities, as project operators usually engage with landowners and community leaders.³⁶

Women are further excluded due to social norms restricting their participation in decision-making processes or leadership roles in local communities and preventing them from expressing their views in

³¹ 'Women's Participation in the Renewable Energy Transition: A Human Rights Perspective BRIEFING PAPER 2' (Global Initiative for Economic, Social and Cultural Rights (GI-ESCR) 2021) 11. <<https://giescr.org/en/resources/publications/womens-participation-in-the-renewable-energy-transition>>.

³² Nora Götzmann and Mathilde Dicalou, *Towards A Feminist Energy Justice Framework: Women's Participation in The Energy Transition in Sub-Saharan Africa* (Danish Institute for Human Rights 2023) 24.

³³ 'Women's Participation in the Renewable Energy Transition: A Human Rights Perspective BRIEFING PAPER 2' (Global Initiative for Economic, Social and Cultural Rights (GI-ESCR) 2021) 5, 11. <<https://giescr.org/en/resources/publications/womens-participation-in-the-renewable-energy-transition>>.

³⁴ 'Renewable Energy: A Gender Perspective' 19.

³⁵ Alda Facio, 'Insecure land rights for women threaten progress on gender equality and sustainable development: Working Group on the issue of discrimination against women in law and in practice' (United Nations Human Rights Special Procedures, July 2017) 1 <<https://www.ohchr.org/sites/default/files/Documents/Issues/Women/WG/Womenslandright.pdf>>

³⁶ 'Renewable Energy and Gender Justice Briefing Paper' 12.

consultation meetings that they can attend. Consultation meetings scheduled at times when women are unable to attend because of caregiving responsibilities, along with the higher likelihood of women in rural areas being illiterate and speaking only indigenous languages, constitute some additional barriers.³⁷ Consequently, projects often proceed without the consultation or consent of many women in the affected communities, leading to the neglecting their legitimate needs and concerns in the project design.³⁸

2.1.3 Employment Inequalities

Renewable energy presents a variety of unprecedented opportunities, which if supported by public policy can lead to an increasingly significant portion of the expanding employment opportunities in this emerging and dynamic sector for women. Due to its multidisciplinary nature, the renewable energy field attracts women in ways that the fossil fuel industry has lacked.³⁹

The renewable energy workforce is expanding, and the number of people employed, directly and indirectly, in the renewable energy sector (excluding large hydropower) increased from 5.7 million in 2012 to 8.3 million in 2016. With appropriate policy support, this figure could rise to 25 million by 2030.⁴⁰ Female employment rates in wind, solar, wave and other renewable energy sectors are projected to be higher than those in traditional fossil fuel industries.⁴¹ This presents an opportunity to facilitate labour market entry for women and address their significant underrepresentation in the workforce, as acknowledged by the UN Working Group on Discrimination against Women and Girls.⁴² Consequently, enhancing women's participation in renewable energy can improve their livelihoods, enable them to develop skills and experience, elevate their status in their communities, and challenge negative gender roles and stereotypes. Moreover, jobs in renewable energy often offer higher quality employment than those in the fossil fuel industry.⁴³

Whilst the green energy transition creates employment opportunities for some, research indicates that women account for only 32 per cent of the workforce in the renewable energy sector.⁴⁴ Although this figure is higher than the 22 per cent average in the traditional oil and gas sector, in the renewable energy sector women are still underrepresented in decision-making positions, roles within science, technology,

³⁷ *ibid.*

³⁸ 'Renewable Energy and Gender Justice Briefing Paper' 12.

³⁹ 'Renewable Energy: A Gender Perspective' 10.

⁴⁰ 'Accelerating SDG7 Achievement, Policy Brief 13: Interlinkages Between Energy and Jobs' (International Renewable Energy Agency (IRENA), The European Commission and International Labour Organization (ILO), 2018) 2 <<https://sustainabledevelopment.un.org/content/documents/17495PB13.pdf>>

⁴¹ Rabia Ferroukhi, Arslan Khalid, Michael Renner and Álvaro López-Peña, 'Renewable Energy and Jobs: Annual Review 2016' (IRENA, 2016) 13, <https://www.irena.org/publications/2016/May/Renewable-Energy-and-Jobs--Annual-Review-2016>

⁴² Human Rights Council (HRC) 'Women's Human Rights in the Changing World of Work: report of the Working Group on discrimination against women and girls' (16 April 2020) UN Doc A/HRC/44/51 paras. 38, 48 <<https://undocs.org/A/HRC/44/51>>

⁴³ 'Renewable Energy and Gender Justice Briefing Paper' 7.

⁴⁴ 'Renewable Energy: A Gender Perspective' 10-11.

engineering, and mathematics (STEM), and senior positions due to prevailing views of gender roles.⁴⁵ The more skilled jobs in these fields such as metal workers, insulation specialists, plumbers and pipe fitters, electricians, and heating and cooling experts are predominantly male-dominated. Similarly, sectors like engineering and financial and business services, which generally offer higher-paying positions, are also largely dominated by men. Women are frequently employed in lower-skilled positions, mainly in administration and communication roles.⁴⁶ Despite the sector's appeal, women encounter persistent barriers to entering and advancing in renewable energy careers.⁴⁷

The renewable energy industry also offers income prospects and employment opportunities at the community level through small-scale and off-grid or decentralised energy systems at various points along the value chain, such as sales, installation, maintenance, and repair. Additionally, there are increasing number of self-employment opportunities where women are starting their own businesses to provide for renewable energy solutions. Taking on roles as researchers, retailers, installers, and maintenance workers, as well as entrepreneurs starting and expanding their enterprises, women have achieved significant progress in the small-scale and off-grid sub-sectors.⁴⁸ For instance, Solar Sister, a training and job creation initiative in rural sub-Saharan Africa, has empowered women to become entrepreneurs to create clean energy distribution businesses since 2009. The initiative trains women to sell solar lanterns and provides them the opportunity to build sales and cash flow by earning a commission that they then reinvest in new inventory. By 2022, it has created opportunities for more than 8,500 entrepreneurs.⁴⁹ However, in the development of small-scale systems projects and enterprises, numerous gender-based challenges remain to be addressed.⁵⁰

Women's lack of appropriate skills stemming from gender gaps in energy-related education; consideration of the energy sector as a male-dominated field and enduring gender stereotypes; difficulty in achieving a work-family life balance, which dissuades women from pursuing jobs with unpredictable work schedules or emergency travel requirements; and inadequate career advancement opportunities and mentoring programs for women constitute the most frequent reasons for women's low participation in the energy sector.⁵¹ Moreover, discriminatory social norms and practices restricting women's

⁴⁵ 'Renewable Energy: A Gender Perspective' 10-11; Mathilde Dicalou, Kayla Winarsky Green and Nora Götzmann, 'Summary Report – Roundtable on the Rights of Women and Girls in the Energy Transition in Sub-Saharan Africa' (The Danish Institute for Human Rights, 6 October 2021) 6

<https://www.humanrights.dk/files/media/document/EnergyGenderRoundtableOutcomeReport_EN_accessible.pdf>

⁴⁶ European Institute for Gender Equality., *Gender and Energy*. (Publications Office 2016) 6
<<https://data.europa.eu/doi/10.2839/94295>> accessed 17 May 2024.

⁴⁷ 'Renewable Energy: A Gender Perspective' 10-11; 'Summary Report – Roundtable on the Rights of Women and Girls in the Energy Transition in Sub-Saharan Africa' 6.

⁴⁸ Sibyl Nelson and Anne T Kuriakose, 'Gender and Renewable Energy: Entry Points for Women's Livelihoods and Employment' (Climate Investment Funds (CIF) 2017) Sector/Thematic Analysis 5
<https://www.cif.org/sites/cif_enc/files/gender_and_re_digital.pdf> accessed 10 July 2024.

⁴⁹ 'Renewable Energy: A Gender Perspective' 71; 'Solar Sister: Highlights of 2022' (Solar Sister, 2024) Impact Report 5, 7
<<https://solarsister.org/wp-content/uploads/2024/02/2022-Highlights-Report.pdf>> accessed 10 July 2024.

⁵⁰ Nelson and Kuriakose 5.

⁵¹ European Institute for Gender Equality 6.

opportunities for decision-making, mobility and access to and control over land, and access to markets, suppliers and credit facilities which are often weak in rural areas, lead greater challenges for women.⁵²

2.1.4 Land Loss and Displacement

While renewable energy contributes to addressing global warming and provides opportunities for advancing gender equality, it is widely recognised that renewable energy projects can lead to many of the same human rights violations seen in extractive industries.⁵³ Research indicates that women, particularly Indigenous women, are more vulnerable to a range of human rights abuses throughout the mining sector value chain and are less likely to benefit from the energy transition.⁵⁴

The construction and operation of large-scale renewable energy such as wind, hydro, and geothermal projects, for instance, have been linked to significant social and environmental destruction and have adversely affected the livelihoods of women.⁵⁵ Women and girls are frequently overlooked in compensation and relocation schemes resulting from mining activities, which affect their rights to housing, food, work, and an adequate standard of living.⁵⁶ Land loss and displacement also result in other negative impacts, such as heightened poverty and loss of jobs/livelihoods, with gendered outcomes. For instance, shifts in traditional livelihoods due to land loss may lead to increased outmigration, further trapping women in poverty.⁵⁷ Women may encounter challenges in finding employment in new locations or may bear a greater burden of physical labour as their husbands migrate to urban areas in search of work.⁵⁸

The results of land loss and resettlement can significantly alter the social fabric of a community, leading to negative transformations in power relations and gender norms. Several studies highlight different outcomes for men and women when hydropower projects result in the loss of land and traditional livelihoods. For example, research by Hill et al. focused on Laos and Vietnam notes that displaced communities are frequently relocated on lands inadequate for farming, leading many to engage in informal wage labour or illegal activities like timber harvesting.⁵⁹ Many sources discussing this outcome

⁵² Nelson and Kuriakose 5–6.

⁵³ 'Renewable Energy and Gender Justice Briefing Paper' 11.

⁵⁴ Elizabeth Moses, 'Gender and Extractives: The Importance of Gender Transformative Policy Reforms' (Natural Resource Governance Institute and World Resource Institute, November 2021) 1 <https://resourcegovernance.org/sites/default/files/documents/primer_gender_and_extractives.pdf>; United Nations General Assembly (UNGA) 'Human rights and transnational corporations and other business enterprises' (11 July 2023) Un Doc A/78/155 ('A/78/155') para. 42.

⁵⁵ 'Renewable Energy and Gender Justice Briefing Paper' 11.

⁵⁶ UNGA 'Promotion and protection of human rights Report of the Third Committee'(27 November 2023) UN Doc A/78/155 para. 42.

⁵⁷ Nireka Weeratunge and others, 'Gender and Household Decision-Making in a Lao Village: Implications for Livelihoods in Hydropower Development' (2016) 23 Gender, Place & Culture 1599, 1601.

⁵⁸ Wenguang Ding and others, 'Impacts of Renewable Energy on Gender in Rural Communities of North-West China' (2014)

⁶⁹ Renewable Energy 180, 181; Oliver W. Johnson and others 11-12.

⁵⁹ Christina Hill and others, 'Lessons Learnt from Gender Impact Assessments of Hydropower Projects in Laos and Vietnam' (2017) 25 Gender & Development 455, 456.

suggest that men find it easier to secure employment than women, thereby increasing women's dependency on men following hydropower development.⁶⁰

2.1.5 Risks Posed by Energy Transition Regarding Gender-Based Violence and Women Human Rights Defenders

Renewable energy projects frequently attract predominantly male temporary construction workers, leading to heightened insecurity, exploitation, and violence against women.⁶¹ For instance, the influx of workers and new infrastructure often leads to a surge in demand for sex workers, resulting in increased incidents of unwanted pregnancies, prostitution, trafficking, and transmission of sexually transmitted diseases, particularly HIV/AIDS.⁶² Unfortunately, management interventions typically focus solely on providing workers with condoms.⁶³

The renewable energy sector consistently ranks among the top four most dangerous sectors for human rights defenders, posing a greater threat than even the oil and gas industry.⁶⁴ Allegations of human rights abuses related to the renewable energy sector are most frequently reported in Latin America and Southeast Asia. In recent years, these allegations have become more prevalent, ranging from threats and intimidation to physical attacks and the murder of human rights defenders.⁶⁵

Large-scale renewable energy projects have been found to exacerbate division and political polarisation within communities by offering economic and other benefits to certain landowners while denying the same to others.⁶⁶ These practices contribute to a climate of violence against human rights defenders, with women human rights defenders being particularly affected.⁶⁷ While women are under-represented in the energy sector, they are over-represented in the social movements advocating for universal provision of energy services. Thus, women are more at risk in terms of their security.⁶⁸ A tragic and well-known example is the case of indigenous activist Berta Cáceres, who was harassed and killed for her efforts to protect indigenous rights and oppose the construction of a hydroelectric dam in

⁶⁰ Oliver W. Johnson and others 15.

⁶¹ 'Gender and Renewable Energy: Wind, Solar, Geothermal and Hydroelectric Energy' 12.

⁶² 'Advancing Gender in the Environment: Making the Case for Gender Equality in Large-Scale Renewable Energy Infrastructure Development' 6.

⁶³ 'Renewable Energy and Gender Justice Briefing Paper' 13.

⁶⁴ Business & Human Rights Resource Centre, 'Human Rights Defenders & Business: January 2020 Snapshot' <<https://www.business-humanrights.org/en/from-us/briefings/human-rights-defenders-business-january-2020-snapshot/human-rights-defenders-business-january-2020-snapshot/>>

⁶⁵ Malena Wåhlin, 'Defenders at Risk: Attacks on human rights and environmental defenders and the responsibility of business' (Swedwatch, 12 December 2019) 15 <<https://swedwatch.org/wp-content/uploads/2021/01/mr-forsvarare191209uppslag.pdf>>; 'Renewable Energy and Gender Justice Briefing Paper' 13.

⁶⁶ HRC 'Report of the Special Rapporteur on the Rights of Indigenous Peoples on Her Visit to Mexico' (28 June 2018) UN Doc A/HRC/39/17/Add.2 para. 40.

⁶⁷ 'Renewable Energy and Gender Justice Briefing Paper' 13.

⁶⁸ Interview with Expert B on 18 March 2024 via Zoom

Honduras. In 2018, seven men were convicted of her murder, with the court determining that they had been hired by executives of the dam construction company.⁶⁹

2.2 Current State of International Human Rights Law

The 2015 Paris Agreement underscores:

‘Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights [...] as well as gender equality, empowerment of women and intergenerational equity’.⁷⁰

Despite substantial evidence on the relations between energy and gender,⁷¹ research specifically addressing the impacts of energy transitions on gender are only gradually developing. Since 2015, Sustainable Development Goal (SDG) 7, which aims to ensure affordable, reliable, sustainable and modern energy for all, envisages doubling the share of renewable energy in the global mix and doubling the global rate of improvement in energy efficiency. Although SDG 5 addresses the significance of gender equality separately, considering that the ‘systematic mainstreaming of a gender perspective in the implementation of the Agenda is crucial’,⁷² access to energy and gender equality are inextricably connected and addressing them concurrently can yield substantial development benefits. It is a stark reality that the goals of affordable, reliable, sustainable and modern energy access for all by 2030 cannot be realised without addressing the energy needs, assets, skills, limitations and capabilities of women as well as men.⁷³

A just transition necessitates systemic changes that encourage sustainable consumption patterns, ensure equitable access to clean energy, and prioritise the well-being of both people and the planet, all in full compliance with IHRL and the UN Guiding Principles on Business and Human Rights. The UN experts call on States and businesses to leverage the current energy transition as an opportunity to advance just transition laws and policies, to hold stakeholders accountable and to ensure that the pursuit of the SDGs and the implementation of the Paris Agreement include guarantees for the protection of

⁶⁹ ‘Case History: Berta Cáceres’ (Front Line Defenders, 5 December 2018) <<https://www.frontlinedefenders.org/en/case/case-history-bera-c-%C3%A1ceres>>; ‘Renewable Energy and Gender Justice Briefing Paper’ 13.

⁷⁰ Conference of the Parties ‘Adoption of the Paris Agreement’ UN Doc FCCC/CP/2015/L.9/Rev/1 (Dec. 12, 2015) Preamble; Oliver W. Johnson and others 5.

⁷¹ Joy Clancy and Ulrike Roehr, ‘Gender and Energy: Is There a Northern Perspective?’ (2003) 7 *Energy for Sustainable Development* 44, 44; Sheila Oparaocha and Soma Dutta, ‘Gender and Energy for Sustainable Development’ (2011) 3 *Energy Systems* 265, 265.

⁷² ‘Renewable Energy: A Gender Perspective’ 9.

⁷³ Joy Clancy and others, ‘Gender in the Transition to Sustainable Energy for All: From Evidence to Inclusive Policies’ (The International Network on Gender and Sustainable Energy (ENERGIA) 2019) 12–13 <https://www.energia.org/assets/2019/04/Gender-in-the-transition-to-sustainable-energy-for-all_-From-evidence-to-inclusive-policies_FINAL.pdf>.

human rights.⁷⁴ However, the experts warn that if the concept of a just transition is used to postpone effective emissions reductions and other structural and necessary changes, the 1.5°C target will not be achieved, thereby worsening adverse human rights impacts.⁷⁵

Although access to energy is not explicitly recognised as an independent right in IHRL, it is inherently connected to various established human rights, such as the right to health, an adequate standard of living, a clean, healthy and sustainable environment, and development.⁷⁶ Thus, any argument in support of access to modern energy services as a human right will place considerable reliance on its link with the existing treaty obligations of states⁷⁷ in the field of socio-economic and environmental rights. It is increasingly apparent that the socioeconomic goals contained in the International Covenant on Economic Social and Cultural Rights (ICESCR) cannot be achieved without access to such services. The same is true for the right to a clean, healthy and sustainable environment which cannot be realised without the provision of renewable energy to advance the decarbonisation of our societies. So, in effect, the argument can be made that the right to access to modern energy services is already implicit in a range of existing human rights obligations.⁷⁸ Therefore, when preparing proposals as regards the difficulties that women and girls endure, other human rights, such as the right to health, the right to a clean, healthy and sustainable environment, the right to an adequate standard of living or the right to education, should be referenced. However, these rights do not prove to be sufficient to address the different impacts of the energy transition, including in relation to the raw materials and the mining industries associated to the production of renewable and other low-carbon energy technologies. For example, in various countries, grassroots organisations, that have emerged to address social and environmental issues, advocate for 'the right to say no' for projects that may harm their communities resulting from mining projects.⁷⁹

⁷⁴ A/78/155 para.62.

⁷⁵ 'Energy transition should not replicate or create new violations of human rights and environmental abuses: UN experts' (The Office of the High Commissioner for Human Rights (OHCHR), 13 October 2023) <<https://www.ohchr.org/en/press-releases/2023/10/energy-transition-should-not-replicate-or-create-new-violations-human-rights>>

⁷⁶ Saravesi A and Wewerinke-Singh M, 'A Just Transition? : Investigating the Role of Human Rights in the Transition towards Net Zero Societies' https://cadmus.eui.eu/handle/1814/76752_10, The only human rights treaty that expressly refers to energy is the Convention on the Elimination of All Forms of Discrimination Against Women, which requires State parties to 'take all appropriate measures to eliminate discrimination against women in rural areas ... and, in particular, shall ensure to such women the right ... to enjoy adequate living conditions, particularly in relation to ... electricity'. See Convention on the Elimination of All Forms of Discrimination Against Women (adopted 18 December 1979, entered into force 3 September 1981) 1249 UNTS 13 Art 14(2)(h)

⁷⁷ International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS 3 (ICESCR) art. 6-7, 11-13; Convention on the Elimination of Discrimination against Women (adopted 18 December 1979, entered into force 3 September 1981) 1249 UNTS 13 (CEDAW) art. 14(2)(h); Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights (Protocol of San Salvador) (entered into force 16 November 1999) OAS Treaty Series No 69 (1988) reprinted in Basic Documents Pertaining to Human Rights in the Inter- American System OEA/Ser L V/II.82 Doc 6 Rev 1 at 67 (1992) art. 11.

⁷⁸ Adrian J Bradbrook and Judith G Gardam, 'Placing Access to Energy Services within a Human Rights Framework' (2006) 28 Human Rights Quarterly 389, 405–406.

⁷⁹ Interview with Expert B on 18 March 2024 via Zoom

This transition is particularly beneficial for women and girls, who are often responsible for cooking and therefore most affected by the associated health risks. The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) Committee has recognised this in its General Recommendation No. 34, which references the right to electricity and underscores the necessity of sustainable energy solutions.⁸⁰ This development aligns with broader human rights law concepts of a just transition, ensuring that vulnerable populations do not bear disproportionate burdens or miss out on the benefits of energy transitions. This notion is further supported by the work of the Special Rapporteurs on Extreme Poverty⁸¹ and the Right to Housing,⁸² emphasising the need for just transition.⁸³

On the other hand, human rights law is increasingly addressing the energy transition in the context of state obligations to mitigate climate change. States are bound by human rights commitments to act against climate change, as evidenced by the growing number of climate change litigation cases worldwide and interventions by UN Bodies.⁸⁴ For instance, HRTBs⁸⁵ have acknowledged that the failure to take all required measures and mobilise resources to address the climate emergency constitutes a breach of IHRL.⁸⁶ Furthermore, the Children's Rights Committee (CRC), after observing young people demanding their states to accelerate climate action—a case deemed inadmissible due to failure to exhaust domestic remedies—⁸⁷ has emphasised the necessity of a fair and just transition of energy resources and investment in renewable energy to address climate crisis.⁸⁸

Noteworthy instances include a case brought before the European Court of Human Rights (ECtHR) by a group of Swiss senior women, which underscores the vulnerabilities faced by elderly populations due to climate change⁸⁹ and the Advisory Opinion of the Inter-American Court of Human

⁸⁰ Committee on the Elimination of Discrimination against Women 'General recommendation No. 34 (2016) on the rights of rural women' (7 March 2016) UN Doc CEDAW/C/GC/34 paras. 84-85.

⁸¹ Human Rights Council 'Visit to Spain: Report of the Special Rapporteur on extreme poverty and human rights' (21 April 2020) UN Doc A/HRC/44/40/Add.2 paras. 51-52; Human Rights Council 'Visit to the European Union: Report of the Special Rapporteur on extreme poverty and human rights, Olivier De Schutter' (20 May 2021) UN Doc A/HRC/47/36/Add.1 paras. 24-27

⁸² Human Rights Council 'Towards a just transformation: climate crisis and the right to housing: Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to non-discrimination in this context, Balakrishnan Rajagopal' (23 December 2022) UN Doc A/HRC/52/28 paras. 51 and 70(a)

⁸³ Interview with Expert D on 25 April 2024 via Zoom

⁸⁴ Interview with Expert D on 25 April 2024 via Zoom

⁸⁵ Committee on the Elimination of Discrimination Against Women, Committee on Economic, Social and Cultural Rights, Committee on the Protection of the Rights of All Migrant Workers and Members of their Families, Committee on the Rights of the Child, Committee on the Rights of Persons with Disabilities.

⁸⁶ 'Five UN human rights treaty bodies issue a joint statement on human rights and climate change.' (OHCHR, 16 September 2019) <<https://www.ohchr.org/en/statements/2019/09/five-un-human-rights-treaty-bodies-issue-joint-statement-human-rights-and>>

⁸⁷ *Sacchi, et al. v. Argentina, et al.* (Communication No. 104/2019 (Argentina), Communication No. 105/2019 (Brazil), Communication No. 106/2019 (France), Communication No. 107/2019 (Germany), Communication No. 108/2019 (Turkey), Committee on the Rights of the Child (CRC), 12 October 2021)

⁸⁸ CRC 'General comment No. 26 (2023) on children's rights and the environment, with a special focus on climate change' (22 August 2023) UN Doc CRC/C/GC/26 para. 65(d).

⁸⁹ *Case of Verein KlimaSeniorinnen Schweiz and Others v Switzerland* Application no. 53600/20 (European Court of Human Rights (ECtHR), 9 April 2024)

Rights (IACtHR) on the Environment and Human Rights.⁹⁰ While these instances fall under regional law, they emphasize the overarching principle that states must intensify their efforts to combat climate change in accordance with human rights obligations. These obligations often allow states discretion in how they achieve decarbonisation, whether through altering energy systems, changing land use practices, or enhancing the protection of forests like the Amazon.⁹¹

However, despite advancements in human rights law, international frameworks continue to lack adequate provisions to effectively promote a feminist energy transition. The Chapter 3 of the report will undertake a comprehensive analysis, both qualitative and quantitative, focusing on the examination of reports from HRTBs and Special Rapporteurs to address existing gaps and opportunities.

⁹⁰ *Advisory Opinion OC-23/17 of November 15, 2017, Requested by the Republic of Colombia: The Environment and Human Rights*, (Inter-American Court of Human Rights (IACtHR), 15 November 2017); Moreover, it is important to highlight that, a new Advisory Opinion is anticipated from the IACtHR regarding state obligations concerning climate change.

⁹¹ Interview with Expert D on 25 April 2024 via Zoom

3. Mapping the Patterns and Trends of IHRL on Energy, Gender and Health

3.1 Quantitative Results

3.1.1 Quantitative Results: Numerical Overview

Here, the overall trends are displayed, including the number of relevant observations and recommendations by mechanism, by year, and by region. Next, further examination of the observations and recommendations are implemented based on which category (energy, gender, and health) they are classified. 139 observations/recommendations were identified as relevant. 14 human rights mechanisms issued statements, and 79 states received at least one.

Number of Relevant Observations/Recommendations by Human Rights Mechanism	
CEDAW	38
CESCR	38
UPR	19
CRC	16
Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment	13
Special Rapporteur on extreme poverty and human rights	6
HRC	2
CERD	1
Independent Expert on human rights and international solidarity	1
Special Rapporteur on the human right to safe drinking water and sanitation	1
Special Rapporteur on the right to food	1
Special Rapporteur on the rights of Indigenous Peoples	1
Special Rapporteur on toxics and human rights	1
Working Group of Experts on People of African descent	1

Table 1: Number of Relevant Observations/Recommendations by Human Rights Mechanism

Within the 14 Human Rights Mechanisms that issued any recommendations relevant to this topic, CEDAW Committee and Committee on Economic, Social and Cultural Rights (CESCR) led by issuing 38 recommendations. This is followed by Universal Periodic Review (UPR) and CRC with 19 and 16, respectively. Among the Special Rapporteurs, the Special Rapporteur on the Human Right to a Healthy Environment has the highest number of recommendations, with 13 published (Table 1).

Keyword	Number of all recommendations/observations returned	Number of relevant recommendations/observations (including overlap)	Percentage of relevance
Energy	240	73	30.42%
Green	380	52	13.68%
Renewable	128	42	32.81%
Adaptation	373	33	8.85%
Electricity	1,798	32	1.78%
Greenhouse Gas Emission	310	31	10.00%
Fossil Fuel	45	30	66.67%
Carbon	62	26	41.94%
Mitigation	273	21	7.69%
Transition	1,058	18	1.70%
Power Plant	25	13	52.00%
Utilities	39	4	10.26%
Ecology/Ecological	57	3	5.26%
Just Transition	10	3	30.00%
Decarbonisation	2	1	50.00%

Table 2: Number of Total and Relevant Observations/Recommendations by Search Keyword

Table 2 shows the number of total and relevant observations/recommendations by search keyword. Energy, green, and renewable have the most relevant recommendations, whereas fossil fuels, power plants, and carbon are the top three keywords in terms of the proportion of relevant recommendations to the total.

As for chronological trends, the first relevant item was only issued in 2008, in the Concluding Observations of the Committee on the Elimination of Discrimination against Women for Madagascar. Yet, the topic was hardly addressed, not exceeding five recommendations per year until 2017 (Figure 1). Despite its steady growth afterwards, the years 2020 and 2021 saw a steep drop; such decreases are assumed to be the side effects of COVID-19, as the number of total cases sharply declined accordingly (Figure 2). There has been significant growth in the last two years, with 30 relevant recommendations in 2022 and 42 in 2023.

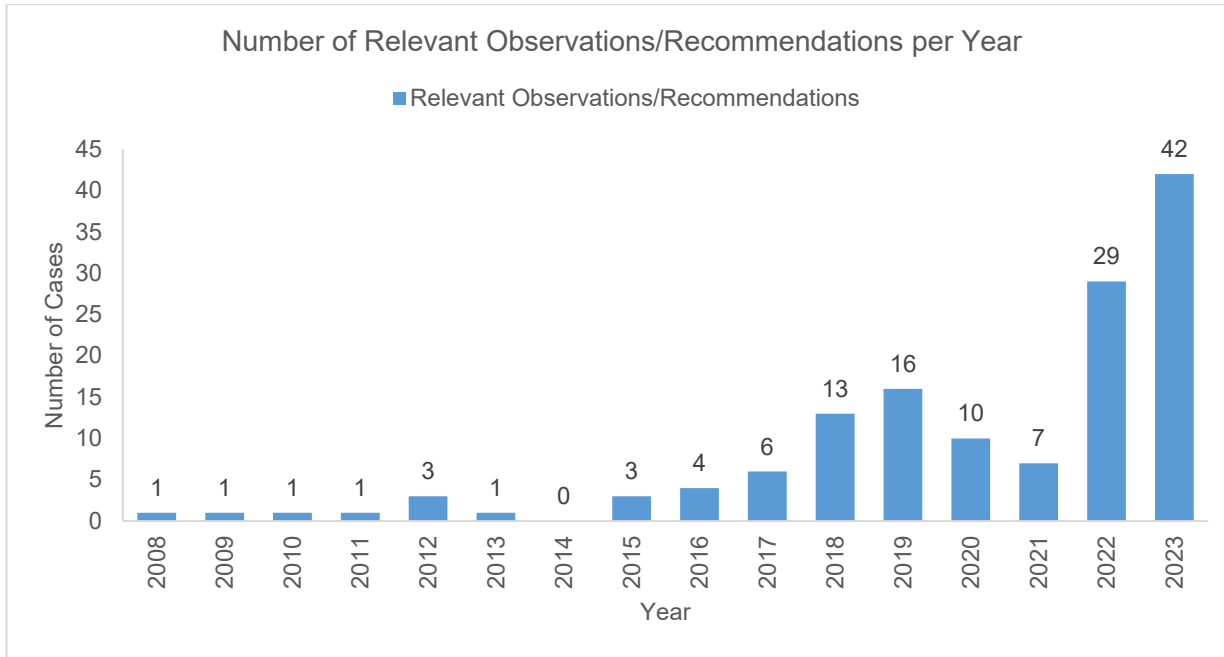


Figure 1: Number of Relevant Observations/Recommendations per Year, 2000-2023

Although a very small proportion of the total, there has been steady growth throughout the years, with 0.26% of all human rights recommendations relevant in 2023 (in numbers, 42 out of 16,133 comments were specified as relevant).

Year	Relevant Observations/Recommendations	All Observations/Recommendations	Percentage
2008	1	7,107	0.05%
2009	1	10,467	0.05%
2010	1	13,495	0.05%
2011	1	14,653	0.05%
2012	3	11,218	0.15%
2013	1	13,413	0.05%
2014	0	15,548	0.00%
2015	3	16,411	0.15%
2016	4	19,162	0.20%
2017	6	15,170	0.30%
2018	13	17,579	0.64%
2019	16	19,371	0.79%
2020	10	10,329	0.50%
2021	7	11,766	0.40%
2022	29	14,880	1.48%
2023	42	16,133	2.08%

Table 3: Number of Relevant Observations/Recommendations by All Observations/Recommendations, 2000-2023

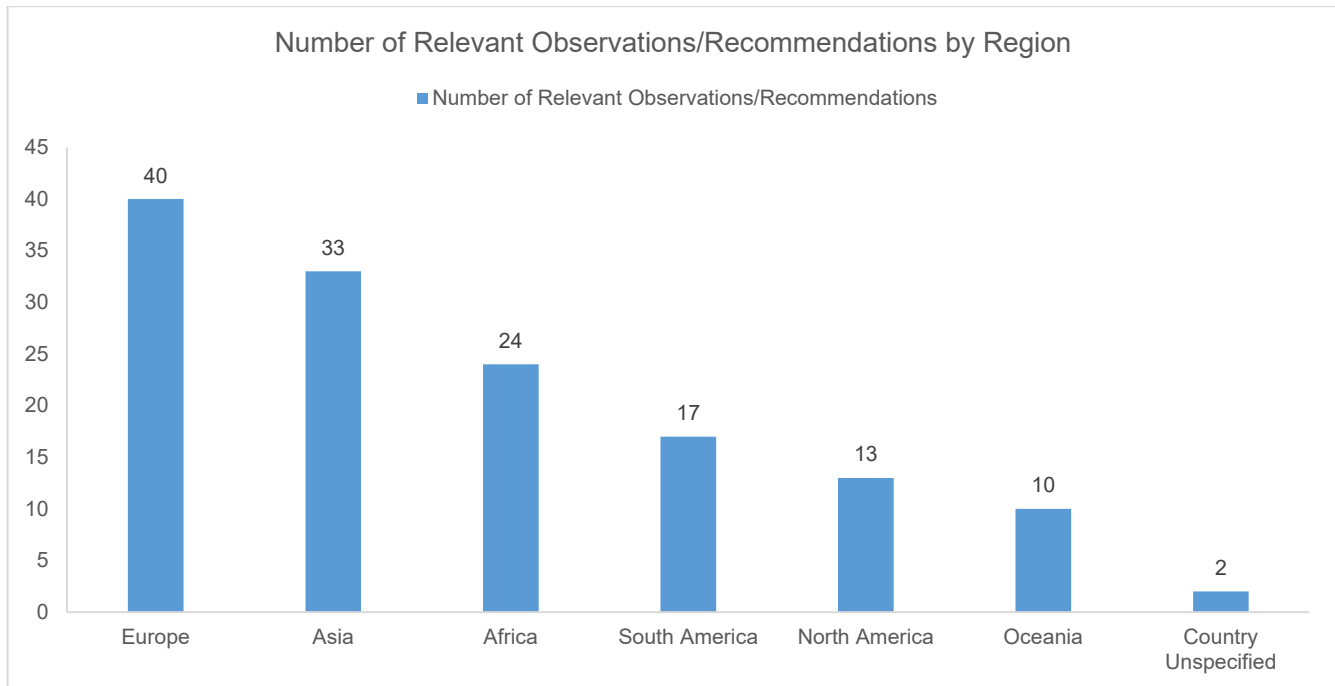


Figure 2: Number of Relevant Observations/Recommendations by Region, 2000-2023

Europe had the highest number of recommendations by region, 39, followed by Asia with 32, Africa with 23, South America with 14, North America with 14, and Oceania with 10 (Figure 3). When divided into Global North and Global South, there were 57 cases in the Global North and 80 in the Global South (two without reference to a specific region).

3.1.2 Quantitative Results: The Intersection of Energy, Gender and Health

Various types of concerned persons and groups were addressed, women and girls being the top of the list, but also children, persons living in rural areas, indigenous peoples, persons living in poverty, and vulnerable persons/groups were frequently mentioned. Also, a numerous list of rights was contained in the legal mapping, including adequate standard of living, right to participation, equality and non-discrimination, and human rights & environment, to name a few. In this section, such recommendations, which are extremely broad in terms of both rights and people/groups covered, are divided into four categories depending on the intersection with energy and other rights: energy, energy and gender, energy and health, and all three. The classification is made based on a comprehensive judgment, referring to the contents of the relevant quote, the specific right(s) or areas, and concerned persons or groups. As a result, nearly half of the classified recommendations were related to only energy. 35 recommendations referred to the intersection of energy and gender, 20 on energy and health, and 16 quotes covered all topics of energy, gender and health (Figure 3).

In the 'energy' category items, relatively general content, such as concerns about the use of fossil fuels and encouraging a shift from fossil fuels to renewable energy, was prominent. A typical example is Paragraph 155.117 on the Report of the Working Group on the Universal Periodic Review to Germany

by Senegal, encouraging Germany to ‘Continue to better explore renewable sources of energy (solar, wind and hydroelectric power) to reduce greenhouse gases emissions (Senegal)’.⁹² On the other hand, relatively few comments explicitly mention the topic of the right to energy, or in other words, energy poverty. Eight out of 67 recommendations mentioned general energy poverty and the right to access energy. Such recommendations on energy poverty are more often made for the Global South, such as Nepal, Kyrgyzstan, Zambia and Djibouti. It is noted that a certain number of the population, or marginalised groups, do not have access to adequate water, electricity and housing. However, people in the Global North also suffer from energy poverty. One rare case addressing the Global North is by the Special Rapporteur on Extreme Poverty, that ‘people are obliged to choose between heating their homes and feeding their children’, and the necessity to ‘expand access to the social bonus that subsidizes utility payments for those who need it and ensure that utilities are not cut off in vulnerable households.’⁹³

In addition, while many categorised under 'energy' recommend a shift away from fossil fuels and towards renewable energy, few point out the problems and adverse effects therein. A rare example is the Concluding observations on the third periodic report of Estonia, which insists on the necessity of employing workers from the conventional energy industry, as they may be subject to unemployment as a result of the energy transition.⁹⁴

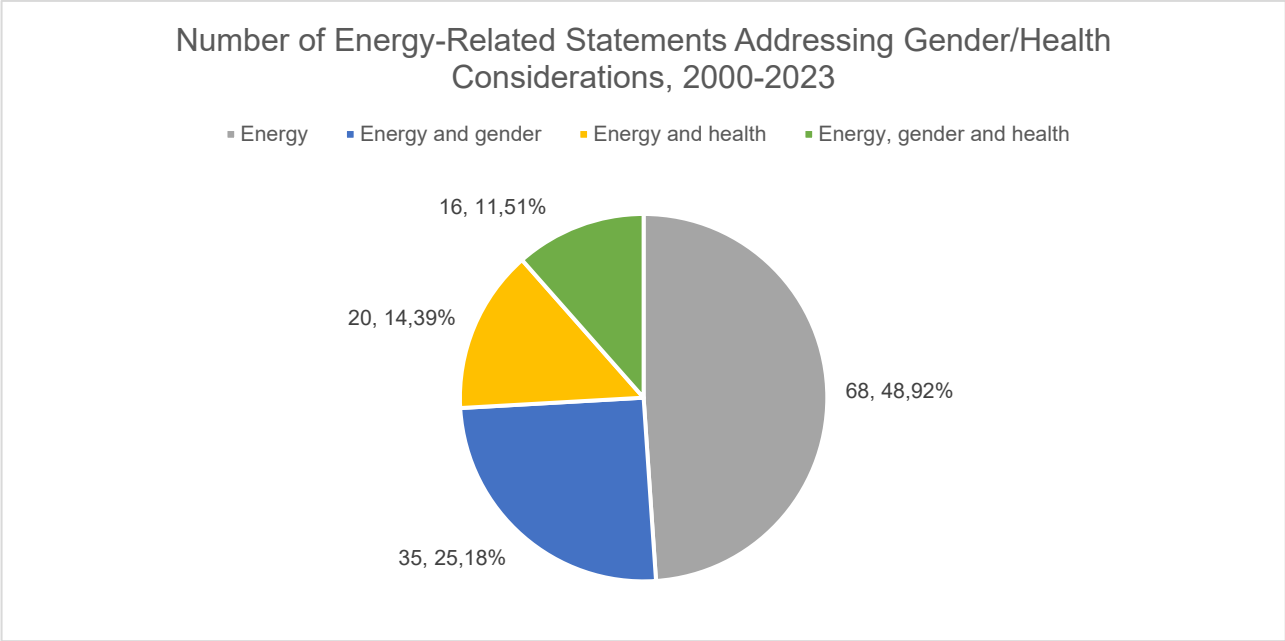


Figure 3: Number of Energy-Related Statements Addressing Gender/Health Considerations

⁹² Human Rights Council, 'Report of the Working Group on the Universal Periodic Review - Germany' (11 July 2018) UN Doc A/HRC/39/9 para.155.177

⁹³ UNGA 'Visit to Spain - Report of the Special Rapporteur on extreme poverty and human rights' (21 April 2020) UN Doc A/HRC/44/40/ADD.2 para.40

⁹⁴ Committee on Economic, Social and Cultural Rights, 'Concluding observations on the third periodic report of Estonia' (27 March 2019) UN Doc E/C.12/EST/CO/3 (CESCR) para.23

Within the 35 conclusions/recommendations intersecting with energy and gender, nearly half (15) focused on equal participation and/or informed consent of women in the decision-making process on climate change adaptations including energy transition. Particularly, a notable number of mentions are made that these considerations should be applied to women from rural or ethnic minority groups. Concluding Observations on the Ninth Periodic Report of Cabo Verde is a representative example of this topic, expressing concern on '[t]he limited inclusion of rural women in the design and implementation of measures to promote renewable energies' as well as '[t]hat rural women continue to carry a disproportionate burden of unpaid care work compared with rural men', which is a factor that can lead to health hazards for women by the use of inefficient or toxic energy sources.⁹⁵ Other topics related to energy and gender were: disadvantages of climate change for women (7 cases); energy poverty and access to energy (6); active employment and empowerment of women in the renewable energy sector (4); general/comprehensive statement on incorporating a gender perspective (4), and protection of women human rights activists (2).⁹⁶

As well as general recommendations on women's equal participation in the energy transition, there are an increasing number of specific issues within this topic, such as women's employment and the protection of human rights activists. For example, there were five recommendations for the active employment of women in the renewable energy sector. On the other hand, as in the traditional energy industry, the renewable energy sector was observed to be male-centric, but there were no explicit recommendations for the development of a women-friendly working environment. As aforementioned, the right to energy is a fairly recent topic, but especially when it comes to the intersection with women's rights, almost all were issued within these five years (27 cases). It is expected that more recommendations on women's equal participation and employment will be made in the near future as more states actually implement energy transition. 20 comments were on the intersection of the right to energy and health. Many raise concerns about the health risks of the use of fossil fuels, and air pollution from power stations. Recommendations related to children's rights stand out, with eight out of 20 cases emanating from the CRC. As an example, paragraph 37(e) of the Concluding Observations on the Combined Fifth and Sixth Periodic Reports of Poland issued in 2021 states:

'Carry out an assessment of the impact of air pollution from coal-fired power plants and from transport on children's health, ...and strictly regulate the maximum allowed air pollutant emissions, including those produced by private businesses.'⁹⁷

⁹⁵ Committee on the Elimination of Discrimination Against Women, 'Concluding Observations on the Ninth Periodic Report of Cabo Verde', (30 July 2019) UN Doc (CEDAW) para.41

⁹⁶ In some cases, a single recommendation covers more than one topic, thus the sum of these does not correspond to the total number of recommendations in this category.

⁹⁷ Committee on the Rights of the Child, 'Concluding Observations on the Combined Fifth and Sixth Periodic Reports of Poland' (6 December 2021) UN Doc CRC/C/POL/CO/5-6 (CRC) para.37

As experts point out in the interviews, there is a history of siloed environmental and energy empowerment activities in the UN and international NGOs. The intersecting right to energy and health is no exception, as most comments (15 out of 20) were issued only after 2020.

Finally, 16 recommendations were classified as intersecting energy, gender and health. 11 comments comprehensively addressed the (particularly rural) women's insufficient access to socioeconomic rights, i.e., adequate housing, water, electricity, and healthcare. Such recommendations do not necessarily focus on energy, gender and health but address the broader situation, either on women's rights or right to health. More tangible comments within this category address the health risks of women. Paragraph 52 of the Concluding Observations on the Combined Second and Third Periodic Reports of Haiti is remarkable in this context as it specifies such causes on the social custom of women's high burden on household work, and thus more likely to be exposed to fossil fuels and their emissions. CRC claims their concern on 'the use of charcoal for cooking and the use of diesel generators to produce electricity', as women and children are particularly vulnerable to smoke-related illnesses due to women's traditional cooking responsibilities.⁹⁸

Without a clear 'right to energy' that can fall under specific right(s) or areas, the results around access to energy are scattered. Results that do speak of limited access to energy by girls and women, such as the 2019 Concluding Observations on the Ninth Periodic Report of Cabo Verde, talk about access to energy (including industrialisation, developing, etc.) and the special access women and girls need, but there are not many results on these lines. Further, in the absence of a right to energy, some of the issues are clubbed under socioeconomic or cultural rights, including the right to environment (For instance, see 2018 CEDAW Committee Concluding observations on the eighth periodic report of the Republic of Korea). Wherein the issues concerning the safety of women and the inclusion of women in a green transition are mentioned under the banner of other rights and 'human rights and environment'. Similar searches show this bandwagon effect, where the theme of energy and gender seems scattered across different rights or clubbed with other issues.

3.2 Qualitative Results – Comments from the Experts

Three main questions were addressed in the interviews: (1) What are the most recurrent themes or approaches to the energy transition being addressed in the UN human rights framework; (2) What patterns and trends can be identified in how the IHRL framework addresses the interlinkages between the transition to renewable energy, gender, and the right to health; and (3) What are the potential gaps and opportunities in human rights in legal protection on these key issues.

⁹⁸ Committee on the Rights of the Child, 'Concluding observations on the combined second and third periodic reports of Haiti' (24 February 2016) UN Doc CRC/C/HTI/CO/2-3 (CRC) para.52

3.2.1 Difficulties and the Violated Rights of Women and Girls on Energy

To address question (1), specific difficulties that women/girls face in their field, and the rights being violated were asked. Some of the responses gained from the experts were covered in the legal mapping, while others were raised anew.

Experts A and C mention the asymmetry between men and women in energy usage and payment. In detail, Expert C points out that the energy policies in states such as the UK and the Netherlands fail to recognise the individual circumstances that (mainly) women have under the policy of non-discrimination and the 'one size fits all' solution.⁹⁹ This may affect households such as a single mother carrying small children or a woman who lives alone but consumes more energy as she needs to take care of her elderly parents' cooking and laundry. Expert D also added on this point that issues related to energy poverty have a significant connection to CEDAW. Lacking adequate access to modern energy, individuals often rely on solid fuels for cooking, which, while contributing to emissions, are more critically recognised as severe health hazards and impediments to a good standard of living; this has a disproportional effect on women's health as they tend to take a heavier workload on household chores such as cooking and heating.¹⁰⁰ This issue is not confined to the Global South but is also prevalent in parts of Europe, particularly Eastern Europe, where many households still use wood or coal.

Expert B points out the problematic measures of the energy transition, namely an extractivist approach that does not benefit the community. Such an approach leads to human rights violations such as 'sexual division of labour and sexual exploitation', dismantles the community without providing new employment opportunities, and threatens the human rights defenders, who tend to be mainly women.¹⁰¹

Lastly, geopolitical situations are significantly influencing the global energy agenda, according to Expert C. They stated that in Ukraine and Gaza, energy infrastructure is being targeted as an act of war, aiming to destabilise these regions.¹⁰² This situation introduces a critical dimension to the discourse on the right to energy. In the Netherlands, for example, discussions about energy poverty and the need for affordable and accessible energy services only became prominent on the political agenda after the war in Ukraine caused an increase in gas prices, making it difficult for the average citizen to afford energy. The expert emphasised the pressing need to establish the right to energy within a robust legal framework. Despite significant momentum and political will, this legal establishment remains inadequate.

⁹⁹ Interview with Expert C on 16 April 2024 via Zoom

¹⁰⁰ Interview with Expert D on 25 April 2024 via Zoom

¹⁰¹ Interview with Expert B on 18 March 2024 via Zoom

¹⁰² Interview with Expert C on 16 April 2024 via Zoom

3.2.2 Engagement of International Human Rights Framework Towards the Expert's Field

This section also includes multiple sub-questions: the activities/strategies implemented by the activist(s) to address this issue, and engagement with law or IHRL in the expert's activities. All four of the interviewees were working on the right to energy, but their perception of the sufficiency of the recognition of the right to energy in their own domain and the extent to which it was used in their activities differed.

Expert D emphasises the progress that IHRL has made, exemplifying Article 14 of CEDAW, which 'includes even a reference to the right to electricity'.¹⁰³ They added that CEDAW has declared that 'this includes women's access to sustainable and renewable energy services', stressing the significance for women and children in specific countries and that CESCR and CRC have been most active in this respect, which matches our legal mapping.¹⁰⁴ On the other hand, Expert A stated that 'all the right to energy is not very often per se embodied as a right', pointing out that notwithstanding the EU-level regulations to prevent people from disconnections, at a state level, it is still poorly implemented, such as in Slovenia, where there are no constitutional-level legislations on the right to energy.¹⁰⁵

Expert C suggested that the siloed structure is persistent in the EU-level discussions, despite the attempts in IHRL to dismantle such structures through the transition from the MDGs to the SDGs. The Commission on the Status of Women (CSW), for example, set 'digital divide' the theme topic, stating that all men and women should have access to the internet, but while women's access to the internet also requires electricity, telecommunications and other energy sources as a prerequisite, such energy poverty/inequality issues were not mentioned.¹⁰⁶ Expert B highlighted the platform on the right to energy in Europe, and the grass-rooted social movement of the 'right to say no' against extractivist mining projects and unjust energy transition policies; yet they also point out the lack of the 'umbrella' in energy, or the legal framework specifying in the right to energy, making such activities unstable.

Expert D's remarks may most straightforwardly wrap up this question. They remark that while women's rights within energy transition 'have been around in the human rights framework for quite a while', not many NGOs are working on this topic, and more engagement and advocacy work by civil society is required for further recognition in the human rights sector.¹⁰⁷ States need to recognise it as a human rights issue, putting it on the country reports. Some signs of change have been observed, such

¹⁰³ Interview with Expert D on 25 April 2024 via Zoom

¹⁰⁴ Chian-Woei Shyu, 'A framework for 'right to energy' to meet UN SDG7: Policy implications to meet basic human energy needs, eradicate energy poverty, enhance energy justice, and uphold energy democracy' [2021] Energy Research & Social Science 79

¹⁰⁵ Interview with Expert A on 15 March 2024 via Zoom

¹⁰⁶ Commission on the Status of Women, 'Innovation and technological change, and education in the digital age for achieving gender equality and the empowerment of all women and girls' (20 March 2023), UN Doc E/CN.6/2023/L.3

¹⁰⁷ Interview with Expert D on 25 April 2024 via Zoom

as the addressing of night-time street lighting and women and girls' safety, or impacts of disconnections for women and girls, particularly also pregnant women; yet in most respects, there is still considerable room for legal development.¹⁰⁸

¹⁰⁸ Oxfam, 'Public Lighting, Gender and Safety in Emergencies' (*Oxfam International*, 2020) <<https://oxfamilibrary.openrepository.com/bitstream/handle/10546/621101/gd-lighting-gender-safety-emergencies-public-171120-en.pdf;jsessionid=90AB06D2648BED9D81D6C610BCF59E4D?sequence=1>> accessed 20 June 2024

4. Gaps and Opportunities in International Human Rights Law

4.1 Opportunities and Signs of Change

First, we will touch on the opportunities and signs of positive changes in realising a feminist energy transition. At the level of IHRL, there is clearly a growing recognition, which is a major achievement.

Even though it has only been around for the past few years, the topics on the right to energy and its intersection with gender and health are increasingly being discussed at an accelerated pace: in 2023, there were 42 relevant recommendations, up from 29 in 2022, which was the highest number up to that point. As we saw in the previous chapter, recommendations issued in the last two years account for about half of all relevant recommendations since 2000. The number of institutions involved in the discussions has also increased. As aforementioned, CEDAW Committee and CESCR are leading in terms of references to the right to energy, but CRC, the Special Rapporteur on Environment, and others are also gradually joining the discussion; CERD and HRC issued relevant recommendations for the first time in 2023. As human rights instruments such as Article 14 of CEDAW mention the right to electricity, which includes sustainable and renewable energy.

The transition from the MDGs to the SDGs, which places greater emphasis on human rights perspectives, and the promotion of gender mainstreaming even within agendas that are not specific to women's rights, is also contributing to this trend.

4.2 Identified Gaps

4.2.1 The Disconnection between ESCR, CEDAW, Energy, and Health

The aforementioned fragmentation of international legal recognition of the right to energy as it pertains to gender, health and the environment can partially be ascribed to the recognition of a State obligation to provide for energy partitioned to separate human rights silos. The recognition that energy belongs within the auspices of the ESCR framework since the CESCR's General Comment 4 in 1991, in which access to energy was included within CESCR's comprehension of adequate housing, has

potentially isolated the right from developing under other frameworks.¹⁰⁹ Within this recognition, energy is considered as it pertains to the right to housing, and energy's relevancy within this context. However, 'further interpretive practices and applying that notion', for example through state reporting, is a much more recent development.¹¹⁰ Within this context, people's minimum energy needs are included alongside specific prohibitions against disconnections.¹¹¹ While these developments are positive, there are some obstacles within the CEDAW approach. Article 14's consideration of 'rural women' does not necessarily pertain to indigenous women, or impoverished women living in urban areas. Moreover, the understanding of what constitutes 'rural' differs greatly from place to place, and from culture to culture. This distinction also affects energy infrastructure, connection, and extraction.

4.2.2 The Obstacle of Commodification

The framing of energy as a commercially viable commodity rather than a required component of the fulfilment of socioeconomic rights is an obstacle to the right to energy's potential promulgation in IHRL. Internationally, there is 'a huge gap in the recognition, because energy is [...] informally recognized as a market. But we have a huge gap in the recognition of energy as a social issue, as a common good.'¹¹²

Regionally, regulation of energy provision is varied; with enormous divides between Europe as an 'extractivist actor' and the so-called Global South. 'Colombia [...] for example, tried to recognize energy as a common good [...] and to protect their countries from extractivism.'¹¹³ Legislation regulating extraction is naturally a more pertinent issue in States where (often violent and exploitative¹¹⁴) energy and resource extraction occurs. Expert D notes that there have been 'some shy steps forward' in recognising 'people should be in the centre of energy transition: [...] that consumers should not be disconnected from the energy service' which is a provision that States could regulate.¹¹⁵ However, the current protected free market model is still widely implemented, with States 'still blindly believing that that's the best way to go for consumers, despite the evidence.'¹¹⁶ Interviewees' collective assemblies have yielded mixed results depending on context and location: Expert A's Slovenian lobbying campaigns against disconnection and energy access were more successful than its Albanian counterpart. This is partly due to the potential regulation of energy companies in different jurisdictions and the varying degrees of market liberalisation. They noted that one core component of this was the liberalisation of Western markets comparative to their Central and Eastern European counterparts. The result of this is a

¹⁰⁹ CESCR, 'General Comment No. 4: The Right to Adequate Housing, 14–15'(1991) UN Doc. E/1992/23 para. 8(b)

¹¹⁰ Interview with Expert D on 25 April 2024 via Zoom

¹¹¹ Interview with Expert A on 15 March 2024 via Zoom

¹¹² *ibid*

¹¹³ *ibid*

¹¹⁴ Richard Pearshouse, 'A Human Rights Agenda for Ending Fossil Fuels' (*Human Rights Watch*, 29 April 2022) <<https://www.hrw.org/news/2022/04/29/human-rights-agenda-ending-fossil-fuels>> accessed 24 May 2024

¹¹⁵ Interview with Expert D on 25 April 2024 via Zoom

¹¹⁶ *ibid*

typically more regulated system; one that can be taken advantage of by citizens seeking energy consumer justice and business accountability. Conversely, more liberalised markets result in an economic environment in which 'energy companies are really [...] free to do what they want.' However, the liberalisation of Western energy markets does not purport that efforts towards a just transition are wholly ineffective. Spain's successful campaign of writing off the energy debt of over 35,000 people is emblematic of this potential towards reframing energy as a human right rather than a market-based commodity.¹¹⁷ Expert D offered a similar concern, that lobbying campaigns are required to make the 'government understand that access to energy is also about human rights, and that access to clean energy for all in a fair way, in a just way, in an equitable way, is also about human rights.'¹¹⁸

4.2.3 Green Jobs and Labour

The labour involved in the infrastructure of a green transition is a contentious issue. This aspect of the green transition is exemplified by the intersectional issues of economic disparity, geographical differences, and cultural settings' impact on the access and consumption of energy. The enormous project of developing and maintaining the infrastructure required of a green transition should prioritise local knowledge, labour, and culture. So-called 'green jobs' should be considered in relation to women and the gendered assumptions of labour division to ensure gender disparities are not perpetuated in the process of phasing out from fossil fuels.¹¹⁹

CESCR has made concluding observations on ensuring workers currently employed within fossil fuel industries are not abandoned in the green transition.¹²⁰ Within this context, gendered labour should be considered: this is an opportunity to assert women's voices and work opportunities and not to perpetuate stereotypes of gendered labour, which in turn will expand women's opportunities, livelihoods, and cultural standing.¹²¹ Equally, this is an opportunity to decolonise tech and resource extraction. Extraction work for green transition resources is often dangerous and exploitative, deepening the financial border between Global North and South.¹²² Efforts should be made to eradicate exploitative extractive regimes for the sake of the green transition. A consequence of this redirection is not only that the work required to maintain green energy production will be safer than its fossil fuel counterpart, but that the energy itself that is utilised will be exceedingly healthier than burning biofuels and fossil fuels in both

¹¹⁷ Interview with Expert A on 15 March 2024 via Zoom

¹¹⁸ Interview with Expert D on 25 April 2024 via Zoom

¹¹⁹ Paolo Tomassetti, 'Energy transition: a labour law retrospective' [2023] ILJ 52(1) 34-67

¹²⁰ CESCR, Concluding observations on the third periodic report of Estonia, E/C.12/EST/CO/3

¹²¹ J Clancy et al, 'Appropriate gender-analysis tools for unpacking the gender-energy-poverty nexus' [2007] Gender & Development, 15, 2

¹²² Amnesty International, "This Is What We Die For": Human Rights Abuses In The Democratic Republic Of The Congo Power The Global Trade In Cobalt' [2016] <<https://www.amnesty.org/en/wp-content/uploads/2021/05/AFR6231832016ENGLISH.pdf>> accessed 25 May 2024

short-term and long-term health.¹²³ Marginalisation and exploitation cannot be justified for the sake of remedying energy poverty. Where such wealth disparities occur, where neocolonialism and exploitative extraction is still rife, there can be no just energy transition.

4.2.4 Regional Opportunities and Obstacles in Europe

Expert C sees the ‘sensitivity to the inflation costs and increase of the cost of living’ having a direct effect on ‘the gender component, in that they have a very strong social inclusion’. This gendered experience of increasing costs of living as exemplified by their primary care responsibilities and ties to the domestic setting, in which they are exposed to toxic fumes from burning biofuels for cooking and heating with little to no ventilation, enduring the heat and cold of the climate they live in, and biologically enduring temperature differently to their male counterparts.¹²⁴

In examining the Dutch energy context, it is evident that the approach of ‘one size fits all’ fails to address the nuanced realities faced by different demographics. National discussions often assert that everyone has access to affordable energy. However, while the current legislation avoids discriminative policies, it overlooks the diversity in energy needs among households. Factors such as family structure, home ownership, and caregiving responsibilities significantly influence energy consumption. For instance, high divorce rates in the Netherlands have led to many single-parent households with co-parenting arrangements, which are not adequately addressed by existing energy policies. Similarly, those caring for elderly relatives may have higher energy consumption not reflected in typical household averages.

The COVID-19 pandemic further illustrated these disparities, with remote work significantly increasing home energy use. Seasonal climate variations also affect energy needs; wet winters lead to mold issues in inadequately heated and ventilated homes, particularly in social housing, whereas hotter summers increase the demand for air conditioning, straining the electricity grid. These observations underscore the critical need to recognise the intersection of gender, energy, and climate in legislative frameworks. Effective legislation must move beyond generic solutions to acknowledge and address the diverse and dynamic energy needs of all citizens.¹²⁵

4.2.5 The Absence of a Right to Energy

The most pertinent obstacle raised in doctrinal and interview research is the absence of a human right to energy. While the recognition of a right to energy would arguably improve the potential for more

¹²³ Marina Romanello et al, ‘The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels’ [2022] *The Lancet* 400

¹²⁴ Interview with Expert C on 16 April 2024 via Zoom

¹²⁵ Interview with Expert C on 16 April 2024 via Zoom

regular access to energy by endowing States with the obligation to respect, protect, and fulfil this right, recognition of this right alone would be insufficient to effectively address the nexus between gender, health, and the environment. While database results either alluded to some combinations of these issues very broadly or in a fragmented way (for example, the consideration of women and girls as a vulnerable group within the context of climate change or poverty), the results do not address these issues as an intersecting whole. As such, the nexus of gender, energy, and health was conspicuously absent. This dissonance must be remedied within the context of international legal recognition, and for the purposes of the just transition project itself. The right to development is already enshrined in the African Charter on Human and Peoples' Rights, so for some regions this is also a codified right which can be drawn upon.¹²⁶

The right to energy should have, at the very least, a strong consideration for gendered dimensions, health, and its relationship to the right to a healthy environment and the phasing out of fossil fuels. Global energy disparity solutions must be addressed as it is insufficient to develop methods for a 'just transition' where billions of people do not have access to any form of energy infrastructure that can be transitioned to a renewable system. A 'just transition' would encompass not only the transition from fossil fuels to affordable, reliable, sustainable and modern energy but also the transition from energy poverty to energy access.¹²⁷ Rather, 'transition' could be synonymous with 'development'. Renewable energy, along with its fair distribution and affordable access, can help achieve multiple goals and targets outlined in the 2030 SDGs and the realisation of the right to development. Just transition complements climate change mitigation policies, promotes economic prosperity, livelihoods and decent work opportunities, enhances human well-being and health, and improves the living standards of those in poverty through greater access to affordable renewable energy sources.¹²⁸

4.3 Considerations for the Right to Energy

The recognition of a right to energy begets numerous questions as to how this right would be framed, and how it could be utilised to address structural socioeconomic, health, environmental, and gender issues. An explicit right to energy is distinct from a right to electricity. A codified 'right to electricity' rather than 'energy' would provide a means of phasing out from fossil fuels in domestic settings and prioritising greener energy production processes (for instance, through cheaper electric alternatives such as solar or wind). While the right to electricity potentially poses some risk of alienating impoverished regions and people who have limited access to electricity, and instead rely on fossil fuel consumption to survive, despite the health risks they pose, there are still some positives. A potential right to electricity

¹²⁶ 'African Charter on Human and Peoples' Rights (adopted 27 June 1981, entered into force 21 October 1986) (1982) 21 ILM 58 (African Charter) art 22 - also Article 19 of the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa, includes right for African women to 'sustainable development'

¹²⁷ SDG 7.

¹²⁸ 'Renewable Energy and Right to Development: Realizing Human Rights for Sustainable Development' (OHCHR, 2022) 1-2 <https://www.ohchr.org/sites/default/files/2022-05/KMEnergy-EN.pdf>

could contribute to providing this service in marginalised communities that currently do not have access to electricity. The problem in the specification of a right to “electricity” over “energy”, rather, is that the right to electricity disregards other forms of energy production, such as the use of biofuels, which are an essential fuel resource for myriad communities, particularly those in rural and impoverished areas.

The recognition of a right to energy should consider where the current provisions for energy (within the context of socioeconomic rights) and health (within the context of pollution) intersect and consider methods for policy and legislation to synthesise these rights and issues. An explicit link between the right to energy, particularly renewable energy, and the right to health would bridge the gap between current CESCR considerations for healthier forms of energy production, including clean cooking methods.

Moreover, the right to energy should be recognised from a gender lens. The CEDAW Committee can actively address this issue under Article 14 of CEDAW, which references the right to electricity, in State reporting procedures, particularly in countries with known low rates of energy access. The CEDAW Committee has clarified that the right to an adequate standard of living includes access to sustainable and renewable sources of energy,¹²⁹ which highlights the intersection of women’s rights with energy transition. However, while the CEDAW Committee has underscored this right, the most specific comments on its importance for women and children come from the CESCR and the CRC. These bodies have been more active in highlighting the critical need for sustainable energy access for women and children, demonstrating a growing recognition of the importance of energy equity in human rights law.¹³⁰

The implementation of the right to energy is contentious, particularly regarding whether there should be a minimum standard for energy access, and if so, how would this be provided universally. There is a risk that States would interpret the right to energy as a means to continue fossil fuel extraction and consumption to fulfil this right. Therefore, this interpretation of the right being fulfilled so long as people have access to *any* energy is a potential risk to the just transition project. However, this risk can be mitigated by interpreting the right to energy as one that prioritises or necessitates the production and use of green energy and facilitates the development of infrastructure to provide these sustainable options. As such, the right to sustainable energy would provide a more effective mechanism for the recognition of the right to energy, by ensuring its promulgation explicitly calls for renewable energy production, efficiency, and access to align with global environmental concerns and obligations. This approach would ensure that the right to energy aligns with broader goals of sustainability and climate change mitigation, promoting a just transition to renewable energy sources.

¹²⁹ CEDAW/C/GC/34, 23, para.85(c).

¹³⁰ Interview with Expert D on 25 April 2024 via Zoom

Moreover, further consideration should be made for the potential for how this right would correlate to business and human rights; particularly, how private businesses and the process of privatisation more broadly would impede or improve access to energy and the fulfilment of this hypothetical right.

4.4 Transitioning to a Just Transition

While the nexus of gender, health, and energy presents numerous complex challenges, the tension between the need to balance the emergency of the climate crisis with the need for measured, well-planned provisions for a sustainable energy transition are perhaps the most pertinent. While framing energy issues through a human rights lens is still a relatively new concept, there are increasingly better opportunities to comprehend the concept of a just transition through this perspective. In this context, however, it is crucial to understand the various dimensions of a just transition, which often involves ensuring that the environment is well protected.¹³¹

By endorsing a human right to energy, the enormous socioeconomic disparities must be globally addressed and considered. The universality of a human right would merely highlight the inequalities between persons seeking to exercise that right, while its immediate usefulness varies depending on the availability of electrical infrastructure. For example, Slovenian women fighting against disconnection would be in much better stead than women in countries that have little to no electrical infrastructure, and so rely on more precarious fuels, namely harmful biofuels. However, the health issues associated with these practices are severe, leading to premature deaths and undermining the progressive realisation of the right to health and potentially even the right to life. It is acknowledged that transitioning through fossil fuels may be an intermediate step, but the final goal must be clean and renewable energy sources to mitigate these health risks and ensure sustainable energy access for all.¹³²

Regardless of the right to energy, the global disparity among women would be a significant challenge to address. How can a feminist, green energy transition take place in instances where there is no energy system to transition from? How will this address poverty, let alone energy poverty? There must be a direct financial relationship between the right to energy and the right to access, enjoy, and afford that energy. Where would the boundaries of this right be? Would there be a minimum threshold for access and enjoyment? If so, how would that be conceived?

Developing a gender-just and green energy transition free from paternalism or patriarchal influence will be challenging. This endeavour involves definitions of vulnerability, respecting, protecting, and fulfilling human rights, and prioritising support for certain groups, including women.¹³³ It will be

¹³¹Interview with Expert D on 25 April 2024 via Zoom

¹³² Interview with Expert D on 25 April 2024 via Zoom

¹³³ ibid

essential to ensure that women and communities have agency and can engage with a just transition project through fully informed consent, incorporating the right to participation and the 'right to say no'.¹³⁴

¹³⁴Interview with Expert A on 15 March 2024 via Zoom

5. Conclusion

In conclusion, this report has studied the intersection between gender, health, and just energy transition through the international human rights legal framework and identified shortfalls, silos, and opportunities for solutions. This research team has compiled a Legal Mapping database of 139 relevant observations and recommendations pertaining to these issues through human rights mechanisms available through the Universal Human Rights Index from 2000 to 2023 out of some 4,790 returned results.

This research has been collated in the context of stark gender and energy inequality; the breadth and complexity of this context provides considerable obstacles for the universal realisation and application of a just and gender equitable energy transition which effectively addresses and remedies these situations and how they relate to the research criteria. This inequality is multifaceted, including (but not limited to) issues such as global poverty, employment inequalities, resource extraction, land loss, gender-based violence, human rights defenders, pollution, and capitalistic and colonial projects and their legacies. The Legal Mapping research process has yielded an informative overview of the disparities and silos present in the international human rights legal framework, highlighting areas where relevant issues are most acknowledged and responded to, as well as where there is little to no consideration for these issues at all. In particular, the Legal Mapping provides a clear contextual overview of which mechanisms and actors are most effectively considering and addressing the issues of gender, energy, and health. Further still, the Mapping process has found that within these results there is a clear disparity between present considerations: there is no explicit intersection between these issues being effectively considered within international human rights law. These numerical results concur with the analysis provided by the expert interviews conducted. These interviews provided insights on a multitude of issues and case studies within the research criteria, providing a holistic approach to the issues explored.

In combination with the Legal Mapping data, expert interview analysis, and literature review, this report has provided some recommendations and considerations for potential solutions to the issues raised. In particular, this report finds that the international human rights legal framework must effectively address the nexus of gender, health, and energy in order to resolve the issue of siloing these intersectional issues. The most common recommendation made by the interviewed experts was the codification of a human right to energy. However, this recommendation yields its own obstacles and further considerations for how this right may be realised and fulfilled by both State and non-State actors.

Regardless of how a gender-just energy transition is realised, it must be taken into careful and serious consideration by the international legal community. States must effectively address the gender, health, and energy inequalities present across multiple contexts in order to effectively fulfil their human rights obligations to the rights already bestowed upon women and girls before the promulgation of a new

human right can be considered. The climate crisis cannot be effectively and equitably addressed without remedying the intersectional issues explored in this report.

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