

Reference Material for Gender Mainstreaming in the Energy Sector

The Japan International Cooperation Agency (JICA) aims to achieve gender equality and women's empowerment through gender mainstreaming in its development projects. Gender mainstreaming in development projects refers to the incorporation of a perspective that promotes gender equality and women's empowerment in all stages of a project (i.e., planning, implementation, and monitoring and evaluation). Gender mainstreaming enhances the effectiveness of the JICA's projects by addressing different issues and needs of the people of any gender and hence contributes to the realization of an inclusive society, where everyone can fulfill their potential. Access to sustainable and clean energy is crucial for protecting the livelihoods of all the people in society, including women and girls, and for promoting sustainable development. Therefore, in implementing projects in the energy sector, it is important to understand the current situation, issues, and needs of diverse people in society, and to incorporate their perspectives and activities that address these issues and needs into projects.



Gender is a term that refers to socially and culturally constructed attributes associated with being female or male. Many societies not only categorize humans as "female" or "male" based on biological features but also give specific values to each and prescribed their respective roles and behaviors. Thus, gender not only refers to "sex" in a biological sense but also associates sex with specific roles and behaviors expected to women and men by society.



A perspective of gender (or gender perspective) is a perspective that focuses on gender issues, needs, and impacts arising from the different social roles and power relations of women and men in all spheres of the society, including policies, programs, institutions, and organizations. In development projects, this perspective is indispensable to deliver equitable benefits to women, girls and all other beneficiaries regardless of their gender.

Purpose of Reference Material

The Reference Material serves as a guide for all stakeholders of JICA's projects to understand gender issues, the importance of gender mainstreaming in the energy sector, and sample methods of how to incorporate a gender perspective into each stage of a project cycle.ⁱ The Material especially focuses on the following two sub-sectors selected in accordance with JICA's project strategies and priority issues.

(1) Improved access to electricity

Examples of major project and activities: Projects that develop electric utility systems with the aim of providing a stable power supply; projects to strengthen the power transmission and

ⁱ It must be noted that involvement of men is important for addressing gender issues, and also gender issues faced by men must be addressed in the efforts for transforming patriarchy. Capturing and addressing gender issues faced by other genders (other than 'women' and 'men') are also important in gender mainstreaming.

distribution networks to increase the electrified population; and off-grid power projects using renewable energy with both objectives.

(2) **Promotion of the use of low-carbon and decarbonized energy**

Examples of major project and activities: Projects aimed at creating an environment for the introduction of renewable energy and promotion of energy conservation.

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Chapter 1. Major gender issues and their causes in the energy sector

This chapter outlines four major gender issues and their causes that must be understood for gender mainstreaming in the energy sector.

- (1) Energy-related policies and plans do not always reflect gender perspectives
- (2) Women have limited opportunities of professional skill development and employment in the energy sector
- (3) Women do not have access to stable energy, resulting in increased burden of domestic work and health hazards
- (4) Women's limited access to energy and related resources restricts their participation in economic activities

(1) Energy-related policies and plans do not always reflect gender perspectives

In the energy sector, there are policies and country's long-term energy plans, such as electrification plans, power grid development plans, and capital investment plans, alongside energy efficiency and renewable energy master plans to reduce and decarbonize the entire energy system. Those policies and plans do not always reflect the needs and voices of women, who are the main users of energy.¹ This is often observed in leadership and governance of companies dominated by men due to gender division of roles. The lack of proactive participation of women and reflection of their needs in the planning stage may lead to negative impacts, such as inaccurate identification of consumers' electricity needs and inappropriate pricing. It may also lead to inappropriate and ineffective policy responses, prioritization and financing for electrification and low carbonization and decarbonization at the national level, inducing new gender inequalities and vulnerabilities, and protest movements by civil society.²

(2) Women have limited opportunities of professional skill development and employment in the energy sector

Gender equality has not well promoted in the energy sector, partly owing to the limited participation of women in economic activities, as explained below.³ For example, with respect to employment, women constitute 48% of the global workforce, however, only 22% of the oil/gas sector and 32% of the renewable energy workforce.⁴ In patent classifications closely related to the energy sector (combustion devices, engines, pumps, and electricity), the number of applications filed by women is less than 11% of the total.⁵ One reason is that the gender division of roles has resulted in fewer female students entering Science, Technology, Engineering, and Mathematics (STEM) education fields, restricting opportunities for women to acquire energy-related expertise and skills. In addition, energy-related organizations, such as electric power utilities, have often entrenched gender norms, citing men as more suitable for technical/professional posts. Women are sometimes discriminated against in hiring and wages without grounds. Furthermore, in some countries, laws prohibit the employment of women in the energy sector. For example, in Kyrgyzstan and Russia, women are forbidden from becoming electricians, and in Egypt, working in the electricity industry is prohibited⁶. These factors have prevented the development of female engineers and experts, and the number of women employed in the energy sector tends to be limited.

(3) Women do not have access to stable energy, resulting in increased burden of domestic work and health hazards

At the household and community levels, women's limited participation in decision-making positions puts them at a disadvantageⁱⁱ, as household infrastructure and energy management arrangements are usually determined by men with respect to the type of fuel used, the amount of energy purchased, and the appliances selected, and women have limited access to stable energy.⁷ For example, according to a survey conducted in Gujarat, India, in 2011, women were not allowed to use electricity freely in their homes, even though 94% of the target households were connected to electricity and 65% of the target households used firewood for cooking and heating.⁸

Owing to limited access to stable energy for women and girls, many women in poor rural and urban areas spend much of their time and effort in labor to obtain the energy necessary for daily activities, including traditional and inefficient fuelsⁱⁱⁱ such as firewood and cow dung.⁹ For example, the United Nations Children's Fund (UNICEF) indicates that girls between the ages of 5 and 14 spend 40% more time doing unpaid domestic work and collecting water/firewood than boys of the same age do.¹⁰ Moreover, the aforementioned Indian study reported that women spend 1 hour and 20 minutes per day collecting firewood.¹¹

(4) Women's limited access to energy and related resources restricts their participation in economic activities

Women have limited access to energy compared with men.¹² Limited access to energy reduces women's opportunities to earn an income, as they are unable to improve products and services, reduce operating costs.¹³ Women also tend to have limited participation in clean energy solution projects, such as clean cookstoves and solar panels, and energy facility management associations. For example, when residents establish a management association for an off-grid power project, women may not be able to participate in the management association owing to gender division of roles, resulting in women's needs not being easily reflected in the project.

In addition, women often do not have land ownership owing to social conventions (gender norms/social norms)^{iv} such as culture, traditions, and customs that are unique to the region. Since land is used as collateral for obtaining loans, women who do not own land are not able to access loans and other financial services and tend to face significant constraints in their economic activities, such as their inability to enter new renewable energy businesses.

ⁱⁱ Decision-making rights are important in terms of influencing the use of energy and the distribution of roles and benefits within households and communities. However, women's participation in the selection of energy solutions and in decision-making regarding energy use/management tends to be limited.

ⁱⁱⁱ These fuels pollute indoor air and cause health problems and early deaths among people; the estimates of early deaths due to them are greater than those caused by malaria/tuberculosis, and other diseases. (Reference: International Energy Agency (IEA) (2010), Energy poverty. How to make modern energy access universal? World Energy Outlook 2010, <https://www.osti.gov/etdeweb/servlets/purl/21605357>) (Accessed April 13, 2022)

^{iv} Social conventions are rules that are supposed to be followed in social life but are often formed based on men's *perspectives*. For example, women are discriminated against in many land ownership systems/practices, both formally/informally, and have difficulty in controlling land and other resources than men.

Chapter 2. Importance of gender mainstreaming in the energy sector

Following the gender issues and their causes presented in the previous chapter, this chapter explains the importance of a gender perspective in development projects from two aspects: realization of gender equality and women's empowerment, and increase of development effectiveness. It also outlines international frameworks for achieving gender equality in the energy sector.

2-1 Why is gender mainstreaming important in the energy sector?

(1) Gender equality activities will improve women's lives and well-being

Ensuring access to affordable and stable energy, regardless of gender, can improve the lives and health of women and girls. Regarding livelihood improvement, for example, access to energy for women and girls engaged in unpaid domestic works can reduce the burden of such works by enabling them to use clean cooking technologies and boil water by electricity¹⁴. In addition, it contributes to the availability of time, which may increase opportunities for schooling and employment, and income generation for women.^v Furthermore, women will no longer have to walk long distances to find firewood and other fuels, which will reduce their health risks such as bronchitis, cataracts, and low vision caused by indoor air pollution from cooking with firewood or other fuels.

(2) Improving women's access to energy promotes women's economic empowerment

Expanding women's access to energy can lead to their economic empowerment. For example, a study in Nicaragua reported that access to stable electricity in the form of lighting and modern cooking equipment use allowed them to perform domestic labor more efficiently and increased rural women's employment outside the home by 23%.¹⁵

In addition, women in energy jobs improve the efficiency of the energy supply chain. Women tend to have different social networks than men, through which they can access households that are difficult to reach for men.¹⁶

Moreover, it has been reported that as women's income increases, they reinvest 90% of their income (30-40% for men) into their families and communities¹⁷ and that a greater proportion is spent on food and children's education in their households¹⁸, which could improve the health and quality of life of the entire household. Gender mainstreaming in the energy sector can help achieve healthy societies where people can lead prosperous lives by raising the income of women, who constitute half of the world's population, and is an important measure for increasing economic^{vi} and development effects at the national level.

^v For example, it has been reported that girls in Brazil who live in rural areas with access to electricity are 59% more likely to complete primary education by age 18 than those without. (Reference: UNDP-GGCA (2016), Gender and Climate Change: Gender and Sustainable Energy, <https://www.undp.org/publications/gender-and-sustainable-energy>) (Accessed February 16, 2022)

^{vi} According to World Bank study in 141 countries, women earn less than men and have lower human capital wealth (the value of the future earnings of a country's adult citizens) figures. This inequality has resulted in a global loss of human capital wealth of US\$160.2 trillion, according to the report. (Reference: World Bank Group (2019), Women in Water Utilities, Breaking Barriers <https://openknowledge.worldbank.org/bitstream/handle/10986/32319/140993.pdf>) (Accessed January 11, 2022)

(3) Promoting women's participation and improving access to the energy sector, and effectively utilizing women's knowledge and experience, can create an inclusive and sustainable society

In many societies, women are the main users of energy in the household, owing to gender division of labor, responsible for collecting and cooking with traditional energy such as firewood, and have diverse knowledge and experience in energy use. However, their knowledge and experience are often not effectively utilized because women's participation in decision-making processes related to energy use and management is limited. Ensuring stable access to affordable energy and resources requires the effective use of the knowledge and experience of both women and men through the promotion of women's participation in energy planning and management processes.

In addition, women and men have different energy needs and different ways of using. Therefore, it is important to recognize the differences and gaps between women and men, and to develop a long-term energy plan and master plan for energy conservation and renewable energy from a gender perspective in order to improve access to stable electricity for all and to promote the introduction of renewable energy and energy conservation¹⁹. Realizing a society in which women can maximize their potential through their participation in decision-making processes and improved access to energy can not only contribute to solving energy problems faced by many countries and to the sustainable use of energy resources, but also to building a more inclusive society and sustainable development.

2-2 International frameworks to achieve gender equality in the energy sector

(1) The 2030 Agenda for Sustainable Development and Sustainable Development Goals (SDGs) (2015)

Gender equality and women's empowerment are considered a prerequisite for achieving the Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development. In other words, gender equality and women's empowerment are the means to realize all 17 goals and 169 targets, and actions for achieving gender equality and women's empowerment are required.

Among the 17 goals, Goal 5, which addresses gender equality and women's empowerment, aims to empower women and eliminate gender-based discrimination and build a society in which all people equally enjoy their rights and opportunities, and share responsibilities. The following is a list of targets of Goal 5, which is related to the energy sector. Relevant points are highlighted in orange.

- 5.1. End all forms of discrimination against all women and girls everywhere
- 5.4. Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate
- 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
- 5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws
- 5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women

- 5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels

The table below shows other Goals, Targets and Global indicators relevant to both the energy sector and gender equality and women’s empowerment, except for Goal 5.

Goal	Target	Global indicator
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all	7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support	7.b.1 Installed renewable energy-generating capacity in developing countries (in watts per capita)
Goal 12: Ensure sustainable consumption and production patterns	12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities	12.c.1 Amount of fossil-fuel subsidies (production and consumption) per unit of GDP
Goal 13: Take urgent action to combat climate change and its impacts	13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities	13.b.1 Number of least developed countries and small island developing States with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications, as reported to the secretariat of the United Nations Framework Convention on Climate Change

* Highlights in orange indicate relevance to achieving gender equality and women’s empowerment.
Reference: Prepared based on the information
<https://www.mofa.go.jp/mofaj/gaiko/oda/sdgs/statistics/index.html> (Accessed April 20, 2022)

(2) Sustainable Energy for All (SE4All) Initiative (2011) and the international organization SEforALL

The Sustainable Energy for All (SE4All) initiative was launched in September 2011 based on the principle that “energy is at the root of economic development of all countries.” SE4All aims to accomplish three goals by 2030: 1) to achieve universal access to modern energy, 2) to double the pace of energy efficiency improvements worldwide, and 3) to double the share of renewable energy worldwide.²⁰

SEforALL was established in 2016 as an international organization to help achieve SE4All initiative goals. SEforALL works with the United Nations, governments, private sector, financial institutions, civil society, and philanthropic organizations to achieve a transition to clean energy that brings new opportunities for all to realize their own potential, in line with the Paris Agreement^{vii} on climate change.²¹ It also serves as the secretariat of the “People-Centered Accelerator,” a voluntary partnership of more than 45 organizations working on gender equality, social inclusion, and women's empowerment, and is involved in the following activities from a gender perspective:²²

- Support private and public fundraising for social inclusion from a gender perspective in the energy sector
- Advance women's participation in sustainable energy solutions at all levels and to integrate gender equality at the center of the energy transition
- Strengthen collaboration among a wide range of gender-related stakeholders

(3) International Renewable Energy Agency (IRENA)

The International Renewable Energy Agency (IRENA), established in 2011, is an international organization dedicated to promoting the deployment of renewable energy sources (such as sun, wind, biomass, ground heat, water, ocean) and their sustainable use worldwide. Its main activities include analyzing, understanding, and systematizing the use of renewable energy, providing policy advice, and supporting capacity building in member countries.²³ In 2018, it conducted an extensive survey on gender *mainstreaming* among companies and research institutions in the energy sector, arguing for the need to *gender mainstream* the entire energy sector to promote renewable energy.²⁴

(4) International Network "ENERGIA"

ENERGIA, established in 1996, is an international network of organizations and experts working in Africa and Asia. With a shared vision of “women and men having *equal access to and control over* sustainable energy services as a key right in development,” the project primarily supports the provision of energy services through women-led microenterprises, the promotion and technical assistance for gender mainstreaming in energy policies and programs, the provision of evidence to increase investment impact in the energy sector, and the improvement of awareness and knowledge of gender and energy related issues through the network.^{viii}

^{vii} The Paris Agreement, adopted at COP21 in 2015, stipulates the importance of gender equality and women's empowerment in fighting climate change in its preamble.

^{viii} ENERGIA contributed to the development of SDGs 3, 5, and 7 on health, gender equality, and energy access; contributed to the inclusion of cooking energy and indoor air pollution as part of the SDGs' indicators; and, as co-chair of Goal 7 Technical Advisory Group, reviewed progress on the said Goal and its interlinkages with other SDGs. (Reference: <https://www.energia.org/>) (Accessed February 13, 2022)

Chapter 3. Mainstreaming gender perspective in project cycle

Gender mainstreaming in a project means integrating a gender perspective in all the stages of the project: planning, implementation, monitoring, and evaluation. This Reference Material presents the following five practical steps to mainstream a gender perspective in a project.

- **Step 1 “Social and gender analysis”**: Conduct a social and gender analysis. Specifically, identify gender issues through analyzing related policies, structures, organizations, and different experiences, challenges and needs of women and men in the region, in view of promoting gender equality and women’s empowerment.
- **Step 2 “Formulation of an activity plan”**: Formulate a plan of activities to address the gender issues identified at Step 1.
- **Step 3 “Setting gender indicators”**: Set quantitative and qualitative indicators to objectively measure the effects of the activities.
- **Step 4 “Implementation and monitoring with a gender perspective”**: Establish a gender-responsive implementation structure. With a gender perspective, implement activities, and monitor the progress, results, and impacts (unexpected positive and negative effects of project implementation).
- **Step 5 “Evaluation with a gender perspective”**: Evaluate implemented activities that had incorporated a gender perspective, and their results and impacts.

The table below shows the five steps for gender mainstreaming applied in three project phases: project formulation phase, project implementation phase, and after project completion. Step 1 to 3 fit into the project formulation phase, Step 4 is the project implementation phase, and Step 5 is the phase after project completion. Although a gender perspective must be incorporated throughout all phases, it is particularly important to mainstream a gender perspective in the project formulation phase (Step 1 "Social and gender analysis" to Step 3 "Setting gender indicators").

Project formulation phase			Project implementation phase	After project completion
Step 1 Social and gender analysis	Step 2 Formulation of an activity plan	Step 3 Setting gender indicators	Step 4 Implementation and monitoring with a gender perspective	Step 5 Evaluation with a gender perspective

The following table indicates where to refer in the Reference Material according to the project cycles of technical cooperation, Official Development Assistance (ODA) loan and ODA grant.

Scheme	Project cycle	Where to refer in the Reference Material
Technical Cooperation	At the time of preparing the Terms of Reference (TOR) for the data collection survey, detailed design study and basic design study	Step 1 (Analysis)
	At the time of drafting Main Point Discussed in the Record of Discussion (R/D) (activities related to gender), PDM, and Ex-Ante Evaluation document	Step 2 (Activity planning), Step 3 (Indicators)
	At the time of preparing the TOR of the project, implementing the project, and reviewing a monitoring sheet	Step 4 (Implementation and monitoring)

ODA loan	At the time of preparing the TOR for the data collection survey and Preparatory Survey, and drafting Project Planning Documents (1)	Step 1 (Analysis)
	At the time of preparing Minutes of Discussion (M/D), Project Planning Document (2)/(3), Records of hearings, and drafting Ex-Ante Evaluation document	Step 2 (Activity planning), Step 3 (Indicators)
	At the time of supervising the project and reviewing Project Status Report	Step 4 (Implementation and monitoring)
ODA grant	At the time of preparing the TOR for the data collection survey and Preparatory Survey, and drafting Project Planning Record (1)	Step 1 (Analysis)
	At the time of preparing Minutes of Discussion (M/D), Project Planning Document (2)/(3), and Ex-Ante Evaluation Document	Step 2 (Activity planning), Step 3 (Indicators)
	At the time of supervising the project and reviewing Project Monitoring Report	Step 4 (Implementation and monitoring)


Details of Steps 1 to 5 are explained in the following sections.



Step 1. Social and gender analysis


The first thing to perform in gender mainstreaming of a project is to identify gender issues through social and gender analysis. Specifically, a survey is to be conducted to collect and analyze gender-disaggregated data and related information in the target countries and areas to understand the current situation and issues of each gender. It is especially important to understand 1) behaviors and actions of people of different genders and their beliefs and values, 2) social and cultural norms and practices affecting those people, and 3) issues that they face based on their gender.

The table below is a "List of Survey Items and Contents for Social and Gender Analysis" to be referred to when preparing a survey. It shows exemplary survey items with respective survey questions. The list also includes 'Basic information' that helps better understand the current situation and issues related to gender in the sector and the sub-sectors. Furthermore, since every project is expected to contribute to Goal 5 of the SDGs, including the elimination of sexual and gender-based violence (SGBV), it is desirable to collect and analyze a wide range of data; thus, the survey items include those related to Goal 5. It should be noted that these survey items and contents are examples. Thus, in accordance with the purpose and scope of the project, survey items and contents should be modified or added.

List of survey items and contents

Survey items	Survey contents
Policies and systems	
<ul style="list-style-type: none"> • Energy and gender-related laws, institutions, and policies • Positioning of gender equality and women's empowerment on relevant policies and plans 	<ul style="list-style-type: none"> <input type="checkbox"/> Are there any items/contents from a gender perspective in energy-related laws and systems? (e.g., promoting gender participation in energy management associations, women's roles as energy users and managers, participation of stakeholders, including women, in decision-making) <input type="checkbox"/> How is the promotion of women's empowerment and gender mainstreaming positioned in energy sector policies and plans? <input type="checkbox"/> What kind of laws guaranteeing gender equality and women's rights (e.g., Basic Law for a Gender-Equal Society) and gender mainstreaming policies are in place? Are there any items/contents related to energy? <input type="checkbox"/> Are there any unequal contents (e.g., in land ownership and inheritance, authority of head of household, freedom of movement) such as discrimination or prejudice based on gender and other attributes (e.g., ethnicity, disability) in the customary law? <input type="checkbox"/> Are there any provisions in labor laws regarding active employment of women (e.g., a certain percentage of female employment) and application of equal pay for women and men?
 It should be noted that even if the statutory law describes gender equality rights, the possibility of discrimination based on customary law may still exist.	
Organizational structure	
<ul style="list-style-type: none"> • Degree of women's participation in decision-making system • Decision makers' experience participating in gender awareness training 	<ul style="list-style-type: none"> <input type="checkbox"/> What is the number and proportion of staff (general, technical and managerial) by gender in the executing agency? <input type="checkbox"/> Are measures being taken to increase the number of female staff? What measures are being taken? What results have been achieved? <input type="checkbox"/> Are the recruitment criteria gender equal? <input type="checkbox"/> To what extent do women participate in decision making of the executing agency?

<ul style="list-style-type: none"> • Degree of understanding of gender among stakeholders • Presence or absence of gender equality officer • Gender mainstreaming initiatives and good practices 	<ul style="list-style-type: none"> <input type="checkbox"/> Is there a gender equality officer in the executing agency? If yes, what is their role? <input type="checkbox"/> What is the number and percentage of participants in gender equality and women's empowerment awareness training by gender? <input type="checkbox"/> Have decision makers participated in gender equality and women's empowerment awareness training at the executing agency? <input type="checkbox"/> What is the level of gender understanding among gender awareness training participants and other relevant personnel (e.g., level of understanding after the training)? (e.g., test results on post-training comprehension and gender awareness, good practices such as applying lessons learned from the training to work, changing behavior, sharing learnings with others) <input type="checkbox"/> Are there any gender mainstreaming activities at the executing agency or regional branch offices? If yes, what are they?
Diverse stakeholders (collaboration)	
<ul style="list-style-type: none"> • Existence or absence of ministries and related agencies with jurisdiction over gender issues (e.g., Ministry of Women's Affairs) • Possibility of collaboration with a government office with jurisdiction over gender issues, international and regional organizations, NGOs 	<ul style="list-style-type: none"> <input type="checkbox"/> Are there any agencies (e.g., Ministry of Women's Affairs) that play a role in promoting gender equality and women's empowerment? If yes, what policies, strategies and action plans do they have? <input type="checkbox"/> Is there any collaboration with the government agencies with gender jurisdiction? If yes, what kind of collaboration? <input type="checkbox"/> Are there international organizations working in the energy sector (World Bank, Asian Development Bank [ADB], International Renewable Energy Agency [IRENA]), and bilateral aid agencies (United States Agency for International Development [USAID], Foreign, Commonwealth & Development Office [FCDO]), civic groups (international NGOs, policy advocacy groups), academic institutions, foundations, and private companies (social enterprises, financial institutions)? If yes, how do they collaborate with implementing agencies and relevant ministries? Among them, are there any collaborations from a gender perspective? <input type="checkbox"/> Are there any UN agencies (e.g., UN Women [UN Women], United Nations Population Fund [UNFPA]), bilateral aid agencies (USAID, FCDO), civil groups (women's groups, rights advocacy groups), or private companies (social enterprises, financial institutions) that are taking measures from a gender perspective? If yes, what kind of collaboration takes place with implementing agencies and relevant ministries? Among them, are there any partnerships in the energy sector?
	<p>It is important to fully understand the gender situation in the target country/region, especially the current situation and challenges faced by women, and the factors behind these challenges, by interviewing relevant ministries, their local branches, international organizations, bilateral assistance organizations, experts on the local situation, NGO personnel, local key persons (women's group leaders, community leaders, association leaders, religious leaders), and women and men concerned.</p>
	<p>For gender information on energy, refer to the websites of the World Bank's Energy Sector Management Assistance Program (ESMAP)²⁵, IRENA²⁶, and ENERGIA²⁷.</p>
Basic information	
<ul style="list-style-type: none"> • Population distribution by gender • Gender-specific indicators for education, employment and economic activity 	<ul style="list-style-type: none"> <input type="checkbox"/> Population distribution by gender <input type="checkbox"/> Population distribution of groups considered vulnerable for access to energy (female-headed households, older adults, people with disabilities, people living in informal settlements, migrant workers) <input type="checkbox"/> School enrollment and literacy rates by gender <input type="checkbox"/> STEM education enrollment rates by gender <input type="checkbox"/> Employment and unemployment rates by gender
Gender division of labor	

<ul style="list-style-type: none"> • Gender-specific division of labor and behavior patterns • Gender-specific division of labor in free domestic work such as securing fuel • Participation in economic activities using fuels and energy 	<ul style="list-style-type: none"> <input type="checkbox"/> Who is responsible for unpaid domestic labor and childcare, and unpaid care labor provided to the old people, persons with disabilities, or sick persons? <input type="checkbox"/> Who collects the existing traditional energy resources (firewood, livestock dung) utilized within the household and how? Are there differences by gender? <input type="checkbox"/> Is there any health risk associated with being responsible for it (health risks from cooking indoors with firewood)? <input type="checkbox"/> Do access and use of energy and clean energy (electricity, gas, sunlight, wind power, waterpower, ground heat) used in the household differ by gender? <input type="checkbox"/> Is there any impact on school attendance (studies) and employment owing to women's limited access to electricity (increased burden of domestic work, lack of electricity at night)? <input type="checkbox"/> How are existing fuels and energy used in economic activities? What types of fuels and energy are used, for which activities, and by whom? (Cooking, heating, education, entertainment)? Are there differences by gender?
 <p>The diverse demographics of women (age, class, ethnicity, religion, presence or absence of disabilities, education level, gender of head of household, marital status, number of children, income level) will affect their circumstances, challenges they face, needs, and impact from development projects. Therefore, it is important to understand in advance the characteristics of the women that live in the target areas of the project.</p>	
Access to resources	
<ul style="list-style-type: none"> • Women's access to energy and clean energy • Women's access to energy-related resources (information, activities, financial services) 	<ul style="list-style-type: none"> <input type="checkbox"/> Do women have access to energy and clean energy? If not, why not? <input type="checkbox"/> Is the price range of fees for energy and clean energy accessible to households, especially to poor households and female-headed households? Is there any support (e.g., subsidies) targeted for these households? <input type="checkbox"/> Do women have access to energy and clean energy information through energy-related community activities (seminars, trainings)? (e.g., information on electricity and power producers, information on energy management systems that support energy conservation and renewable energy) <input type="checkbox"/> Do women have access to financial services such as loans for energy-related economic activities? <input type="checkbox"/> Are the criteria and conditions for providing financing to women entrepreneurs less favorable than those for male entrepreneurs? (e.g., women cannot receive loans owing to not owning land and using it as collateral)
Participation in decision-making	
<ul style="list-style-type: none"> • Women's participation and decision-making in the energy sector 	<ul style="list-style-type: none"> <input type="checkbox"/> Are women involved in the development and management of energy plans in the community and within the household? If yes, what roles do women play? If not, what are the reasons? <input type="checkbox"/> Is there a mechanism to reflect women's opinions in the formulation and management of energy plans? If yes, what kind of mechanism? What kinds of opinions have actually been reflected in the past? (e.g., provisions for the participation of women's group representatives at the planning stage, provisions for the percentage of women members of energy management associations) <input type="checkbox"/> Are women able to participate in energy-related activities (training, seminars)? If not, what are the reasons? <input type="checkbox"/> Who in the household participates in decision-making when energy and clean energy solutions (solar panels, clean stoves) are implemented in the community? Do women have a voice?

	<input type="checkbox"/> Who in the household decides how to use and manage energy and clean energy? <input type="checkbox"/> How much participation do women have in energy-related community gatherings and how much voice do women have?
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[Tips on survey methodology]

Social and gender research methods include literature review, interviews (including Key Informant Interviews and Focus Group Discussions), field observations, and inspections. It is also useful to use "gender analysis tools" (referred to the attached list of reference materials at the end of the document) specifically developed to gain more accurate understanding of gender relations, such as gender division of roles and labor, and access and control over resources. Other points to be considered in conducting surveys are as follows.

- * Interview both women and men to see if there are differences in their perceptions.
- * When forming groups for interviews or discussions, carefully assess if target groups should be gender-mixed or single-gender. It depends on the cultural practices and social norms of the target country/area as well as the content and purpose of the information to be gathered. If women have difficulties expressing their opinions in front of men, it is desirable to interview women and men separately. On the other hand, mixed group discussions may provide the participants with an opportunity to deepen their discussions while understanding each other's perceptions.
- * Girls and boys may also have different needs and perspectives, thus make an effort to collect their voices.
- * For sensitive contents such as SGBV, it is preferable that staff of local NGOs with experience and expertise conduct individual interviews rather than group interviews. Carefully protect anonymity and confidentiality of the respondents.

In order to identify gender issues based on the collected data and information, the following points should be taken into account during the analysis.

- Division of labor: Are there any stereotyped gender division of labor?
- Access: Are there any gender disparities in the access to resources, services and the benefits derived?
- Control: Who manages and owns resources and services? Who controls benefits (are there any gender-based biases)?
- Decision making: Are there any gender-based biases in participation in decision-making?
- Organizational capacity: Do relevant institutions have policies, experience, and capacity to promote gender equality and women's empowerment?
- Sexual and Gender-Based Violence (SGBV): Are there any SGBV within the scope of the energy sector?
(Example: risk of SGBV from traveling long distances to find firewood or other fuel)

In addition, to ensure the project help the promotion of gender equality and women's empowerment, consider the following points:

- Will the benefits from the planned project be equally enjoyed by all beneficiaries regardless

of gender? If there are any possibilities that they may not be equally beneficial to all, what are the reasons? What should be done to make them equally beneficial?

- What are the entry points for eliminating inequalities, such as gender-based prejudices, and social, cultural, and institutional constraints, and further promoting gender equality in a society?

Against the gender issues identified in Step 1, Step 2 and the subsequent Steps propose effective activities and present some points to keep in mind during implementation: Step 2 lists up gender-responsive activities for helping develop Activities section of a Project Design Matrix (PDM) (see "List of Effective Activities for Solving Gender Issues" in Step 2), and Step 4 introduces tips for the implementation of the activities set in Step 2.

Step 2. Planning gender-responsive activities

In order to address gender issues identified in the previous Step, an activity plan needs to be developed and reflected in the PDM. In planning activities, it is important to take into account all three of the following aspects.

(1) Actions to strengthen agency of women and girls (Agency)

Actions to empower women and girls to overcome their relatively disadvantaged positions through strengthening their capabilities and increasing their opportunities.

(Example: Promotion of women's participation in training on clean energy, leader training for energy managers, promotion of women's participation in energy business activities)

(2) Actions to change people's mindset, attitudes and behaviors (Relations)

Actions to transform gender power relations by addressing patriarchal social norms, people's attitudes and behaviors.

(Example: Efforts to raise awareness and promote understanding targeting people involved in energy management associations, people around women and women's families, and influential community members through discussions, training, and educational activities, alongside campaigns to raise awareness and promote understanding targeting men in collaboration with influential male leaders)

(3) Actions to transform policies and institutional mechanisms (Structure and systems)

Actions to review and develop relevant policies and institutional mechanisms to promote gender equality and women's empowerment.

(Example: Revising the systems from the perspective of promoting women's access to energy, formulating policies, and improving organizational structures to promote the increase of women administrators and engineers, introduction of a female quota system^{ix} in executive positions in organizations)



These three aspects are interrelated, and it is necessary to work on all these three when promoting gender mainstreaming activities to address the identified gender issues. For example, since women's participation in the decision-making process for planning and introducing renewable energy is limited, and gender perspectives are not sufficiently incorporated, the capacity of women to participate in decision-making should be enhanced through training programs for women leaders. In doing so, it is necessary to simultaneously strengthen women's capacities and educate other members of the decision-making group (mainly men), women's families, and local communities about the importance of gender equality and women's participation, to reduce aversion and opposition to women's active participation in decision-making groups, and to encourage the active acceptance of women's participation. Additionally, even if women's participation is temporarily



^{ix} A quota system is one of the methods taken with the aim of achieving substantial equal opportunity to those who are disadvantaged by social/structural discrimination by making allocations, such as providing special opportunities within a certain extent. For example, gender quota in the political arena is a system to assign the number of women or the men to women ratio on the basis of gender, with the aim of correcting gender gaps in the legislature. (Reference: Cabinet Office https://www.gender.go.jp/research/kenkyu/pdf/gaikou_research/2020/05.pdf (Accessed January 11, 2022))

promoted through these efforts, it is expected that such a situation may not be sustained. Therefore, it is important to ensure women's participation from an institutional perspective, for example, by introducing rules such as a quota system for women in the selection of decision-making group members. By implementing gender-oriented activities from each of these three perspectives, women's voices and needs will be reflected in the decision-making process in a more sustainable manner.

Below are the examples of effective activities to tackle gender issues.

List of useful measures to tackle gender issues

Identified gender issues	Useful strategies and measures (example)
Policies and systems	
<ul style="list-style-type: none"> Promotion of gender equality and women's empowerment is not positioned in energy sector policies and plans 	<ul style="list-style-type: none"> <input type="checkbox"/> Conduct gender awareness and training on gender equality and women's empowerment as a measure to change gender awareness and behavior of executing agencies, related organizations, and local branch offices in the energy sector (e.g., introduce policies, plans, and examples of good practices in Japan and other countries through training in Japan and third countries). <input type="checkbox"/> Conduct public consultations on energy policies and plans for local communities, NGOs, and businesses, including diverse populations such as women (including women's groups and female-headed households), the poor, people with disabilities, and LGBTI people. <input type="checkbox"/> Work with the Ministry of Women's Affairs, women's groups and men's groups interested and motivated in gender equality and women's empowerment initiatives to develop, implement, and monitor a gender action plan that clarifies responsibilities and those responsible for monitoring within the energy sector.
 It is important to secure a budget from the viewpoint of feasibility when lobbying for policies and systems. It is necessary to fully understand the financial situation and budgeting possibilities of the partner government and related ministries and agencies, and to discuss budget allocations.	
 It is not easy to establish quantitative indicators such as the number or proportion of women participating in the training, however, this should be considered based on the scale of the project and its expected impact. In doing so, it would be helpful to refer to reports of projects, if available, that have been implemented in the countries targeted by the project or in the vicinity of the target region.	
Organizational structure	
<ul style="list-style-type: none"> There is no system or environment in place to promote gender equality and women's empowerment in the energy sector Education and employment opportunities for women to acquire energy-related expertise and skills are limited 	<ul style="list-style-type: none"> <input type="checkbox"/> Establish a system to promote gender equality and women's empowerment at the central and local levels (e.g., formation of working groups and task forces comprising focal persons and representatives from implementing agencies, relevant agencies, Ministry of Women's Affairs, local branch offices, women's groups, NGOs, local communities, and assignment of gender equality officers). <input type="checkbox"/> Improve employment and promotion conditions and work environment from a gender perspective through training and working group activities (e.g., building of separate toilets for women and men, barrier-free toilets, break rooms, and changing spaces in the workplace, creation of a code of conduct, implementation of awareness-raising on sexual harassment, promotion of women to technical and professional posts in energy service providers such as electricians, implementation of workplace training, and establishment of a gender-based work environment for employees and management positions, and setting a quota for women in employees and management positions).

Gender division of labor	
<ul style="list-style-type: none"> Unpaid domestic work such as procuring fuel and other energy resources and unpaid care are considered women's roles, which imposes a heavy time and physical burden on them 	<ul style="list-style-type: none"> Conduct awareness training on gender equality and women's empowerment at the community level. Work with women's groups and men's groups interested and motivated in gender equality and women's empowerment initiatives to educate local communities about gender equality and the important role of women. Work with the Ministry of Women's Affairs and others to help improve policies and systems that discriminate against women and limit their participation in productive activities.
	Gender training covers the following: what is gender; the impact of gender bias on organizational operations and systems; the significance of gender mainstreaming (e.g., sound organizational operations, improved project results and sustainability), creating action plans to promote gender mainstreaming; and response to harassment and SGBV.
	Awareness-raising for men about the important role of women can also be effectively done by men, with the help of men's groups that are willing to promote gender equality and women's empowerment.
Access to resources	
<ul style="list-style-type: none"> Women do not have access to energy and clean energy Women are unable to participate in energy-related social and economic activities owing to limited access to energy-related resources (e.g., information, activities, financial services) 	<ul style="list-style-type: none"> Conduct seminars and trainings to promote improved access to energy and clean energy for women. Provide opportunities (workshops, working groups) to discuss whether energy managed by residents/associations, such as off-grid power projects, are accessible to poor households and are set at a price range that can be utilized. Promote awareness and behavior change among men and community leaders through educational activities and media. Improve access of women to public services that enable their access to energy (subsidies and other poverty reduction policies, social protection systems, entrepreneurship support). Create a community support system for women who do not have means of transportation and information gathering. (e.g., create mechanisms for women's groups and men's groups interested in and willing to understand the promotion of gender equality and women's empowerment to share information with women, and mechanisms for lending and sharing means of transportation and access to information) Strengthen women's income-generating economic activities through energy use (the following are some examples). <ul style="list-style-type: none"> Create opportunities for interaction and exchange of ideas with female entrepreneurs and others in the energy sector. Share information on career paths and activities of female role models. Incorporate microfinance and financial literacy training into the projects and work with microfinance providers to give loans to women. Work with the Ministry of Women's Affairs and women's groups, and men's groups interested and motivated in gender equality and women's empowerment efforts, to help improve land ownership systems and practices that inhibit loans to women (e.g., awareness raising). Share information about women's groups that support the energy sector and energy-related organizations that are involved in gender activities.
Participation in decision-making	

<ul style="list-style-type: none"> • Men often decide on energy management and how income is spent within communities and households. 	<ul style="list-style-type: none"> <input type="checkbox"/> Promote gender-equal decision-making at all stages of energy project design, development, and implementation in the region through gender awareness training and awareness-raising for energy managers, associations, and heads of households. <input type="checkbox"/> Ensure that the target audience is not biased toward a specific gender, for example, by setting a gender ratio when implementing energy-related activities (training, seminars, associations, projects). <input type="checkbox"/> Promote women's participation in energy-related associations. (e.g., establishing and strengthening women's groups and self-help groups in which women participate, gender awareness training for off-grid electricity management association officials, cooperation with men's groups interested in and willing to understand gender equality and women's empowerment) <input type="checkbox"/> Assign female energy managers in the region. (Ensure that managers are not biased toward any particular gender, e.g., by setting gender ratios) <input type="checkbox"/> Promote awareness and behavior change among men and community leaders through educational activities and media. <input type="checkbox"/> Encourage energy management and management of income from energy projects that reflect women's needs within the household.
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Good practices in gender mainstreaming

The following shows good practices in gender mainstreaming relating to two or three of the above aspects.

Example of JICA's activities 1: Republic of Guatemala "Project for the Promotion of Productive Activities with the Use of Clean Energy in the Northern Villages of the Republic of Guatemala", FY2010, ODA grant

Project summary: This project aimed to improve access to electricity and livelihoods of residents through the construction of micro-hydroelectric power generation facilities and distribution facilities while providing technical support to the operation and maintenance of such power plants as well as the promotion of production activities using electricity.²⁸

Activities with a gender perspective

- **Improving women's livelihoods through electrification**

The project provided technical assistance to women's groups to improve their livelihoods through the use of electricity. The women's groups were able to choose production activities from poultry farming, pig farming, corn cultivation and milling, and acquire knowledge and knowhow to generate income. In addition, using refrigerators and other electrical appliances and electric light led to a reduction in women's burden of household chores.

- **Promoting gender understanding and change in awareness of the community through awareness-raising activities**

This project assisted the electrification of the target areas using renewable energy. The project also helped raise awareness on women's empowerment. In addition, by working with a local NGO that had built a trusting relationship with the residents, the project conducted activities with a gender perspective. Most men cooperated with the production activities of the project in which women were engaged, as the need for women's empowerment became clear to men. Witnessing the results of women's productive activities in the form of increased income also helped men understand women's capabilities

and the activities implemented by women's groups, leading to a change in the mindset of both women and men.

Example of other donors' activities 1: Two projects by the Asian Development Bank (ADB) aimed at developing clean energy in Bhutan's mountainous regions:

"Bhutan Rural Electricity Engineer Training Program" (BRETP), 2006

"Rural Renewable Energy Development Project" (RREDP), 2010

Project summary: These interlinked projects helped create sustainable mechanisms for off-grid electrification and renewable energy use through solar power generation in mountainous villages in Bhutan.²⁹

Activities with a gender perspective

- **Improvement of health through the acquisition and installation of clean energy technologies**
BRETP assisted the implementation of a six-month training course in India for 35 women from the target villages to acquire technologies developed in India for sustainable rural electrification (installation and maintenance of solar panels). Consequently, total 504 households in 46 villages were equipped with solar panels by the trained women three months after the completion of the training. Firewood and kerosene were used until then, and women's health was affected by smoke pollution, however, the introduction of clean energy has improved the health of the residents.^x
- **Activities to promote gender mainstreaming through the Gender Action Plan (GAP)**
To sustain the results of BRETP, RREDP helped create a mechanism to provide maintenance services for renewable energy systems. RREDP developed a Gender Action Plan (GAP), which included indicators such as 40% quotas for women in the participants in both the Bhutan Electricity Authority's training and the construction, operation, and maintenance of the household biogas plant. In addition, gender-oriented approaches to energy sector programs and policies were added including the following: programs for female students to pursue the energy field in schools, internships and apprenticeship programs, and the promotion of energy-based livelihood opportunities.³⁰

^x Through BRETP's off-grid electrification efforts, the following examples related to impacts were observed in the target areas: children were able to study under electric light instead of candles; income increased as people were able to engage in income generating activities such as folk craft production even at night; and the quality of health center services improved owing to a stable electricity supply.

Step 3. Setting gender indicators

After considering activities with a gender perspective, indicators (gender indicators) will be set to measure expected results (changes) of such activities. When setting indicators, set quantitative indicators as much as possible to objectively assess the status of the changes. If it is difficult to set quantitative indicators, qualitative indicators can be set to measure the progress of change. Examples of gender indicators are indicated below.

List of gender indicators

Policies and systems
<ul style="list-style-type: none"> <input type="checkbox"/> Number of gender awareness trainings, awareness-raising, Japan and third country trainings, and public consultations held, number and proportion of persons of different genders that participated (including number and proportion of participants from poor, female-headed households, women with disabilities) and their level of understanding and satisfaction <input type="checkbox"/> Number of energy policies, plans, guidelines developed from a gender perspective <input type="checkbox"/> Existence or absence of gender action plans <input type="checkbox"/> Number of energy-related projects of the partner government that incorporate activities, outcomes, indicators, targets, budgets from a gender perspective, and results of project evaluation <input type="checkbox"/> Number of monitoring and evaluation projects performed from a gender perspective, and results of monitoring and evaluation
Organizational structure
<ul style="list-style-type: none"> <input type="checkbox"/> Existence or absence of working groups or task forces to promote gender equality and women's empowerment in the energy sector, and number and proportion of members and leaders by gender <input type="checkbox"/> Number and proportion of staff and managers by gender in energy ministries and agencies, and existence or absence of a quota system <input type="checkbox"/> Conditions of employment and promotion and work environment in energy ministries and agencies <input type="checkbox"/> Number and proportion of trained energy service providers by gender <input type="checkbox"/> Existence or absence of women's groups, self-help groups/management associations in which women participate, and existence or absence of men's groups with interest, willingness and understanding in promoting gender equality and women's empowerment.
Gender division of labor
<ul style="list-style-type: none"> <input type="checkbox"/> Number of trainings and educational activities conducted to encourage division of burden between women and men and changes in attitudes and behaviors, so that the burden is not placed only on certain individuals. Number and proportion of participants by gender and their level of understanding and satisfaction. <input type="checkbox"/> Subsequently, the number and proportion of respondents by gender who indicated in the monitoring and evaluation that there was a change in attitudes and behaviors (loads such as unpaid care and domestic work were shared between women and men). <input type="checkbox"/> Number/proportion of people by gender, who have taken on a greater role in energy management within their household or community than before.
Access to resources
<p>[Access to energy]</p> <ul style="list-style-type: none"> <input type="checkbox"/> Number/proportion of people with new access to electricity by gender, and their level of satisfaction <input type="checkbox"/> Number/proportion of people with new access to clean energy solutions (solar panels, clean stoves) by gender, and their level of satisfaction <input type="checkbox"/> Frequency of use of traditional energy sources (firewood, livestock dung) <p>[Access to energy-related resources (training, information, financial services, education, economic activities)]</p> <ul style="list-style-type: none"> <input type="checkbox"/> Number/proportion of people by gender with access to energy-related activities and services (training, seminars, energy user education programs, energy-related management associations) <input type="checkbox"/> Number/proportion of people by gender who have access to free means of transportation and information gathering, such as mobile phones, for energy-related activities <input type="checkbox"/> Existence or absence of support mechanisms in the community for women who do not have access to

<p>transportation and information gathering means, and details.</p> <p><input type="checkbox"/> Number and proportion of people by gender who were able to receive subsidies or loans to access electricity or clean energy</p> <p>[Impact of improved access]</p> <p><input type="checkbox"/> Number/proportion of people by gender who can go to school or start economic activities as a result of reduced unpaid care and domestic work through improved access to energy</p>
<p>Participation in decision-making</p> <p><input type="checkbox"/> Number and proportion of managers and leaders involved in the design, development, and implementation of energy-related activities and projects, by gender</p> <p><input type="checkbox"/> Number and proportion of respondents by gender who indicated that women's views were incorporated in the design, development, and implementation of energy-related activities and projects during the monitoring and evaluation, and the content of their opinions</p> <p><input type="checkbox"/> Number and proportion of energy managers by gender</p> <p><input type="checkbox"/> Presence or absence of women in the household who can decide how energy and income is used</p> <p><input type="checkbox"/> Existence or absence and number of women's groups involved in consultations on the development of energy management and use planning, and men's groups interested and willing to promote gender equality and women's empowerment, and details of consultations and cooperation</p>
<p>Impact</p> <p>[Division of roles by gender]</p> <p><input type="checkbox"/> Number and proportion of women who feel respected by their husbands or other partners</p> <p><input type="checkbox"/> Number and proportion of people by gender that value women's competencies</p> <p>[Access to resources]</p> <p><input type="checkbox"/> Percentage of income inequality corrected by gender</p> <p><input type="checkbox"/> Number/percentage of people by gender who were able to borrow money</p> <p><input type="checkbox"/> Number/percentage of people by gender who are members/leaders of small savings and loan groups</p> <p><input type="checkbox"/> Number/percentage of people who have a bank account in their name or have opened a new bank account by gender</p> <p>[Women's participation and decision-making]</p> <p><input type="checkbox"/> Number and proportion of communities and households with gender-equal decision-making mechanisms in areas other than the energy sector</p> <p><input type="checkbox"/> Status of improvement of mechanisms to absorb women's opinions and needs</p> <p><input type="checkbox"/> Number/proportion of people by gender who responded in the monitoring and evaluation that they are more likely to go to towns, markets, family and relatives' gatherings, health facilities, meetings than before</p> <p><input type="checkbox"/> Number/proportion of participants/leaders of local community activities by gender</p> <p><input type="checkbox"/> Number/proportion of respondents by gender who answered that they actively participate in local community activities</p> <p><input type="checkbox"/> Number/proportion of community activities led by women</p> <p><input type="checkbox"/> Number/proportion of civic forums that achieved the target proportion of women among the participants</p> <p><input type="checkbox"/> Proportion of students going on to higher education by gender</p> <p><input type="checkbox"/> Number/proportion of people that were able to be employed by the project by gender</p> <p><input type="checkbox"/> Number/proportion of workshops on gender issues in the workplace</p> <p>[Public facilities]</p> <p><input type="checkbox"/> Number and proportion of public facilities that have installed lights, and number and proportion of users by gender</p> <p><input type="checkbox"/> Number and proportion of health centers that have installed electricity-based equipment, such as refrigerators for vaccine and drug storage, sterilization and disinfection equipment, and number and proportion of users by gender</p> <p>[Health]</p> <p><input type="checkbox"/> Status of health improvements owing to improved household environments brought about by electrification and clean energy (incidence of respiratory and other diseases by gender)</p> <p>[Safety and violence]</p> <p><input type="checkbox"/> Number and proportion of change (reduced) in domestic violence against women as a result of the project</p> <p><input type="checkbox"/> Number and proportion of cases of SGBV</p>

Step 4. Gender responsive project implementation and monitoring

A project should also include actions to respond to situations of the stakeholders of different gender, including their gender issues and needs identified in Step 1.

In monitoring, gender-disaggregated data and gender indicators set in Step 3 help understand the implementation status of the activities, including the participation rates of women and men, and assess if the expected results are being achieved.

If unexpected gender issues have been identified during the monitoring, effective solutions should be formulated, assessed on the compatibility with the project scope and progress, and added in the project as new activities. Where the situation allows, it is desirable to revise project plans, such as Project Design Matrix (PDM) and Plan of Operation (PO) accordingly.

The table below illustrates points to keep in mind during project implementation and monitoring.

Points to remember for gender-responsive project implementation and monitoring

Category	Points to remember
Implementation structure	<ul style="list-style-type: none"> ● Except where there is a specific reason, check the gender balance of the Counter Part (C/P) and consider measures to achieve balance if there is a bias. ● Conduct gender training for C/Ps, project staff, and Japanese experts prior to and during implementation. If, at the time of training, it is found that there is a lack of understanding and awareness of gender, continuously consider ways to change attitudes and behaviors. ● When hiring project staff, clearly communicate clauses prohibiting sexual harassment and sexual exploitation of beneficiaries and have them sign a consent form. ● In view of the culture and customs of the target countries/regions and the responses to sexual exploitation, abuse, and harassment in the field of international cooperation, Japanese experts should exercise caution and remind each other not to unintentionally engage in discriminatory language or behavior. ● Set up a consultation window and route that can be used by all parties concerned, including the project team and beneficiaries, to respond to cases of SGBV and harassment. ● Assign international and local gender experts as needed. ● Encourage discussion and collaboration with women's groups and gender-aware men's groups when developing energy management and utilization plans. ● Create a community support system for women and socially vulnerable groups who lack means of transportation and information gathering (e.g., create a mechanism for women's groups and gender-aware men's groups to share information with women, and a mechanism for lending or sharing means of transportation).
Implementation of activities	<ul style="list-style-type: none"> ● Consider the time and place of activities so that women, who are busy with unpaid care and domestic work, can easily participate in activities. Avoid that participation in activities does not increase the burden on particular persons/groups ● If the literacy rate of women is low, devise ways to convey information and skills through training and technical guidance (e.g., explanations using illustrations and photographs rather than text, group learning), and continuously monitor participation to ensure that those who need the information and skills are attending the training. ● Create an enable environment for women to participate and speak out, paying attention to factors such as the composition of members and the way meetings are conducted, so that women always participate in the decision-making process and their voices are reflected.

	<ul style="list-style-type: none"> ● Pay attention to diversity among women, as their circumstances, challenges, needs, and impacts from development projects differ according to gender, age, social class, ethnicity, disability status, education level, family/household type, and other factors. ● Engage and promote understanding among boys, men, and community members. (Where gender norms and discrimination are strong at the project site, the understanding and cooperation of influential community leaders, religious leaders, and others is especially important.)
Monitoring	<ul style="list-style-type: none"> ● If participation in energy project activities and benefits from the project are biased toward either men or women without justifiable reasons, identify the causes and factors and consider implementing necessary measures. (e.g., both women's participation rate in training and women's employment rate are lower than those of men) ● Ensure that consideration is given to the time and place of activities so that women, who are busy with unpaid care and domestic work, can easily participate in activities. Check that participation in activities does not increase the burden on particular persons/groups. ● If differences in the practice and retention of introduced skills owing to gender or other reasons are found, identify the contributing factors and address them. ● Monitor any positive or negative impacts that were not anticipated at the planning stage. If they do exist, consider ways to maximize positive impacts and minimize negative impacts. (Positive: increased knowledge of energy conservation by women has strengthened awareness throughout the household. Negative: women's participation in economic activities has increased domestic violence by men who do not want women to stay away from home)

Step 5. Gender mainstreaming evaluation

In the evaluation phase, project achievements, implementation process, outcomes, and impacts should be assessed with a gender perspective, while evaluating the project in accordance with a prescribed project evaluation framework (ex-post evaluation) and evaluation methodology (DAC six evaluation criteria). When identifying the outcomes and impacts, attention needs to be paid to signs of emerging outcomes and impacts as well as already achieved outcomes and impacts. If there is difference in benefits received by women and men, details of the difference and its causes should be analyzed.

It should be noted that during the evaluation, whether be it quantitative or qualitative, gender-disaggregated data and information should be collected, whenever possible, and analyzed. When conducting interviews, attention should be given to gender balance and attributes of the survey participants. Group formation (either single-gender or mixed-gender) will be decided depending on the content of the interview. Gender composition of an evaluation team should also be decided after thorough consideration.

The following shows gender-responsive evaluation questions listed in accordance with the DAC six evaluation criteria.

Check points for gender-responsive evaluation

OECD DAC 6 evaluation criteria	Check points
Relevance	<p>Development policies and needs of the target country</p> <ul style="list-style-type: none"> - Are the gender-responsive activities of the project consistent with priorities of gender equality policies and energy policies? <p>Inclusion of people with special needs</p> <ul style="list-style-type: none"> - Do specific gender or groups occupy the majority of beneficiaries? - Prior to beneficiary selection, was information collected from women and women's groups? - Did the project promote the participation of female-headed households, women with disabilities, and elderly women? <p>Appropriateness of the plan and approach</p> <ul style="list-style-type: none"> - Have methods been taken that do not exclude certain gender groups? - Did the project take an approach to benefit diverse people? - Have methods been taken that ensure no increase in the workload of a particular gender group? - Did the project made any revision based on the monitoring results?
Coherence	<p>Coherence between global goals and initiatives such as SDGs and global norms and standards</p> <ul style="list-style-type: none"> - Did the gender-responsive project activities align with global initiatives (e.g., SE4All, etc.)? - Did the aforementioned activities contribute to achievement of global goals such as SDGs (e.g., Goal 7: Affordable and clean energy)?
Efficiency	<ul style="list-style-type: none"> - Have the knowledge and experience of women, girls, and women's groups been utilized? (e.g., have efforts been made to communicate technical information through women's groups?) - Are the training participants in Japan and the third countries gender-balanced?
Effectiveness	<ul style="list-style-type: none"> - Did the gender-responsive activities achieve the expected results? - Did the aforementioned activities contribute to achievement of the project objectives and outcomes?
Impact	<ul style="list-style-type: none"> - Did the gender-responsive activities facilitate positive impacts? (e.g., women's leadership,

	<p>equal participation in all decision-making processes, supporting government review systems, improved mechanisms to capture women's perspectives and reduce domestic violence and SGBV against women. etc.)</p> <ul style="list-style-type: none"> - If there are any negative impacts, are there any differences in impacts depending on people's attributes such as gender and age? (e.g., increase in respiratory and other diseases among women due to traditional energy use, domestic violence against women and SGBV, etc.)
Sustainability	<ul style="list-style-type: none"> - Will women and girls be able to continue their activities without difficulty? - Will women and girls be able to participate in energy-related activities continuously and contribute to the sustainability of project effectiveness? - Will the role and contribution of women and girls in the community and households be recognized and will there be continued cooperation between women and men in energy-related activities? - Will relevant agencies keep implementing gender mainstreaming? - Will relevant agencies keep facilitating women's participation in decision-making? - Will the voices of women and girls continue to be reflected in policies, measures, and institutions of the energy sector? - Will activities with gender perspective be reflected in the energy sector policies and plans? - Will activities with gender perspective be reflected in the budget of the energy sector?

Regarding effectiveness (outcomes), impact, and sustainability, identify how gender-responsive activities have contributed to the promotion of gender equality and women's empowerment, taking into account the three aspects of agency, relations, and structure and systems (see Step 2). Specifically, "agency" refers to what women have become able to do as a result of the implementation of the activities (including not only their own abilities but also changes in the external environment surrounding the women). "Relations" refers to how the activities have helped transform the gender relations among stakeholders and in societies. As for "structure and systems," the scope of evaluation includes how the activities have been integrated into policies and systems, as well as operational policies and plans of the implementing agencies, and how gender equality has been promoted in the organization. If a negative impact is identified, lessons learned should be extracted as much as possible for reflecting in future projects.

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