

## CTCN GENDER MAINSTREAMING GUIDELINES FOR ENERGY SECTOR PROJECTS

The CTCN Gender Policy and Action Plan ([2023-2027](#)) mandates the mainstreaming of gender equality principles into CTCN technical assistance projects. These guidelines outline the goals of gender mainstreaming in the energy sector, identify key entry points and potential measures for gender mainstreaming, and provide some pointers on gender-responsive monitoring, evaluation and learning (MEL). Energy systems projects encompass projects related to generation (e.g. solar PV, biogas, ocean energy, etc.), efficiency (in appliances, buildings, industry, etc.), storage (hydrogen, batteries, etc.), transmission and distribution, and use (e.g. productive use of energy in off-grid settings). These guidelines briefly introduce the main issues relevant to gender mainstreaming in the energy sector; in the annex, you will find a list of resources with more details.

### WHY PURSUE GENDER MAINSTREAMING IN THE ENERGY SECTOR

The energy sector remains male-dominated: women are underrepresented in the energy workforce ( $\pm 32\%$  in renewable energy,  $\pm 20\%$  in traditional energy)<sup>i</sup>, as well as in policy- and decision-making positions. In addition, energy projects and policies still insufficiently consider and address the needs of women and girls. Five good reasons for gender mainstreaming in energy:

- Energy is a key driver of economic development and community wellbeing. **Gender mainstreaming enhances the effectiveness of energy policies and projects** – and their social and financial returns – by ensuring they serve everyone and benefit from everyone's talents.
- The energy transition represents a **major overhaul of the energy system** and therefore offers a unique opportunity to address its flaws, which include gender inequality in the workforce and insufficient consideration of the needs of women.
- The energy transition will create millions of jobs and **skills shortages** are already recognised as one of the key bottlenecks threatening progress;<sup>ii</sup> it needs more women in the workforce to succeed.
- Financing for the energy transition – and for technical assistance – should **benefit women and men equally**.
- Gender mainstreaming is needed to **unleash women and girls' full potential to contribute to the energy transition** and economic development more broadly, for the benefit of everyone; gender-diverse companies and organisations make better decisions and achieve higher profits; more gender-equal countries have healthier and more prosperous communities.<sup>iii</sup> If women participated in the economy to the same extent as men, that could add \$12 trillion to global GDP.<sup>iv</sup>

## 1. WHAT DOES GENDER MAINSTREAMING IN ENERGY SECTOR PROJECTS ENTAIL?

This section presents frequently encountered gender gaps in three issue areas relevant to the energy transition.

### A. ISSUE AREA: WOMEN IN THE ENERGY WORKFORCE

**Relevant gender issues:** Women are underrepresented in the energy sector workforce, especially in technical and management positions. Causes for this gender gap include:

- The low share of women in science, technology, engineering and maths (STEM) education and technical vocational education and training (TVET).
- Societal gender norms and expectations that discourage women from choosing technical careers, including in energy.
- Biases in the workplace, including in hiring, promotions and access to management.
- Insufficient accommodations in the workplace (flexible working hours, parental leave, childcare support, separate sanitation facilities, suitable personal protective equipment), especially on (remote) work sites and plants;<sup>v</sup>
- In 59 countries, the hiring of women is prohibited for certain professions, including some in the energy sector.<sup>vi</sup>

**Possible measures:** Companies, governments, academia and civil society can take a range of measures to address gender gaps, which are well described in existing literature (see the Annex). Governments and CTCN implementing partners can, for example:

- Promote STEM education among women and girls and review STEM curricula to remove gender bias.
- Normalise the presence of women in leadership and technical careers by pursuing gender parity in their own (technical) teams and promoting female role models in their communications.
- Strengthen anti-discrimination legislation protecting women at work and reviewing any discriminatory labour laws.
- Practice gender-responsive procurement, requiring gender mainstreaming from subcontractors and giving additional points to bidders putting forward gender-balanced teams.

## **B. ISSUE AREA: UTILITY-SCALE GENERATION, TRANSMISSION AND DISTRIBUTION**

**Relevant gender issues:** Construction projects can cause significant risks to local communities, some of which affect women in particular. These include:

- When communities need to vacate land for energy projects, women are less likely to be compensated as they often do not formally own the land they manage or farm;<sup>vii</sup>
- The influx of a (largely male) workforce into rural areas often causes increases in gender-based violence suffered by local communities;<sup>viii</sup>
- New income opportunities for local communities often primarily benefit men.
- Women working at remote plants can be at risk of gender-based violence.<sup>ix</sup>

**Possible measures:** Energy policies and strategies should anticipate the above risks and mandate gender mainstreaming measures in all projects, such as:

- Siting decisions for energy plants should be made and compensation schemes designed together with local women, and consider how the targeted land is used, not just who owns it.
- Project developers should ensure reporting mechanisms for harassment and violence are in place and educate their workforces.
- Security teams and leadership should include women.
- Project developers should aim to hire local women as well as men, including by specifically targeting women with trainings.

## **C. ISSUE AREA: OFF-GRID ENERGY ACCESS**

**Relevant gender issues:** Access to modern energy solutions has the potential to significantly improve women's lives, reducing the time and physical labour required for household tasks such as cooking, heating and washing – but only if both women and men can access and afford sufficient electricity and the appliances to use it. Women's needs often go unaddressed in households and communities where decision-making is dominated by men; for example, men may not prioritise lighting in kitchens or street lighting to improve safety in communities.<sup>x</sup>

Access to clean cooking technologies and fuels can greatly reduce the number of premature deaths from indoor smoke inhalation, while reducing women's time poverty. However, adoption has been hampered by, among other issues, a lack of attention to the cultural aspects of cooking and the need to accommodate traditional meals, as well as fuel supply reliability and affordability.<sup>xi</sup>

**Possible measures:** Electrification strategies should consider the following to ensure that men and women benefit fully from the benefits of energy access:

- Energy access projects and policies should target higher levels of access and view electrification as a spectrum rather than a binary issue, so that e.g. a household with one solar lamp is not classified as electrified.
- Electrification programmes should include schemes to make appliances accessible either at the household level or in shared community facilities.
- Women should be engaged in decision making throughout, if necessary, through women-only consultations.

- Clean cooking solutions should be designed together with women and the reliability of fuel supply chains guaranteed.

## 2. HOW TO UNDERTAKE GENDER MAINSTREAMING FOR DIFFERENT TYPES OF TECHNICAL ASSISTANCE?

### A. GENERAL ADVICE

- Lead by example: include women in your leadership and technical teams.
- Aim for equal participation of women in consultations, trainings and other events: Recognise that attendance ≠ participation; actively ensure that women present have equal opportunity to speak up and have their ideas influence project outcomes as men. Ensure that men and women engaged are of equal seniority, e.g. not all male managers but female assistants. If women are not comfortable speaking up in mixed groups, organise separate women-only consultations or interviews.
  - To engage women in events, ensure invitations are shared through channels women have access to, e.g. community notice boards and women’s networks.
  - Ensure the timing and location of events are suitable for women with household/care duties (e.g. organise trainings during work hours rather than after) and potentially limited access to transport.
  - For community consultation events, provide childcare or emphasize that children are welcome. Ensure privacy and anonymity of all participants in consultations, especially when these address gender inequalities.
- Consult experts: For baseline information on gender equality issues relevant to the project, engage with a gender ministry or with civil society, such as with one of the many global, regional and national women in energy networks and NGOs that have been established.

### B. GENDER MAINSTREAMING IN POLICY/STRATEGY DEVELOPMENT

- Ensure the policy/strategy is aligned with the national gender policy and, if possible, engage a focal point from the ministry in charge of gender issues.
- Raise awareness of barriers to equality enshrined in existing policies and legislation, e.g. lists of professions banned for women, or lack of legislation prohibiting discrimination in the workplace.
- Perform a gender analysis of the previous policy/existing policy framework to identify whether it serves men and women equitably.
- Perform a gender analysis of proposed policy measures (e.g. are new energy tariffs likely to lead to higher rates of energy poverty among women than men? Will new jobs create in e.g. renewable hydrogen benefit men and women equally?)
- Validate findings of the gender analysis with women’s groups and gender focal points.
- Identify gender equality measures to be included in the policy/strategy.
- Ensure training is provided to implementers on the gender equality aspects of the new policy/strategy.

### C. GENDER MAINSTREAMING IN FEASIBILITY STUDIES OR PILOTS

Assess how adoption of a new technology may affect women and men differently:

- As users: does the technology serve the needs of men and women? Is it easy to use by both men and women? (e.g. solar-powered irrigation pumps should be light enough to be easily moved by women as well as men; biogas cooking kits should serve the cooking needs and preferences of women and men; solar arrays should be combined with sufficient storage to meet the needs of different energy use patterns of women and men).
- As workforce members and decision-makers: will the technology lead to job creation, or new opportunities to start businesses? What can be done to ensure women benefit equally from new income generation opportunities created? Will men and women be equally involved in rolling out and making decisions about the technology?

### 3. HOW TO MEASURE GENDER EQUALITY OUTCOMES OF ENERGY SECTOR PROJECTS?

Gender mainstreaming in monitoring, evaluation and learning (MEL) requires both the collection of sex-disaggregated data and the definition of gender indicators:

- Collecting sex-disaggregated data, for example on employment in the energy sector, energy use in the household, or satisfaction with project outcomes, allows for the comparison of project impacts on women and men. If MEL processes find major differences in outcomes for women and men, project implementers should investigate the causes and feed learnings into future projects.
- Gender indicators specifically measure the project's impacts on women's empowerment and gender equality. Examples include 'share of stakeholders who believe women are equally capable as men of pursuing careers in the energy sector' or 'share of gender discrimination/harassment complaints resolved to the satisfaction of the complainant'. These should be aligned with the CTCN Gender Policy and Action Plan.

More sample indicators can be found in Annex B. The lack of data on gender gaps in the energy sector forms a key barrier to gender equality. Therefore, it would be beneficial if CTCN projects could encourage the establishment of baselines, for example of the number of women employed in the energy sector in public vs private companies/organisations, and in technical vs non-technical jobs.

## ANNEXES

### ANNEX A: USEFUL RESOURCES

#### Toolkits and guidelines

The resources below provide practical advice on gender mainstreaming in different types of energy projects.

- Clean Energy Solutions Center, 2019, [Blueprint Guide for Creating Gender-sensitive Energy Policies](#): This report provides step-by-step instructions for the development of gender-sensitive national or regional energy policies, based on learnings from the development and adoption of the ECOWAS Policy for Gender Mainstreaming in Energy Access.
- UN Environment, 2020, [Gender integration in renewable energy policy: A guideline for renewable energy policy and decision makers](#): This concise guide provides practical tools and advice for gender mainstreaming in energy policies, plans and strategies.
- Transforming Energy Access, 2025, [Gender Equality, Disability & Social Inclusion \(GEDSI\) Toolkit](#): This toolkit highlights the connections between energy access, gender and disability, and provides practical advice for developing energy access strategies and programmes that advance gender equality, disability equity and social inclusion.
- United Nations Industrial Development Organization, 2014, [Guide on gender mainstreaming: Energy and climate change projects](#): This extensive guide contains a range of tools and recommendations for the development of gender-responsive energy projects, including highly useful instructions on the design and implementation of gender analyses, as well as sample terms of reference for project-level gender experts.
- Modern Energy Cooking Services, 2022, [MECS Gender Framework](#): This is a framework for monitoring gender equality impacts of clean cooking policies and initiatives. It also supports project implementers to identify and address women's specific needs.
- UNOPS, 2024, [Guidelines for developing inclusive energy infrastructure](#): These guidelines provide highly practical tools and checklists for the development of gender and disability-inclusive energy infrastructure, as well as a range of concrete examples of potential issues and ways to address these.
- UN Women, 2022, [Gender Analysis in Technical Areas: Energy Infrastructure](#): This manual provides background information on gender issues related to energy infrastructure, as well as detailed instructions for the development of gender analyses, covering data collection and analysis, as well as the effective use of findings.

- UN Women, 2024, [Gender Statistics Training Curriculum](#): This is an extensive online course on gender statistics, with materials covering potential sources of data, data collection and analysis, and learning and communication.

### Reports on advancing gender equality in the renewable energy workforce

The reports listed below discuss gender equality in the renewable energy workforce in general (IRENA, 2025) and in various subsectors. They assess gender gaps and trends and identify key barriers to gender equality as well as detailed recommendations for addressing these.

- International Renewable Energy Agency (IRENA), 2025, [Renewable Energy: A gender perspective – Second Edition](#)
- IRENA, 2020, [Wind energy: A gender perspective](#)
- IRENA, 2022, [Solar PV : A Gender perspective](#)
- World Bank ESMAP, 2023, [Power with Full Force: Getting to Gender Equality in the Hydropower Sector](#)
- World Biogas Association, 2024, [Women in Biogas: Survey analysis report 2024](#)

### ANNEX B: SAMPLE INDICATORS TO INCLUDE IN A GENDER-RESPONSIVE MEL FRAMEWORK

Indicators to measure gender-responsiveness of project design and implementation:

Gender analysis conducted – yes/no

Sex-disaggregated data used in the development of the response plan – yes/no

Response plan aligned with national gender strategy – yes/no/N.A.

% of project male and female staff, disaggregated by seniority

% of registrations for consultations/workshops/trainings from men and women, by seniority

% of active male and female participants in consultations/workshops/trainings, by seniority

% of inputs sourced from consultations originating from female participants

Satisfaction with the project as reported in evaluations – sex-disaggregated

Sex-disaggregated data collected for all project indicators – yes/no

Indicators to measure gender equality outcomes of the project:

% of stakeholders who rate gender mainstreaming in energy policies/projects as ‘important’ or ‘very important’ in the final project evaluation – sex-disaggregated

% of stakeholders who rate their understanding of gender issues in the energy sector as ‘good’ or ‘very good’ in the final project evaluation – sex-disaggregated

% of partner organisations/companies that have developed/improved gender policies while/after participating in the project

Policies, strategies and plans:

Specific gender equality issues described, based on data – yes/no

Specific goals to address these issues included – yes/no

Budgets and responsibilities for these goals assigned – yes/no

Disaggregated and gender data collection mandated – yes/no

<sup>i</sup> International Renewable Energy Agency (IRENA). (2025). *Renewable Energy: A Gender Perspective. Second Edition*. [https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2025/Oct/IRENA\\_SOC\\_Renewable\\_energy\\_gender\\_perspective\\_2Ed\\_2025.pdf](https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2025/Oct/IRENA_SOC_Renewable_energy_gender_perspective_2Ed_2025.pdf)

<sup>ii</sup> Giner-Reichl, I. & Van Veldhuizen, M. (2023). *Europe's energy transition: Women's power in solving the labour bottleneck*. Brussels, Belgium: Friedrich Ebert Stiftung Just Climate. <https://library.fes.de/pdf-files/bueros/bruessel/20418.pdf>

<sup>v</sup> Energy Sector Management Assistance Program (ESMAP) (2023).

- Power with Full Force: Getting to Gender Equality in the Hydropower Sector*. Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/099101223160549405/P1754820142bfa0d10bb3b00f5813ff1814>;
- International Renewable Energy Agency (IRENA). (2025). *Renewable Energy: A Gender Perspective. Second Edition*. [https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2025/Oct/IRENA\\_SOC\\_Renewable\\_energy\\_gender\\_perspective\\_2Ed\\_2025.pdf](https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2025/Oct/IRENA_SOC_Renewable_energy_gender_perspective_2Ed_2025.pdf)
- <sup>vi</sup> World Bank. (2024). *Women, Business and the Law 2024*. Washington, D.C.: World Bank Group. [https://bit.ly/WBL2024\\_FullReport](https://bit.ly/WBL2024_FullReport) [PDF download link].
- <sup>vii</sup> UN Women. (2022). *Guidance Note – Gender Analysis in Technical Areas: Energy Infrastructure*. New York, NY: UN System Coordination Division. [https://www.unwomen.org/sites/default/files/2022-12/Gender%20Analysis%20Guidance\\_Energy%20Infrastructure.pdf](https://www.unwomen.org/sites/default/files/2022-12/Gender%20Analysis%20Guidance_Energy%20Infrastructure.pdf)
- <sup>viii</sup> UN Women. (2022). *Guidance Note – Gender Analysis in Technical Areas: Energy Infrastructure*. New York, NY: UN System Coordination Division. [https://www.unwomen.org/sites/default/files/2022-12/Gender%20Analysis%20Guidance\\_Energy%20Infrastructure.pdf](https://www.unwomen.org/sites/default/files/2022-12/Gender%20Analysis%20Guidance_Energy%20Infrastructure.pdf)
- <sup>ix</sup> Energy Sector Management Assistance Program (ESMAP). *Power with Full Force: Getting to Gender Equality in the Hydropower Sector (English)*. ESMAP Paper. Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/099101223160549405/P1754820142bfa0d10bb3b00f5813ff1814>
- <sup>x</sup> Wilson, E. (2020). *Why energy access and gender equality are inextricably linked*. ENERGIA. <https://energia.org/assets/2021/01/Policy-Brief-No.-2-February-2020-online-share.pdf>
- <sup>xi</sup> Galimberti, A. (2021). *Behavioural change promotion toward cleaner cooking solutions*. GIZ Energising Development. [https://endev.info/wp-content/uploads/2021/10/EnDev\\_Learning-and-Innovation-Agenda\\_Clean-Cooking\\_Behavioural-change-promotion-toward-cleaner-cooking-solutions.pdf](https://endev.info/wp-content/uploads/2021/10/EnDev_Learning-and-Innovation-Agenda_Clean-Cooking_Behavioural-change-promotion-toward-cleaner-cooking-solutions.pdf); Jewitt, S., Atagher, P. & Clifford, M. (2020). “We cannot stop cooking”: Stove stacking, seasonality and the risky practices of household cookstove transitions in Nigeria. *Energy Research & Social Science*, Vol.61:101340. <https://doi.org/10.1016/j.erss.2019.101340>.