

ADB



Gender Tool Kit: Energy

Going Beyond the Meter

Asian Development Bank



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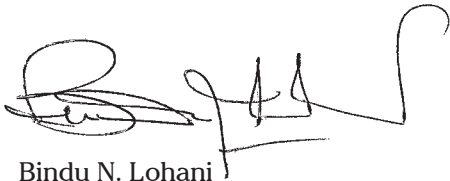
Foreword

The majority of the world's energy poor live in Asia and the Pacific. More than 700 million people still have no access to electricity and 1.9 billion people still use traditional biomass, such as firewood and animal dung for cooking and heating. Women and children bear the disproportionate burden of collecting and carrying the heavy loads of firewood and are exposed to health risks resulting from indoor smoke and use of traditional energy sources.

The Asian Development Bank (ADB) supports maximizing access to modern, affordable, reliable, and clean energy for all. We consider gender equity as an integral element in achieving sustainable energy for all in Asia and the Pacific. Access to electricity contributes to well-being and productivity of women and men. Affordable and clean energy sources for lighting, food processing, cooking, and heating significantly contribute to improved health and reduced drudgery of women and children.

Women's capacity to capture economic opportunities made possible by improved energy access is often limited. They need special assistance to purchase and own powered assets such as rice mills, refrigerators, and biogas units; access start-up funds for energy-based microenterprises; and build skills and knowledge of how to utilize electricity for potential income opportunities. Moreover, women are invisible in the energy sector—as consumers, suppliers, and decision makers—in contrast to their substantial roles as household energy managers and agriculture producers coping with the environmental degradation and climate change impacts. For the energy sector to be sustainable and inclusive, women and men need to be equal partners in developing new ideas and strategies in the sector.

The *Gender Tool Kit: Energy—Going Beyond the Meter* provides users with a set of tools to design energy projects that are gender responsive. It contains key questions to be asked during gender analysis, examples of gender-inclusive design features and gender indicators, and a number of case studies of recent ADB-financed projects. I hope that this tool kit will substantially contribute to both the quantity and quality of gender mainstreaming in the energy sector operations in Asia and the Pacific.



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Purpose of the Tool Kit

The purpose of the tool kit is to assist staff and consultants of the Asian Development Bank (ADB) in conceptualizing and designing gender-responsive projects in the energy sector. ADB's Policy on Gender and Development mandates its investments in all sectors to promote gender mainstreaming.

It guides users in designing project outputs, activities, inputs, indicators, and targets to respond to gender issues in energy sector operations. ADB staff can use the tool kit in identifying social and gender issues to be documented in the initial poverty and social analysis during the concept phase. Consultants can use it in carrying out more detailed social and gender analysis during the project preparatory technical assistance or detailed design or due diligence phase. It should be noted that the tool kit is not meant to be prescriptive; rather, it offers a menu of entry points that the project team can choose from.

The tool kit has been broken down into key subsectors of ADB's energy sector investments—namely, transmission and distribution, rural electrification, energy efficiency, and renewable energy. While not all aspects of the tool kit are relevant to all projects, this approach will assist staff and consultants to select the subsectors most relevant to the specific project context. Enabling policy and capacity development has been addressed as a crosscutting consideration applied to all subsectors.

ADB projects categorized with “gender mainstreaming” require a gender action plan (GAP) and gender targets and indicators in the project design and monitoring framework. The tool kit provides tips to designing the GAP and gender targets and indicators relevant to the specific subsector context. It also includes guidelines for preparing terms of reference for consultants to conduct a detailed gender analysis and to prepare GAPs.

Case studies from ADB's project portfolio have been included to illustrate good practices in mainstreaming gender in energy sector projects. A selection of useful references is listed at the end.

The tool kit has been prepared by Reihana Mohideen, Gender and Energy Consultant, and Sonomi Tanaka, Lead Social Development Specialist (Gender and Development) in ADB. This tool kit benefited from substantial comments from Shireen Lateef, Senior Advisor (Gender), Office of the Vice-President, Knowledge Management and Sustainable Development. Other staff from various departments in ADB, including Linda Adams, Paola van Houten-Castillo, Samantha Hung, Sunhwa Lee, Susann Roth, Pil-Bae Song, and Michiko Suga, provided valuable comments. Marian Lagmay and Aldrin Roco provided production assistance.

Abbreviations

ADB	–	Asian Development Bank
CDM	–	Clean Development Mechanism
DMC	–	developing member country
DMF	–	design and monitoring framework
EA/IA	–	executing agency/implementing agency
EdL	–	Electricité du Laos
EGM	–	effective gender mainstreaming
GAP	–	gender action plan
GEN	–	gender equity theme
ILO	–	International Labour Organization
IPSA	–	initial poverty and social analysis
JFPR	–	Japan Fund for Poverty Reduction
NGE	–	no gender elements
NGO	–	nongovernment organization
O&M	–	operation and maintenance
PAM	–	project administration memorandum
PFR	–	periodic financing request
PNG	–	Papua New Guinea
PPTA	–	project preparatory technical assistance
RM	–	resident mission
RRP	–	report and recommendation of the President
RSDD	–	Regional and Sustainable Development Department
SPRSS	–	summary poverty reduction and social strategy
SGE	–	some gender elements
SHG	–	self-help group
TOR	–	terms of reference
UNDP	–	United Nations Development Programme

CHAPTER I

Issues: Why Gender Matters in the Energy Sector

Lack of access to vital energy sources for lighting, heating, cooking, transport, and economic production inhibits productivity of men and women and society at large. But how men and women differently experience such “energy poverty” is influenced by the existing gender relations of the given society. In most of Asia and the Pacific, particularly in rural areas, women at the households are socially assigned a primary role to cope with energy poverty. To complement lack of access to affordable energy sources, women’s time and labor have been used to provide energy for food production, cooking, and heating, and water transport. Yet, women—both as consumers and suppliers—remain invisible in the energy sector.

In designing projects to improve energy security, it is crucial to take into account such realities and differences in needs, constraints, and opportunities between men and women in relation to energy infrastructure and services development.

This chapter discusses key gender issues in the energy sector and why these matter.

A. Gender and Access to Energy

Access

Existing gender roles, especially in rural communities in Asia and the Pacific, place a disproportionate burden of fuel and water collection and their use for cooking on women and girls.

Across the world, women and girls spend from 2 to 20 or more hours a week collecting fuelwood and other traditional energy sources.

Lack of access to modern energy services means that women have to spend long and exhausting hours for this purpose, rather than in more productive livelihood activities, family welfare, or education. Women spend several hours a day fetching fuelwood and water at the cost not only to women’s time but also to the detriment of women’s health and even at the risk of their personal safety. Lack of service centers for gas and oil in remote rural communities also restricts women’s access to cooking and household energy sources.¹

¹ United Nations Development Programme (UNDP). 2007. *Gender Mainstreaming. A Key Driver of Development in Environment and Energy*. New York.

Energy insecurity—due to uncertainties caused by dwindling nonrenewable energy resources such as oil and gas, geopolitical factors that contribute to sudden increases in energy prices such as oil price shocks, as well as climate change impacts that exacerbate the scarcity of traditional biomass—also poses serious challenges for poor women’s energy access. Ensuring energy security in the Asia and Pacific region has important implications for gender equity and women’s empowerment.

Affordability

Where energy services are available, however, lack of affordability prevents access to these services by poor households. Households headed by women could be particularly disadvantaged when they are disproportionately represented among the poor households. Tariff levels that do not reflect women’s lower incomes will constrain women’s energy access. Public consultation processes, therefore, need to be gender sensitive when assessing communities’ willingness to pay. Connection or user fee requirements that do not integrate affordable options—such as revolving funds, grants, and affordable credit facilities to improve household connectivity—will neglect the special needs of poor households and women therein.

In the Lao People’s Democratic Republic, while households headed by women represent only 8% of the total households, they represent 43% of the poor households. This necessitates targeting them in setting the tariff and connection fees (Box 2).

Service Quality

Poor and unreliable quality of supply, resulting in prolonged outages or shortages, can make it difficult for women to maximize potential opportunities. The functioning of home-based microenterprises, where women predominate, can be hampered due to poor quality of power supplies. Household energy efficiency and user education programs in the safe and efficient use of electricity should complement energy efficiency projects, but are invariably overlooked or ignored.

Voicing Women’s Energy Priorities

Women’s decision-making roles in the household are usually restricted, reducing their say in issues of spending levels and choices, including with respect to clean and renewable energy. The types of fuels used, the amount of energy purchased, the devices and technology chosen, as well as domestic infrastructure related to ventilation, lighting priorities, energy-based equipment purchased, are usually made by the male head of the household, but affect women’s daily lives in very immediate and practical ways. In many developing countries, even in areas where household electrification is present, cooking energy still remains predominantly based on traditional biomass, such as fuelwood and animal dung. Clean and efficient cooking energy to release women from the drudgery of collecting and using traditional fuels seldom becomes an energy policy priority. One reason for that is women’s lack of voice. Similarly, while street lighting can reduce women’s vulnerabilities and improve their safety and mobility, women often do not have the channels to voice out their priorities.

In Gujarat, India, 94% of households surveyed in 2011 are connected to electricity, but 65% of rural households still use fuelwood for cooking and heating, with an average household spending 1 hour and 20 minutes per day for collecting fuelwood, mostly performed by women.²

B. Gender, Energy, and Economic Empowerment

Capacity to Utilize Improved Energy Access

Developing member countries (DMCs) of the Asian Development Bank (ADB) have ambitious short- to mid-term targets for achieving 100% household electrification, which has the potential to significantly improve livelihood opportunities of poor women and men, contributing to improved productivity and income generation. However, women's capacity to capture these opportunities are limited. Gender inequality in access to productive assets, labor-saving technology, and affordable credit, for example, impedes the development of micro- and small enterprises, where women predominate.

Women's microenterprises, which can contribute significantly to household income, tend to be home-based and are therefore inseparable from household energy use and consumption and women's reproductive labor in the home. Improving household energy access and affordability is key to women's enterprise development. This is especially so when cultural factors entrench women's gender roles and constrain women's mobility to reproductive tasks and labor.

The application of end-use energy technologies—such as electrical appliances for grinding, food preservation and processing, sewing, ironing, and craft production—can improve productivity and quality of products and contribute significantly to women's enterprise development.

Employment in the Energy Sector

While the energy sector can provide employment opportunities for women and men, the sector is dominated by men. Persistent gender inequality in secondary and higher education, as well as gender stereotypes in the labor market, contribute to restricting women's access to opportunities for technical and skills training. These, coupled with gender discrimination in hiring practices, severely restrict women's participation in the energy sector and are constraints to the development of a skilled and empowered female workforce.

According to the data of the International Labour Organization, of 26 developing countries in Asia and the Pacific, the median of female percentage working in the electricity, gas, and water supply accounts for less than 20%.³

² Asian Development Bank (ADB). 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to India for the Gujarat Solar Power Transmission Project*. Manila.

³ ADB and International Labour Organization (ILO). 2011. *Women and Labour Markets in Asia: Rebalancing for Gender Equality*. Bangkok, Thailand.

C. Gender, Climate Change, and Sustainable Development

Exacerbating Health Problems and Drudgery

Cooking accounts for a significant share of energy consumed by poor households, and traditional biomass remains the predominant fuel used for this purpose. Smoke emissions and indoor air pollution from the burning of solid biomass in unventilated spaces, using traditional cookstoves, lead to increased diseases and morbidity among poor women and children. Such health issues are made worse when combined with poverty, low nutrition, and inferior medical care.

Nearly 2 million people prematurely die every year from illness attributable to indoor air pollution due to solid fuel use. Among these deaths, 44% are due to pneumonia, 54% from chronic obstructive pulmonary disease, and 2% from lung cancer. Women exposed to heavy indoor smoke are three times as likely to suffer from chronic obstructive pulmonary diseases (e.g., chronic bronchitis) than women who use cleaner fuels.⁴

The drastic impacts of climate change especially affect the poor and vulnerable in developing countries, and among these are women. Poor women, who generally have less education and less access and control over resources, face particular constraints in their capacity to adapt to existing and predicted impacts of climate change, which are often manifested in water scarcity and deforestation. With the degradation of environment, women need to walk farther to collect fuelwood and water, often making themselves more vulnerable to injuries and sexual assaults on the way.

Awareness of and Access to Renewable Energy

The limited knowledge of poor women and men and the lack of access to information about renewable energy services, as well as their limited affordability to access high-cost renewable energy technologies, can impede the use of renewable energy services and technologies and slow down the overall development of the renewable energy sector in developing countries. This can potentially hinder environmentally sustainable growth and development in DMCs.

Women as Agents of Change

Women are also potentially powerful agents of change and can play a crucial role, based on developing their traditional knowledge in natural resources management, disaster risk reduction and in strengthening existing coping mechanisms. Indigenous women, who hold much of this traditional knowledge, continue to experience gender discrimination compounded by the added marginalization and vulnerability endured by indigenous peoples, including lack of access to traditional lands.

⁴ World Health Organization. 2011. Indoor Air Pollution and Health. *Fact Sheet* No. 202. <http://www.who.int/mediacentre/factsheets/fs292/en/>

Emerging practices in ADB's DMCs point to greater potential for women's participation and gender interventions in the renewable energy sector, especially in small- to medium-sized systems such as biogas and photovoltaic solar systems, than in the conventional energy sector. While there are challenges to be met, it is a more open field for women, as knowledge and technology transfer to the community is at an early stage in most developing countries.

As a result of the many years of hard work by women's groups and nongovernment organizations (NGOs) to highlight the gender dimensions of climate change (including the need for sustained and clean energy for survival) and increase women's participation as legitimate stakeholders in climate negotiations, progress has been made in raising awareness and boosting women's participation. However, much more needs to be done in building advocacy and to address the need for governments to tackle gender issues in climate change impacts, mitigation, and adaptation.

Many international agreements and commitments now call for integrating gender perspectives in climate change policies and programs, including the 2009 statement by the Committee on the Elimination of Discriminations against Women, the agreed conclusions of the 46th session (2002) and the resolutions of the 55th session (2011) of the Commission on the Status of Women. But the United Nations Framework Convention on Climate Change does not include gender equality issues and women's representation among the delegation in its annual conferences of the parties have been hovering around 30%.⁵

D. Toward Gender-Responsive Energy Services

There is a need to move toward more gender-responsive energy infrastructure and services when designing a new energy project.

While improving coverage through the expansion and strengthening of transmission and distribution systems is, in its own right, essential and provides the basis to address social and gender issues, it is not sufficient to be categorized as gender responsive. Gender-responsive energy sector interventions require additional efforts to go “beyond the meter” by choosing the types of energy infrastructure and services for investment that disproportionately benefit poor women, building capacity of women in utilizing the availed energy services, and/or narrowing the gender gaps that exist in the energy sector, such as participation in decision making and access to training and employment opportunities.

Based on existing discussions in the literature and emerging experiences, Box 1 outlines the key guiding elements of such gender-responsive energy services, which can be used when conceptualizing a new project. These guiding elements are further divided into two distinct roles women and men play: (i) women and men as users or consumers (service demand side), and (ii) women and men as energy suppliers (service supply side).

⁵ Gender CC – Women for Climate Justice. <http://www.gendercc.net/policy/conferences.html>

Box 1 “Going Beyond the Meter”

Guiding Elements of Gender-Responsive Energy Services

Women and Men as Users and Customers (Service Demand Side)

- Improve service delivery for poor households and women.
- Expand energy access and ensure affordability for the poor and low-income groups, including households headed by women.
- Introduce clean energy sources and/or appropriate technology for cooking and heating that improve women’s health and reduce drudgery.
- Enhance energy-related income-generating activities of men and women, and women’s entrepreneurship.
- Maximize women’s employment opportunities in the energy sector.
- Implement user education programs building upon women’s important roles in households and in communities.
- Apply gender-inclusive participation strategy in all stages of project design, development, and implementation.

Women and Men as Energy Suppliers (Service Supply Side)

- Promote women’s involvement as service providers in the energy sector.
- Promote women’s role as partners in public–private partnership initiatives (e.g., as owners of local franchisee partners).
- Build gender awareness among policy makers, government energy agencies, and energy utilities through targeted capacity development and training programs.
- Apply a gender-equal human resources management strategy through the effective application of gender equity laws and regulations in government energy agencies and energy utilities.
- Promote gender-responsive corporate social responsibility.

CHAPTER II

Gender in ADB Operations: Key Actions in the Project Cycle

ADB's *Policy on Gender and Development*⁶ and Operations Manual C2 on Gender and Development⁷ define how gender considerations should be integrated along with a project cycle. During the project concept phase, it is important that project teams assign a preliminary gender category to the proposed project, as this decision influences the required resources and actions for detailed design and implementation. *Guidelines for Gender Mainstreaming Categories of ADB Projects*⁸ provide a definition and requirements of each of the four categories—gender equity theme (GEN), effective gender mainstreaming (EGM), some gender elements (SGE), and no gender elements (NGE). The first two categories are counted against ADB's gender mainstreaming target set to be at 40% of all approved sovereign projects by 2012 (Appendix 1).

Initial poverty and social analysis, a mandatory flagging exercise at the time of the concept paper preparation, should identify possible gender issues for consideration by the project and inform the initial decision of the gender mainstreaming category.

If GEN or EGM category is pursued, gender specialist services are required during the project design phase (often supported by project preparatory technical assistance) to conduct a detailed gender analysis (Chapter III), collect sex-disaggregated data, and prepare a project GAP comprising gender-inclusive design features and gender targets. A sample consultant terms of reference for project design is in Appendix 2.

Project implementation requires the use of a range of tools and mechanisms to monitor and evaluate the implementation of the project GAP or other gender measures, with the view to further developing or modifying the gender design features. It is important to note that the monitoring process also needs to include the monitoring of the quality of the gender data collected and documented, in order to conduct an accurate and useful assessment of gender results. A sample consultant terms of reference for project implementation support is in Appendix 3.

Table 1 outlines the key actions that need to be taken to address gender issues at each phase of ADB's project cycle.

⁶ ADB. 1998. *Policy on Gender and Development*. Manila.

⁷ ADB. 2010. *Operations Manual C2 on Gender and Development in ADB Operations*. Manila.

⁸ ADB. 2012. *Guidelines for Gender Mainstreaming Categories of ADB Projects*. Manila.

Table 1A Gender Mainstreaming: Key Actions in the Project Cycle
Concept Phase: Project Concept Paper

Key Actions		Tools	Responsibility
<ul style="list-style-type: none"> • Preliminary Gender Category • IPSA • Consultant TOR • Preliminary DMF 	<ul style="list-style-type: none"> • Assess and assign a relevant gender category of the project and include it in the Basic Project Information sheet of the project concept paper. Explore if a higher gender category (GEN or EGM) can be pursued. • Identify key gender issues in the relevant energy sector and subsector. • Assess if the project/program has the potential to promote gender equality and/or women's empowerment or is likely to have an adverse gender impact or increase women's exposure to risks. • Allocate resources for a gender specialist and data collection during the design phase (often through PPTA), particularly for projects with GEN/EGM that require a detailed gender analysis. • Prepare TOR for the project design consultant services, i.e., for a gender specialist or social development/social safeguard specialist (Appendix 2). • Identify further information needs, including baseline sex-disaggregated data and specify them in the TOR. • If the proposed project offers opportunities to directly promote gender equality and/or women's empowerment, include in the TOR the preparation of a GAP and other due diligence requirements for GEN and EGM. • If the proposed project is likely to have an adverse impact on women or widen gender inequality, include a gender analysis and preparation of mitigation measures within the social safeguard specialist services in the TOR. • Explore assigning tentative gender targets and indicators at the outcome (if GEN), output, and activities and milestones of the preliminary project DMF. This would inform the need for sex-disaggregated data to be collected during the project design phase. 	<p>Consultations with ADB gender specialists</p> <p>Desk reviews</p> <p>If GEN/EGM, include ADB gender specialist in the project team to further guide the consultant</p>	Project Team

ADB = Asian Development Bank, DMF = design and monitoring framework, EGM = effective gender mainstreaming, GAP = gender action plan, GEN = gender equity theme, IPSA = initial poverty and social analysis, PPTA = project preparatory technical assistance, TOR = terms of reference.

Table 1B Gender Mainstreaming: Key Actions in the Project Cycle
Design and Approval Phase: RRP or PFR Preparation

	Key Actions	Tools	Responsibility
<ul style="list-style-type: none"> Project Design/PPTA Implementation 	<ul style="list-style-type: none"> Conduct a detailed gender analysis as part of the poverty and social analysis (Chapter III). Collect sex-disaggregated data and gender-specific information related to the possible project interventions (Chapter III). Review gender equity policies and laws and gender elements of relevant energy sector policies and laws. Identify government agencies, nongovernment organizations, and women's groups that can be recruited for project implementation and assess their capacity. Identify and recommend key gender elements in mitigation measures (e.g., HIV, resettlement). For gender-mainstreamed projects or programs, design a GAP to integrate gender features and women's participation in the project/program design with concrete targets and indicators for monitoring and impact assessment (Chapters IV and V). Assess gender benefits of the project. 	<p>Desk reviews, surveys (as necessary), field visits, focus group discussions, stakeholder consultations</p>	<p>Project Team/ Consultant</p>
<ul style="list-style-type: none"> Draft RRP 	<ul style="list-style-type: none"> Discuss the project's gender mainstreaming category and how the project would result in desired gender benefits in the RRP main text (Due Diligence Section). In SPRSS, summarize key findings of the gender analysis and gender measures included in the project. Include the summary GAP in the RRP-linked document and PAM. Incorporate key GAP indicators in the DMF and/or program Policy Matrix (in the case of program loans). In PAM, include specific steps and resources for implementation of the GAP or any other gender design features, e.g., implementation schedule, TOR to assist GAP implementation, and GAP (Gender and Social Dimensions Section). In the loan or project agreement, include gender covenants to ensure that the borrower ensures effective GAP implementation in a manner to achieve key gender targets. 	<p>Verification of gender category by RSDD</p>	<p>Project Team/ Consultant</p>
<ul style="list-style-type: none"> Final RRP 	<ul style="list-style-type: none"> If any changes are made on references to gender during loan negotiations, contact RSDD to provide final confirmation on gender category. 	<p>Final confirmation by RSDD as needed</p>	<p>Project Team</p>

ADB = Asian Development Bank, EA/IA = executing agency/implementing agency, GAP = gender action plan, GEN = gender equity theme, PAM = project administration memorandum, PFR = periodic financing request, PPTA = project preparatory technical assistance, RM = resident mission, RRP = report and recommendation of the President, RSDD = Regional and Sustainable Development Department, TOR = terms of reference.

Table 1C Gender Mainstreaming: Key Actions in the Project Cycle
Implementation, Monitoring, Completion

	Key Actions	Tools	Responsibility
<ul style="list-style-type: none"> Monitoring and Review 	<ul style="list-style-type: none"> At project inception, ADB project team to provide training to EA/IA project management team and the implementation support consultants on project GAP and implementation schedules. Involve ADB RM gender specialists, where available, to guide the project gender specialist. EA/IA project management team and consultants to implement GAP and regularly (quarterly or biannually) report on the implementation progress. Use the "GAP implementation progress matrix" (which is a GAP with another column to document progress). Include the matrix in the regular reporting to ADB. Ensure that the collection of sex-disaggregated data is systematized within the overall project management database. Adjust the gender-inclusive design features or targets, if necessary, in consultation with ADB. ADB review missions to review the GAP implementation progress, challenges, emerging gender equality results, and any need for mid-term modifications. Mid-Term Review is particularly important. Ensure that monitoring activities conducted by EA/IA and ADB are gender-inclusive and participatory. 	<ul style="list-style-type: none"> Inception workshop Progress reports (by EA/IA and ADB) ADB review missions GAP implementation matrix RM gender specialists (to guide project gender specialist) 	<ul style="list-style-type: none"> EA/IA project implementation/management unit ADB project team (including RM gender specialist, where available)
<ul style="list-style-type: none"> Completion 	<ul style="list-style-type: none"> Ensure that ADB review mission reports, including back-to-office reports, include analysis of the GAP implementation. Include a section on gender (reporting on the GAP implementation performance, gender equality results achieved, and lessons learned) in both government's and ADB's project completion report. Ensure that gender results are accurately reflected and adequately assessed in project completion reports. 		<ul style="list-style-type: none"> EA/IA project implementation/management unit ADB project team (including RM gender specialist, where available)

ADB = Asian Development Bank, EA/IA= executing agency/implementing agency, EGM = effective gender mainstreaming, GAP = gender action plan, RM = resident mission, RRP = report and recommendation of the President, SPRSS = summary poverty reduction and social strategy.

CHAPTER III

Gender Analysis: Developing Gender and Energy Profiles

If a project is assigned GEN or EGM (Chapter II) at the concept stage, a detailed gender analysis is required during the project design phase as part of the poverty and social analysis.

The gender analysis aims to (i) identify key gender issues and determinants directly relevant to the intended energy services to be provided by the project; (ii) inform gender-inclusive project designs by identifying opportunities to maximize gender benefits and minimize and mitigate adverse gender impacts or risks through the proposed project (Chapter IV); and (iii) collect baseline sex-disaggregated data to be used for monitoring project outputs, outcomes, and impacts during project implementation. In other words, gender analysis is a process that translates relevant gender and energy issues (Chapter I) into the project designs within the specific policy, technology, and institutional contexts.

A. Key Questions

While there is no “one size fits all” for gender analysis across different types of subsectors and projects in the energy sector, the following issues are generally important to explore (Chapter I, Section C):

- 1) Demand-side gender analysis: What are the gender gaps and gender-differentiated opportunities and constraints for women and men as users, customers, beneficiaries, and affected people in relation to
 - energy access, use, and needs for improvement and new technology;
 - affordability;
 - customer satisfaction;
 - user knowledge;
 - capacity to capture improved energy services (e.g., participation in decision making, opportunity and skills for energy-based livelihood and employment); and
 - possible impact of proposed energy sector interventions (i.e., both gender benefits and gender risks/adverse impacts) and specific measures to address them.

- 2) Supply-side gender analysis: What are the gender gaps and gender-differentiated opportunities and constraints for women and men as service providers, in government, and project management in relation to
- employment;
 - working environment of energy companies;
 - institutional capacity and training needs; and
 - representation in decision making through committees, board, or management.
- 3) Enabling policy environment influencing gender-based determinants in demand and supply.

Table 2 provides key questions to be asked for each area and examples of sex-disaggregated data to be collected during the gender analysis.

Table 2 Key Questions and Data for Gender Analysis

Issue	Key Questions	Examples of Baseline Data to be Collected
Demand-side: Women and men as users, customers, beneficiaries, and affected people		
Access	<ul style="list-style-type: none"> • What are the current access to various energy sources and services (e.g., electricity, liquefied petroleum gas, kerosene, fuelwood, community-managed distribution systems) by people in the project area? Any differential access patterns among poor households and those headed by women? • How are energy sources for households collected? • Can the proposed project include a specific intervention to reduce women's time and drudgery of energy sources? 	<ul style="list-style-type: none"> • Electricity (and other energy service) coverage with % of poor households and those headed by women • Time spent or travel distance to access to fuelwood, kerosene, etc., by sex
Energy use	<ul style="list-style-type: none"> • How is each type of energy used—by whom (e.g., households, micro- and small enterprises, energy enterprises, basic public services) and for what (e.g., water and sanitation, cooking, heating, lighting, entertainment, communication, incomes, revenues, health services, education)? • What is the priority energy use by women and what is the energy source for that? 	<ul style="list-style-type: none"> • Use of electricity and other energy sources (hours) for productive vs. reproductive purposes at households
New energy technology	<ul style="list-style-type: none"> • If a new energy technology is to be introduced, what are the preferences, opportunities, and constraints by women and men as users (and, possibly, service providers in the case of community-managed system)? • Would the new technology increase or reduce women's workload? 	<ul style="list-style-type: none"> • Time spent or travel distance to access to fuelwood, kerosene, etc., by sex, without the new technology
Affordability	<ul style="list-style-type: none"> • Are energy services and sources affordable, particularly to poor households and those headed by women? • What are the viable options to improve affordability for the poor households and those headed by women? 	<ul style="list-style-type: none"> • Cost of connection and services vs. household income • Poverty among households headed by women

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Table 2 continued

Issue	Key Questions	Examples of Baseline Data to be Collected
Demand-side: Women and men as users, customers, beneficiaries, and affected people		
Environment, health, and safety	<ul style="list-style-type: none"> • Are women and children suffering from energy-related environment and health problems, such as smoke emissions and indoor pollution? • Are women's mobility and safety constrained due to poor energy services (e.g., unavailability of streetlights due to unreliable electricity supply)? 	<ul style="list-style-type: none"> • Respiratory infection prevalence rate • Data on violence
Customer satisfaction	<ul style="list-style-type: none"> • Are customers pleased with the current services? Are women consumers asked about service satisfaction, given their important role as household energy managers? • Does a customer feedback system exist (e.g., customer service desk, citizen's report card)? Can women customers be targeted as providers of regular feedbacks to improve services? 	<ul style="list-style-type: none"> • Customer survey results data (disaggregated by sex)
User knowledge and access to information	<ul style="list-style-type: none"> • Do users know about the need for efficient use of energy, availability of other affordable options, and how to practice these? Can women in the community be active agents to drive energy-efficient use practices at the household? • Are women aware of the health impact of cookstoves and other unclean energy and solutions to address it? 	<ul style="list-style-type: none"> • Level of awareness of energy-efficient use (disaggregated by sex)
Capacity to capture improved energy services and access	<ul style="list-style-type: none"> • Do women have voice in influencing energy services and making decisions on energy use in households and communities? Can the project assist? • Do energy-based enterprises exist in the project area? Can women start such enterprises or be employed by them? • Do any local service providers (e.g., nongovernment organizations) exist to provide skills for women to run or be employed by energy-based enterprises? • Do women have access to finance to start such enterprises? 	<ul style="list-style-type: none"> • Percent of women's representation in local decision-making bodies (as a proxy indicator) • Number of energy enterprises (with % owned by women) • Percent of women borrowers of microfinance and small and medium-sized enterprise finance
Possible impact of proposed project interventions	<p>Gender benefits</p> <ul style="list-style-type: none"> • Would the proposed project intervention contribute to empowering women and/or narrowing gender gaps? • Through what impact channels (e.g., reduced workload, improved welfare, increased income, generated employment, enhanced household decision making, improved community facility)? • What project design features are necessary to ensure the above impact channels for gender benefits? 	<ul style="list-style-type: none"> • See Chapter V
	<p>Adverse gender impacts or risks</p> <ul style="list-style-type: none"> • Would the proposed project intervention likely to increase gender-specific risks (e.g., indebtedness, job loss, HIV and other communicable diseases, human trafficking, increased workload) or have adverse impacts disproportionately affecting women (environmental degradation, resettlement)? • Through what impact channels (e.g., tariff increase, sector retrenchment, etc.)? • What prevention and/or mitigation measures should be included to ensure the above impact channels for gender benefits? 	<ul style="list-style-type: none"> • HIV prevalence rate in project areas • Safeguards data to be collected through safeguards due diligence (disaggregated by sex)

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Table 2 *continued*

Issue	Key Questions	Examples of Baseline Data to be Collected
Supply-side: Women and men as service providers, in government, and project management		
Employment opportunities	<ul style="list-style-type: none"> • Are women currently employed in the sector (energy agencies and corporations)? • Can the project offer jobs for women (e.g., construction labor, project management staff, meter readers, customer service agents, office clerks, additional employment in energy corporations)? How many person-months are expected? 	<ul style="list-style-type: none"> • Percent of women among employees (if possible by level)
Work environment	<ul style="list-style-type: none"> • Do energy corporations apply good labor and safety standards? Do they have a good track record of gender-equal human resources strategy? • Can the project improve on the above? 	<ul style="list-style-type: none"> • Human resources strategy of energy utilities and agencies promoting gender equality
Representation in management and sector	<ul style="list-style-type: none"> • Are women well represented in the management of companies, high-level committees, or board in the sector? 	<ul style="list-style-type: none"> • Percent of women in management positions, committees, boards
Institutional capacity	<ul style="list-style-type: none"> • Do women have equal access to training opportunities in energy agencies and corporations? Can the project offer more training opportunity? • Can women’s role as partners in public–private partnerships be promoted (e.g., women as local franchisee enterprise owners or shareholders)? • What is the level of awareness of gender–energy linkages by energy agencies and utilities? 	<ul style="list-style-type: none"> • Percent of women participation in training provided • Percent of women-owned local franchisee partners
Enabling policy environment influencing gender-based determinants in demand and supply		
Policy	<ul style="list-style-type: none"> • Do key energy policies and strategies have any reference to gender issues? In what way? • Has any “gender audit” and/or “gender-responsive budgeting”[*] in the energy sector been conducted? What are the findings and lessons? 	<ul style="list-style-type: none"> • Rating of energy sector in gender-responsive budgeting (if it exists)

* “Gender audit” is a type of gender analysis to assess the degree to which an organization integrates gender concerns into its policy, strategy, and programs. It can be conducted as a self-assessment by the organization itself or by external groups. “Gender-responsive budgeting” is a process that translates the government’s gender equality commitments into the actual budgeting process. It typically involves the analysis of the current gender impact of budgets and the reprioritization of the budget priorities and key programs in a way to better address gender equalities and women’s empowerment.

B. Data Collection Methods

In many cases, most of the gender and energy quantitative and qualitative data may already exist:

- Census data typically contains information on household electricity connections, and household members' health and education status, based on location, social groups, and gender.
- National sample surveys usually have information on types and quantities of energy consumed, energy use in homes and businesses, and health status, and the data can generally be classified and analyzed by consumption level, income level, location, and sex of a household head.
- Energy end-user data are often collected by service providers and, in some countries, energy utilities conduct in-depth surveys on their household consumers.
- Existing ADB energy projects sometimes conduct detailed social and poverty surveys of project population with baseline data that can be classified and analyzed by consumption and income groups, gender, and location.
- Existing gender and energy literature in the country, such as country gender assessments,⁹ and other research and studies.

Project-specific primary data collection should be designed once the existing data is collected and that the data gaps are identified. The methods of collecting the primary data may vary, but they should follow gender-inclusive and participatory processes:

- socioeconomic household surveys;
- focus group discussions targeting women, especially poor women;
- priority ranking to get women to prioritize their needs and preferences (separately from those for men); and
- community meetings and mapping and planning with women's participation.

While quantitative data analysis can highlight the existence of gender gaps and constraints, such as the exclusion of poor women or households headed by women in the access and control of energy services, it cannot explain why such exclusions occur or how to deal with them. This requires further qualitative analysis, especially the gathering of women's stories, to provide a more in-depth gender analysis.

An example in the Lao People's Democratic Republic of how a good gender analysis translates into gender-aware project designs and gender equality results is in Box 2.

⁹ ADB. Country Gender Assessments. <http://www.adb.org/themes/gender/publications/%28286%29%2C1317>

CASE STUDY

Box 2 Addressing Affordability Constraints among Poor Households “Power to the Poor” in the Lao People’s Democratic Republic (2008)

The project objective was to increase household connection rates in villages covered by the rural electrification program from 70% to 85%–90%. Assisted by the World Bank, the household surveys pointed out that only 60%–80% of households in the pilot villages with access to the network of the state-owned energy company Electricité du Laos (EdL) chose to connect. Further social and gender analysis identified that those households not connected to the network were the poorest households in the villages, including those headed by women. The main barrier to connection was their inability to pay the up-front connection costs of about \$100–\$150. While households headed by women represent only 8% of all households in the Lao People’s Democratic Republic, they account for 43% of poor households; those headed by females are found disproportionately represented among the poor.

The main instrument used was customer credit to finance connection costs, initially targeting 20 villages in Champasak Province in southern Lao People’s Democratic Republic. Under the pilot project, about \$80 interest-free credit was provided to poor households for up-front connection costs, to be paid back to EdL in monthly installments (about \$2–\$3 per month) over 3 years. A revolving fund was set up for the purpose.

Project gender features included

- gender-sensitive eligibility criteria for all households headed by females with no electricity being automatically eligible for support; and
- gender-sensitive information campaigns and village-level mobilization of women.

This project extended electrification to about 42,000 rural households through connection to the EdL grid. It also provided electrification to about 10,000 households through off-grid technologies. Connection rates in the 20 pilot villages have increased from 78% to 95% overall, and from 63% to 90% for households headed by women, since the launching of the pilot project in September 2008. The project also proved to be very cost effective, with marginal costs to provide access to electricity at about \$80 per household compared to about \$600 per household with new grid extension projects.

Source: World Bank. 2009. *The Gender Action Plan in Lao PDR*. http://siteresources.worldbank.org/INTGENDER/Resources/GAP_LaoPDR.pdf

CHAPTER IV

Gender Entry Points for Project Designs in Energy Subsectors

As discussed in Chapter I, for a project in the energy sector to contribute to gender equality and women empowerment results, it is necessary to “go beyond meters” to bring to bear special efforts and interventions targeted at addressing existing gender inequalities, in addition to improving the general service delivery.

For ADB-financed projects to be categorized as GEN or EGM, preparation of a project-specific GAP is mandatory. A GAP includes gender-inclusive design features to directly benefit women and girls, with clear gender targets and monitoring indicators included in the project design and monitoring framework (Chapter V). The GAP identifies strategies, mechanisms, and project outputs for addressing gender concerns, and reports on how women are to be involved in the design, implementation, and monitoring process. Gender analysis (Chapter III) should inform the details of design features and the level of gender targets included in the GAP.

This chapter outlines possible gender-inclusive design features, activities, and measures that can be considered for inclusion for key subsectors of ADB energy investment projects. The energy subsectors have been clustered together, under the following five categories, based on similar and overlapping issues and design elements:

- A. Policy and institutional capacity development
- B. Power generation, transmission, and distribution in conventional energy (hydropower, coal, gas, oil)
- C. Rural electrification
- D. Renewable energy (solar, wind, small hydro, biomass, geothermal, ocean/tide)
- E. Energy sector development, energy efficiency, and energy trade.

Each subsector is furnished with project examples.

Not all energy subsectors offer the same degree of opportunities to be categorized as GEN/EGM. For example, a rural electrification project that directly meets the energy needs of rural women is far more likely to be GEN/EGM than a power generation project that, by itself, is unlikely to meet the GEN/EGM thresholds. However, this should not inhibit the efforts to

explore every opportunity to include gender-inclusive design features. Even in the case where GEN/EGM is not possible, there is an opportunity to prepare a well-designed “some gender elements” (SGE) project by directly reducing women’s vulnerabilities through mitigation measures or improving the working environment for women in the utilities (Box 3).

CASE STUDY

Box 3 Developing Institutional Gender Capacity of Energy Utility Uzbekistan Talimarjan Power Project (ADB, approved in 2010)

The project provides an innovative example of gender-sensitive capacity development to enhance management’s human resources and operational capacities and to institutionalize a gender-equitable working environment.

The project’s gender action plan (GAP) identifies two entry points of gender mainstreaming: at the employment level (corporate responsibility of the energy utility Uzbekenergo) and at the beneficiary level (corporate responsibility and social and community interventions at the project site). The GAP features include

- an output strengthening capacities and improving working conditions of power plant staff through (a) gender sensitivity training; (b) creating and institutionalizing gender focal point mechanisms in the plant; (c) hiring policy review with the aim of increasing women employees and managers; (d) improving the collection and analysis of gender data; and (e) improving women’s working conditions; and
- another output to support the development of social and community programs of power plants, including (a) setting up a community center with training, sports, and entertainment facilities for women and spouses of employees and their families; (b) vocational and livelihood skills training for unemployed women to engage in entrepreneurial activities; (c) programs on family planning, prevention of sexually transmitted diseases, and hygiene awareness; (d) scholarship programs targeting female students to increase the number of professional women staff members.

The project’s design and monitoring framework includes the building of a fully operational community center as an output. A gender specialist has been recruited to support the project management unit implement the GAP and monitor its progress.

The project was categorized “some gender elements” as no gender designs were included for the project’s core outputs for expanded power generation capacity.

(Gender Mainstreaming Category: Some Gender Elements)

Source: ADB. 2010b. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Administration of Loan to the Republic of Uzbekistan for the Talimarjan Power Project*. Manila.

A. Policy and Institutional Capacity Development

Gender-Specific Outputs	Gender-Inclusive Design Features, Activities, Measures
Public consultation on energy policy or strategy conducted with participation by the poor and women	<ul style="list-style-type: none"> • Build awareness among policy makers of gender-energy linkages. • Set a minimum target (%) for the participation of women and the poor in policy formulation by promoting transparency, accountability, and broad consultation with the poor and women. • Increase women’s access to energy-related information such as laws, regulations, and incentives. • Collect and use sex-disaggregated and gender-specific data to raise awareness about women’s energy needs to inform policy decisions. • Conduct gender-responsive budgeting* in the energy sector to identify the gender-differentiated impacts of public revenues and expenditures.
Gender-responsive approaches adopted in energy policy or strategy	<ul style="list-style-type: none"> • Expand energy access and improve affordability for the poor, and improve service delivery. • Maximize opportunities for women’s employment and livelihoods related to energy access. • Enhance environmental sustainability so that climate change reduction and mitigation measures contribute to reducing the vulnerability of poor communities, with a focus on women, children, and the elderly. • Recognize women’s drudgery of collecting biofuel and use of polluting cookstoves and heating devices as an issue of concern in the energy sector. Expand poor women’s energy access to renewable energy supplies and nonpolluting technologies. • Promote gender equality and women’s empowerment through targeted policy support that maximizes positive impacts on services used by women and girls.
Institutional capacity of energy agencies and utilities built to provide gender-responsive energy services	<ul style="list-style-type: none"> • Build gender awareness of energy sector policy makers through (i) context-specific and targeted training programs to promote gender awareness; (ii) policy dialogue; (iii) gender budgeting; (iv) gender aware policy evaluation; (v) dialogue between government agencies, energy utilities, and women’s organizations; and (vi) lateral learning based on knowledge sharing of gender issues. • Train government and utility staff (both women and men) in key gender issues in risk mitigation strategies and social safeguards. • Train government and utility staff (both women and men) in new energy technologies and international standards and practice. • Adopt a gender-equal human resources management strategy based on the implementation and application of gender equity laws and regulations in the energy sector, such as <ul style="list-style-type: none"> ✓ increasing the percentage of female employees and managers (set a % target); ✓ applying gender equity criteria in performance reviews of managers; ✓ establishing a gender-sensitive and secure working environment for women, such as (i) having adequate numbers of separate toilet and shower room facilities for women employees, and (ii) raising awareness of all managers and employees on sexual harassment and other forms of violence against women; and ✓ establishing mechanisms to institutionalize the ongoing monitoring of gender equality principles in the workplace and to represent the interests of female and male employees in the organizations’ consultative processes. • Develop and update a sex-disaggregated project management database. • Train project staff on effective implementation and monitoring of project gender features and project gender action plan.

* Gender-responsive budgeting is a process to translate the government’s gender equality commitments into the actual budgeting process. It typically involves the analysis of the current gender impact of budgets and the reprioritization of the budget priorities and key programs in a way to better address gender equalities and women’s empowerment.

B. Power Generation, Transmission, and Distribution in Conventional Energy

Gender-Specific Outputs	Gender-Inclusive Design Features, Activities, Measures
Energy access expanded for poor households	<ul style="list-style-type: none"> • Extend grid to widen energy access to poor households, especially those in rural areas. • Ensure affordability for the poor households (which often include those headed by women): <ul style="list-style-type: none"> ✓ free or affordable credit for up-front household connection costs (pole to house and inside household wiring); ✓ automatic eligibility for up-front household connections for poor households; ✓ revolving funds to support access for the poor; ✓ tariff levels set to reflect poor women's income levels; and ✓ gender-inclusive public consultation to assess women's opinions and preferences about affordability issues.
Energy-based women's enterprises established and operating	<ul style="list-style-type: none"> • Educate women and men about the new opportunities available for energy-based enterprises and livelihoods. • Partner with national and local NGOs to implement pilot livelihood programs which include training for women in <ul style="list-style-type: none"> ✓ the use of labor-saving end-use energy technologies; ✓ access to appropriate microcredit services, grants, and/or concessional loans; ✓ finance and business management; ✓ market access and marketing strategies; and ✓ other business development services. • Conduct technical training on energy-based entrepreneurship widely to local NGOs to promote more NGO participation in the energy sector.
Employment for women generated in the energy sector	<ul style="list-style-type: none"> • Include women in project construction activities and set targets for women's employment, where possible. Community-based maintenance contracts possibly offer women's wage labor opportunities much more than mechanized civil works contracts. • Promote and provide technical and vocational training for women to promote women's employment, e.g., as technicians, in routine operation and maintenance, meter readers, electricians. • Partner with education service providers, such as vocational and/or technical training institutes and colleges, to implement gender-inclusive technical training programs. • Scholarship programs to promote girls' education in nontraditional sectors, such as engineering. • Implement core labor standards and/or appropriate labor laws in relation to equal employment opportunities, equal pay for work of equal value, and women's on-the-job health and safety. • Provide separate facilities for women, including separate toilets, rest rooms, and child-care facilities, in project sites.

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Gender-Specific Outputs	Gender-Inclusive Design Features, Activities, Measures
Gender-sensitive user education programs conducted	<ul style="list-style-type: none"> • Develop user education programs and modules targeted at women and men to include the following topics: <ul style="list-style-type: none"> ✓ safe and efficient use of electricity and end-use technologies specifically targeted and relevant to women’s household chores and economic activities; ✓ gender-sensitive consumption patterns and habits, such as the importance of cooking energy and energy use for housework; ✓ promotion of women’s role as energy efficiency advocates; and ✓ awareness raising about consumer entitlements, rights, and responsibilities; on relevant energy sector regulations; linkages with gender equity policies/strategies/laws; decision-making structures and processes; and conflict management and resolution provisions.
Energy service delivery improved to poor and low-income households and basic services relevant to women and children provided	<ul style="list-style-type: none"> • Identify instruments and mechanisms to minimize power shortages and outages and improve service delivery to poor, rural households, and communities, such as health clinics and schools, pumped water, and street lighting.
Women’s involvement as service providers in the energy sector increased	<ul style="list-style-type: none"> • Promote women’s entrepreneurship to serve <ul style="list-style-type: none"> ✓ newly emerging renewable energy markets, and ✓ gaps in energy markets left unserved by the private sector. • Provide incentives to improve the profitability of women entrepreneurs, such as tax benefits, public funding, energy equipment rebates, microcredit, and small and medium-sized enterprise financing.
Women’s participation in local public–private partnership initiatives increased	<ul style="list-style-type: none"> • Include women’s cooperatives, self-help groups, and NGOs as civil society partners with government and the private sector. • Promote women’s role in local franchisee partnerships as entrepreneurs, managers, shareholders and members, and staff. • Provide women with the technical training necessary to play these roles effectively.
Gender-responsive corporate social responsibility conducted	<ul style="list-style-type: none"> • Develop and conduct community development programs for the families of employees and/or nearby communities, such as community development service center, vocational training for women, micro- and small enterprise development for services, reproductive health and family planning awareness programs, and cultural and recreational activities for women and children. • Support scholarship programs especially targeted at increasing girls’ enrollment in engineering and technical courses. • Improve women’s mobility and safety in power plant areas and in the community at large, including through investments in street lighting. • Enhance and institutionalize gender-equitable human resources management. • Gender training for management and staff.

NGO = nongovernment organization.

CASE STUDY

Box 4 Credit to Connect in Sri Lanka Power Fund for the Poor (JFPR, approved in 2004)

The grant Power Fund for the Poor, which complemented the Power Sector Development Program (ADB 2002), ensured that poor and marginalized households—including those headed by women—could access electricity services. The grant piloted a sustainable microfinance revolving fund that allowed poor households to amortize the up-front capital costs required to electrify their homes.

The project sought to aid poor households through a microfinancing scheme that provided them with the credit they need to overcome the high initial cost of connection to the local electricity grid. ADB financed the Power Fund for the Poor through a \$1.5 million grant from its Japan Fund for Poverty Reduction. The fund targeted poor households that are within the range of the grid but could not afford the connection costs of \$130–\$170 to access it. The pilot project was implemented in eight districts in south and central Sri Lanka.

The promotion of the program and the handling of the loans were mostly undertaken by a nongovernment organization with a track record in rural development activities. SLRs90 million (about \$0.8 million using the 2008 exchange rate) was disbursed, enabling 6,690 village households to complete their household wiring and obtain connections to the Ceylon Electricity Board grid. The nongovernment organization reported a loan recovery rate of 97%.

The project impact included reduced energy bills for more than 50% of surveyed beneficiaries; reduced women's workload through purchases of end-use energy technologies such as irons and blenders for grinding spices; increased income for newly electrified microenterprises, including through the introduction of refrigeration in food preservation; increased agricultural production with the introduction of pumped water for irrigation; and extended study hours of children at home as a result of household lighting. Another major benefit identified by women is that of access to information and entertainment brought through television.

A key challenge identified was the need for better pro-poor targeting of beneficiaries and assessing their ability to repay loans. Building on these results, in 2009, ADB approved a grant amount of \$2 million through the Rural Household Connection Project (TA 7266, linked to the Clean Energy and Access Improvement Project) to establish a loan-funded credit support program to provide electricity connections to at least 60,000 poor households.

Source: ADB. 2004. *Proposed Grant Assistance to Sri Lanka for the Power Fund for the Poor*. Manila.

CASE STUDY

Box 5 **Enhancing Women's Capacity as Service Providers** Uzbekistan Advanced Electricity Metering Project (ADB, approved in 2011)

This project implements a gender strategy that combines gender-sensitive institutional capacity building with opportunities for women's participation in customer service functions and user-education activities in the energy sector.

The project is expected to install advanced electricity meters for about 1 million residential and commercial customers and improve the quality of customer services. The project's gender action plan (GAP) is designed around two main objectives: (i) improve career development for women in the executing agency Uzbekenergo, and (ii) empower women as customers and energy consumers. Key gender design features of the GAP and the design and monitoring framework include

- the transferred 80 women meter controllers trained in data collection and data management systems and offered employment at Uzbekenergo;
- capacity development for Uzbekenergo in gender mainstreaming, including the establishment of gender focal points and a GAP working group within the institution, and the establishment of sex-disaggregated database for human resources management and development, as well as customer services;
- women leaders trained and core groups established to conduct awareness-raising campaigns on energy efficiency and consumer rights; and
- district service centers to be managed by female staff—50% of staff at district service centers to be composed of women.

Implementation arrangements include the recruitment of a national gender consultant for GAP implementation.

(Gender Mainstreaming Category: Effective Gender Mainstreaming)

Source: ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Uzbekistan for the Advanced Electricity Metering Project*. Manila.

CASE STUDY

Box 6 Introducing Gender-Focused Community Development Activities Sri Lanka Sustainable Power Sector Support (ADB, approved in 2011)

This transmission and distribution project has been designed to provide various opportunities to poor, rural communities and implement gender-focused community development activities, as a result of increasing distribution coverage.

A key outcome of the project is to increase distribution coverage resulting in the electrification of remote rural communities in the Eastern and Uva provinces of Sri Lanka. The project's gender action plan and design and monitoring framework include the following key design features:

- training 1,500 persons from poor and vulnerable households in the Eastern Province in electricity-related skills, such as routine operation and maintenance of distribution lines and substations and meter reading, to create a pool of service providers eligible for Ceylon Electricity Board and energy-sector employment (target 30% women);
- livelihood skills training for about 225 women in the repair of electrical appliances, such as TVs, mobile phones, household equipment, as well as three-wheelers;
- training women as energy auditors to improve energy efficiency—90 persons trained with a target of 30% women's participation;
- raising awareness of newly electrified households—estimated at 12,000—in the safe and efficient use of electricity, livelihood opportunities, and gender-sensitive energy consumption patterns and habits at the household level, with the use of women motivators; and
- a gender review of Sri Lanka's energy sector program and policies.

(Gender Mainstreaming Category: Effective Gender Mainstreaming)

Source: ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Administration of Technical Assistance Grant to the Democratic Socialist Republic of Sri Lanka for the Sustainable Power Sector Support Project*. Manila.

CASE STUDY

Box 7 Lighting Up Women's Lives in Papua New Guinea Papua New Guinea Town Electrification Investment Program (ADB, approved in 2011)

Women in Papua New Guinea (PNG) confront serious challenges—such as giving birth in poorly lit health posts, performing the strenuous and time-consuming task of collecting firewood, and cooking in smoky kitchens—and have limited skills for employment and income generation. An energy project is changing all this by giving women a voice in decision making and providing skills training for income generation.

The PNG Town Electrification Investment Program (ADB 2010) includes providing for 30% female participation in community consultations, skills training for village committees and households (minimum 50% women), 50% female participation in village power and water committees, jobs for women in project construction and ongoing maintenance, equal pay for equal work, an HIV/AIDS awareness campaign, and gender awareness and capacity-building training for the energy utility. The power and water committees are important conduits for influencing and shaping the governance and use of energy and water supply for the future.

(Gender Mainstreaming Category: Effective Gender Mainstreaming)

Source: ADB. 2011. *Gender Equality. Bridging the Gap*. Manila.

C. Rural Electrification

Gender-Specific Outputs	Gender-Inclusive Design Features, Activities, Measures
Energy access by rural poor women and men increased and expanded	<ul style="list-style-type: none"> • Extend grid to cover poor households in rural areas. • Provide remote rural communities that cannot be economically connected to national electricity grids with alternative energy supplies, such as off-grid generation capacity and dispersed renewable energy systems. • Ensure affordability through <ul style="list-style-type: none"> ✓ free or affordable credit for up-front household connections costs for rural poor households; ✓ automatic eligibility for up-front household connections for rural poor households headed by women; ✓ revolving funds to support access for rural poor; ✓ tariff levels to improve affordability and reflect rural women's income levels; and ✓ inform and consult rural poor women about affordability issues.
Women's participation in decentralized, community-managed distribution models enhanced; and the technical and organizational capacity of these systems strengthened	<ul style="list-style-type: none"> • Increase women's participation in electricity cooperatives/users groups/committees and set targets to promote women's participation. • Train women to be employed as system operators, technicians, managers, account staff, and other duties pertaining to these entities. Include the following subjects: business management, energy efficiency, technical standards, design and maintenance of distribution networks, operation and maintenance, and safety. • Conduct gender-sensitive activities on community entitlements, rights, and responsibilities, such as gender equity laws and regulations, energy sector regulations, leasing agreements, decision-making structures and processes, and conflict management and resolution mechanisms. • Provide gender training for electricity cooperatives/committees and user groups. • Develop and implement gender-sensitive user-education programs for rural consumers. • Educate women and men about the new opportunities to increase productivity and the value of their outputs, reduce postharvest losses in sustainable agricultural production and processing and non-agricultural cottage and village-level industries, e.g., traditional crafts, services and eco-tourism, through clean and renewable energy-based mechanization. • Introduce new clean technologies that can have a major impact on women's workload, e.g., agro-processing, food preparation, and household chores, and promote women's enterprises in new markets that emerge with energy access, such as low-energy-consuming information and communication technology.
Women's energy-based rural entrepreneurship at the cottage and village levels developed	<ul style="list-style-type: none"> • Partner with local and national NGOs to pilot interventions, including <ul style="list-style-type: none"> ✓ training women in the use of nonpolluting and time-saving technologies; ✓ training for women in energy-efficient and sustainable agricultural production methods and techniques, including eco-farming; ✓ enabling women to access the necessary capital through microcredit services, grants, and concessional loans; ✓ training for women in finance and business management; and ✓ market access information and marketing strategies. • Capacity development of local NGOs to participate in the emerging renewable energy sector.
Service delivery capacity transferred to rural poor women	<ul style="list-style-type: none"> • Promote women's entrepreneurship using rural electrification through <ul style="list-style-type: none"> ✓ capacity building of rural women as modern energy providers (e.g., electricity cooperatives, franchisees) to their communities; and ✓ public-private partnerships promoting women's role in local distribution franchises, as entrepreneurs, managers, shareholders, and members. • Transfer skills to rural poor women by training women as village technicians, and provide them with jobs and livelihoods in the sustainable operation and maintenance of household village-level systems.

CASE STUDY

Box 8 Comprehensive Gender Design Features in Viet Nam Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector (ADB, approved in 2009)

This project in Viet Nam expands rural electrification to remote mountainous communities. Introduction of small-scale renewable energy systems expands access to electricity by poor, ethnic minority women.

The project targets 75% of households headed by women being provided with electricity by 2016 (about 105,000 households). Project gender action plan includes the following comprehensive design features:

- subsidized grid connection to poor and ethnic minority households and those headed by women;
- representation of women (from the Women's Union, ethnic minority community, and poor households) in the community management board to participate in planning, implementing, and monitoring project activities (productive use of electricity, awareness of safe use of electricity, and conservation);
- mobilization of women's groups for awareness campaign on safe use of electricity;
- training of Women's Union members as facilitators for awareness campaign on HIV/AIDS, sexually transmitted diseases, and human trafficking risks, conducted in a culturally responsive manner to ethnic communities;
- skills training for women's microenterprises and microfinance, based on needs assessments; and
- implementation of a gender strategy within a resettlement plan gender strategy to ensure that women are consulted separately for loss of inventory, land acquisition, compensation, and logistics.

A national gender specialist is to be recruited to work closely with the project nongovernment organization to operationalize the above measures to address gender issues in the relevant project activities.

(Gender Mainstreaming Category: Effective Gender Mainstreaming)

Source: ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the Socialist Republic of Viet Nam for the Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project*. Manila.

CASE STUDY

Box 9 Supporting Women's Rural Livelihoods through Rural Power Supplies in India Madhya Pradesh Energy Efficiency Improvement Investment Program (ADB, approved in 2011)

This multitranche financing facility program envisages the power distribution companies to provide quality 24-hour power supply to 100% of rural villages in Madhya Pradesh. A Technical Assistance for Tranche 1 of the facility provides support to enhance the energy-based livelihoods of women entrepreneurs as a result of a stable, 24-hour and quality power supply.

A household survey conducted to design the program shows that there is an estimated 53,600 women-operated microenterprises, such as handicrafts, small-scale catering, shopkeeping, agro-processing, and services, in the project area. Close to 30% of home-based microenterprises were operated by women. Focus group discussions with women's self-help groups (SHGs) identified that the increased and more regular electricity supply will reduce the production costs and lead to business expansion and acquisition of electrical equipment. About 18% women entrepreneurs interviewed said that they would expand their business activities, and 9% said that they would start new businesses. Almost all SHGs reported that they faced severe problems with household chores due to lack of electricity. Focus group discussions with SHGs also found that 50% reported severe constraints to existing microenterprises due to lack of electricity.

The technical assistance Enhancing Energy-Based Livelihoods for Women Micro-Entrepreneurs builds the capacity of 20,000 women entrepreneurs and 1,000 women's SHGs to enhance the business opportunities opened up by improved power supply in the rural areas. The main gender equity targets and indicators in the technical assistance and the project gender action plan have been integrated in to the project design and monitoring framework (DMF). These include (i) improved business opportunities for 20,000 microenterprises headed by women as a project outcome; (ii) 500 women's SHGs across 32 districts trained in business development services; and (iii) 500 women's SHGs trained in gender-sensitive user awareness and energy conservation programs.

The project will also monitor the following DMF social and gender impact indicators: time saving for women from household tasks improved by 20%; and study time for children increased by 25% (compared with the 2011 baseline levels). Funds for implementing the gender interventions, including a national nongovernment organization for technical assistance implementation, as well as international and national consultancy services, have been provided under the technical assistance.

(Gender Mainstreaming Category: Effective Gender Mainstreaming)

Source: ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility and Technical Assistance Grant to the Government of India for the Madhya Pradesh Energy Efficiency Improvement Investment Program*. Manila.

D. Renewable Energy

Gender-Specific Outputs	Gender-Inclusive Design Features, Activities, Measures
Access of poor, rural women and men to renewable energy systems and technologies improved	<ul style="list-style-type: none"> • Provide remote rural households that cannot be economically connected to national electricity grids with alternative energy supplies, such as off-grid, dispersed, renewable energy systems, especially targeted for household energy use, e.g., small to micro hydro systems, solar photovoltaic home systems, domestic or community biogas digesters, and micro wind turbines. • Develop gender-inclusive, sustainable operational models, for the decentralized O&M of these systems based on women's participation, to include <ul style="list-style-type: none"> ✓ training for women in the new technology as system operators and technicians, and O&M crew; ✓ increased women's participation in cooperatives/users groups/committees; ✓ developing gender-sensitive user education programs in the safe O&M of renewable energy systems and technologies; and ✓ decentralizing the dissemination of this information and training activities. • Provide affordable options to offset the high, one-time initial cost of renewable energy technology and systems for women and low-income consumers through mechanisms such as capital grants, consumer credit/microfinance, rental models, and by developing smaller, low-cost systems.
Women trained and employed as service providers in renewable energy systems and technologies	<ul style="list-style-type: none"> • Educate and raise awareness among women and men in the new livelihood opportunities provided by the introduction of renewable energy systems, such as <ul style="list-style-type: none"> ✓ Biogas <ul style="list-style-type: none"> * biogas plant construction masons and maintenance * crop planting and animal breeding for biomass * waste management and treatment * collection and sale of bio-slurry for crop production and vegetable farming * service providers in biogas equipment construction and sales, such as improved cookstoves. ✓ Solar <ul style="list-style-type: none"> * assembly and installation of stand-alone solar photovoltaic systems and solar panels * O&M of solar energy systems * solar power enterprises: solar panels, controllers, and inverters for home systems; solar water heaters; solar lanterns * CFL and LED lamp assembly and sales. • Train rural women as village technicians in the construction, assembly, and routine O&M of renewable energy systems and set targets for women's participation. • Provide targeted incentives to support women's entry as energy suppliers in the emerging renewable energy market, such as microfinance, small and medium-sized enterprise financing, and grants and concessional loans; tax benefits; renewable energy technology rebates; measures and incentives to improve domestic banks and financial institutions risk perception and awareness of lending to women entrepreneurs and renewable energy investments.

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Table continued

Gender-Specific Outputs	Gender-Inclusive Design Features, Activities, Measures
Gender mainstreamed in climate mitigation financing schemes	<ul style="list-style-type: none"> • Climate funds and emerging carbon market mechanisms, such as CDM projects, to prioritize <ul style="list-style-type: none"> ✓ improving energy access of women and the poor, and ✓ ensuring that both women and men contribute to and benefit from climate change mitigation activities. • Promote women's role in reducing CO₂ emissions by adopting energy efficiency and energy-saving measures in <ul style="list-style-type: none"> ✓ areas where women are traditionally a part of the labor force, such as agro-processing, brick making; and ✓ in promoting household-level energy efficiency. • Increase the participation of women and the poor in the design of climate mitigation financing schemes and projects, such as in designing CDM projects, and consult with women's ministries and departments in government. • Support governments establish sex-disaggregated and gender database relevant to climate change (e.g., knowledge and practices of CO₂ emissions, access to and preferences for clean energy and technologies). • Incorporate/link with gender elements in national action plans and programs on adaptation and mitigation. • Promote the bundling of small-scale, community-based, off-grid renewable energy projects to provide the economies of scale to access climate funds, with a focus on funding for household energy, agriculture and food processing, afforestation and reforestation and natural resource management services, based on women's traditional knowledge.
Targeted investments provided to maximize gender equality results of renewable energy	<ul style="list-style-type: none"> • Invest in renewable energy technologies for street lighting, solar lamps to improve women's mobility and reduce women's vulnerability, or solar lanterns to girls and boy students to improve gender gaps in education. • Identify women's preferences in the design, use, and installation of renewable energy technologies, especially at the household and community levels, to ensure that the technologies contribute to reducing women's workloads.

CDM = Clean Development Mechanism, CFL = compact fluorescent lamp, CO₂ = carbon dioxide, LED = light-emitting diode, O&M = operation and management.

CASE STUDY

Box 10 Solar Warriors of Bhutan

Bhutan Rural Electricians' Training Program (JFPR, approved in 2006) and Rural Renewable Energy Development Project (ADB, approved in 2010)

The Government of Bhutan has set an ambitious target of universal electrification by 2013. A major challenge facing this target is supplying energy to the widespread, isolated villages that dot Bhutan's mountainous countryside, some of which can be even several days away from the nearest road by foot. A scheme to address both off-grid power generation and technical knowledge was required. ADB developed a \$1 million grant from the Japan Fund for Poverty Reduction for rural electrification in Bhutan, with a component to pilot a unique approach developed by the Barefoot College in Rajasthan, India, for sustainable rural electrification: training women to be rural electricians to install and service solar photovoltaic panels and batteries. Thirty-five (35) women were selected for a 6-month training program in India on the installation and repair of solar panels and wiring and auxiliary systems. The women returned to their villages as "barefoot engineers." The project also covers the cost of solar home systems for all households in the selected villages, at an average of 15 households per village.

Within 3 months after returning home from training, solar panels were installed on the rooftops of 504 households in 46 villages, covering 13 districts. Direct benefits of electricity included the following:

- Clean electricity has replaced kerosene and the burning of wood resin for light.
- Health has improved, thanks to lighting (such as in the operations of a local clinic).
- Children can study better with light than with kerosene lamps.
- The workday is extended beyond nightfall, allowing villagers to engage in other income-generating activities, such as craft making.

The project has demonstrated that the transfer of skills, including in emerging renewable energy technologies, can be accomplished without high levels of education among rural women.

A key lesson learned from the Bhutan Rural Electricians' Training Program was the need to build in sustainability measures, to maintain the solar home systems by providing ongoing, routine operation and maintenance services. The subsequent Bhutan Rural Renewable Energy Development Project (ADB 2010), categorized as Effective Gender Mainstreaming, attempts to build on these lessons and address sustainability issues by constructing off-grid renewable energy systems and deploying a pool of 120 village technicians to service these systems. A target of 40% women will be trained under the Bhutan Power Corporation's Village Technicians' Training Program.

Key gender design features in the project gender action plan (GAP) and design and monitoring framework (DMF) include

- 60 days of training in the operation and maintenance of off-grid solar home systems for 120 trainees—target 40% women—under the Bhutan Power Corporation's training program;
- 30 days of training in grid system maintenance for 120 trainees—target 40% women;
- energy-based livelihood skills training for 200 women in project areas;
- women's participation (40%) in training, construction, and operation and maintenance of 1,600 domestic biogas plants; and
- a gender review of Bhutan's energy sector programs and policies.

A 50% reduction in the domestic use of fuelwood for cooking by 2020 (from 2005 baseline) is a project DMF impact indicator. Implementation arrangements include gender specialist services for GAP implementation.

Sources: ADB. 2006. *Proposed Grant Assistance to the Kingdom of Bhutan for the Rural Electricians Training Program*. Manila; ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Grant to the Kingdom of Bhutan for the Rural Renewable Energy Development Project*. Manila.

CASE STUDY

Box 11 Training Rural Women to Manage Renewable Energy Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal, and Sri Lanka (JFPR, 2011)

This regional grant project financed by the Japan Fund for Poverty Reduction is an innovative example of gender-inclusive interventions that go “beyond the meter,” based on the electrification of remote rural communities. The grant complements the Bhutan Rural Renewable Energy Development Project (ADB 2010) and the Sri Lanka Power Sector Support Project (ADB 2011).

The grant supports pilot interventions to increase rural poor women’s access to reliable and affordable clean and renewable energy sources and technologies in select project sites in Bhutan, Nepal, and Sri Lanka. A major focus of project activities is training rural poor women in energy sector-related skills to increase their livelihood opportunities, by enabling them to “break into” this nontraditional sector.

Key project outputs include the following:

- Bhutan: Training for 120 village technicians—target 40% women—in the operation and maintenance of off-grid solar home systems, as well as the maintenance of grid systems
- Nepal: Training of trainers for 50 members of community-managed distribution systems—target 30% women—who, in turn, will educate 20,000 households—target 50% women’s participation
- Sri Lanka: 1,500 people trained in operation and maintenance, meter reading, and other skills required by the Ceylon Electricity Board—target 30% women.

The project also includes training activities to enhance women’s energy-based entrepreneurial activities. Project impact indicators include reduced women’s labor time spent on household chores and increase in time spent on learning and recreational activities; increase in the number of women’s microenterprises using electrical appliances; and increased women’s participation in community decision-making activities.

Source: ADB. 2011. *Proposed Regional Grant Assistance to Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal, and Sri Lanka*. Manila.

E. Energy Sector Development, Energy Efficiency, Energy Trade

Gender-Specific Outputs	Gender-Inclusive Design Features, Activities, Measures
Energy efficiency at the household level increased with women as active change agents	<ul style="list-style-type: none"> • Reduce the reliance of poor households on traditional biomass fuels by providing poor women with greater access to and choice of clean and renewable energy sources, such as liquefied petroleum gas (LPG) and biogas for cooking. • Develop programs to provide poor women with a greater choice in more efficient, nonpolluting energy technologies, such as improved cookstoves and improved water mills for grinding and hulling. • User education programs targeting women to raise awareness and change household behavior patterns to improve energy conservation in households. • Promote women as advocates for energy conservation and efficiency in households and communities.
Poor and vulnerable communities benefited from sustainable energy-efficiency enhancement measures	<ul style="list-style-type: none"> • Prioritize energy-efficiency enhancement investments that are likely to have disproportionate benefits to those with less coping powers (e.g., the poor, women, and children), such as improved air and water quality for reduced morbidity and mortality rates. • Calculate the likely cost of energy losses through inefficiency in national transformation, transmission, and distribution borne by the poor and low-income households. • Implement clear fiscal incentives and charges (energy and pollution taxes) to discourage excessive, inefficient, and environmentally harmful energy and to create supplemental funds for expanding infrastructure to widen the energy access and choices of poor and low-income women and men. • Consider an action research to monitor gender impacts of energy-efficiency technologies and programs, given the dearth of empirical evidence.
Poor households benefited from energy trade between countries	<ul style="list-style-type: none"> • Energy trade between countries and regions to prioritize poverty, social and gender beneficial impacts, such as <ul style="list-style-type: none"> ✓ increasing domestic energy supplies and reducing domestic energy costs to widen energy access of poor women and men, and ✓ nonpolluting and renewable energy technology transfer to increase the energy choices of poor women and households.

CASE STUDY

Box 12 Gender-Inclusive Energy Efficiency Education in Bangladesh Power System Efficiency Improvement Project (ADB, 2011)

The project is piloting a gender-inclusive user education program and module, to promote household energy efficiency, with the view to developing a resource for industry-wide use in the energy sector.

A key project output is the reduction of carbon dioxide emissions by 300,000 tons annually. This will be partly enabled through renewable energy power generation based on solar and solar–wind–diesel hybrid systems. The project will also install 33,000 solar street lighting systems in several project sites, thus contributing to the increased safety and security of women and their communities.

The project gender action plan and design and monitoring framework include the following key design features:

- gender-sensitive user education materials and modules developed and awareness-raising activities and methodologies identified for implementing the user education program on the energy efficiency and conservation at the household level—pilot target group of 1,000 women in selected project sites;
- capacity development activities to sensitize the executing agency in gender-inclusive community engagement; and
- technical training provided for women in the operation and maintenance of grid-connected solar power plant and solar–wind–diesel hybrid off-grid plant—target 25% women’s participation in all training activities.

Implementation arrangements include the recruitment of an international gender and energy specialist as team leader to coordinate project implementation, national nongovernment organization for community mobilization activities, as well as international and national consultancy services for the development and implementation of the user education module.

(Gender Mainstreaming Category: Effective Gender Mainstreaming)

Source: ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People’s Republic of Bangladesh for the Power System Efficiency Improvement Project*. Manila.

CHAPTER V

Gender Targets and Indicators in Design and Monitoring Framework

A project design and monitoring framework (DMF) is the basis for performance monitoring and evaluation during and after project implementation. It is important to reflect the key gender design features and gender equality results articulated in the project GAP in the DMF as much as possible to ensure that gender considerations are addressed and monitored during project implementation. This consists of the inclusion of key gender targets or performance indicators at the impact, outcome, and output levels and in activities and inputs in the project DMF.

Some examples are provided for each level. Note that for impact, outcome, and outputs, the targets/indicators need to be set against the baseline with the clear time frame (by when).

Impact: Will the project impact contribute positively toward gender equality and women's empowerment?

Examples of gender impacts:

- Poverty-related impacts: reduced energy expenditure by households
- Women's empowerment: reduced time spent by women on household chores
- Health: decrease in the number of workdays lost by women and men due to bad health; improved quality of health services, especially maternal health and children's health services, in dispensaries, clinics, and hospitals
- Education: improved primary and/or secondary school enrollment, attendance, and performance for girls and boys; increase in time spent by women on skills and vocational training and learning activities; improved working conditions for teachers at school; improved school and classroom conditions for female and male students
- Environment: reduction in indoor air pollution levels; climate change reduction and mitigation measures to reduce women's vulnerability and benefit both women and men

Outcomes: For GEN category projects, project outcomes must include reduced gender disparities or empowerment of women. Given that outcomes of energy projects are often "efficient power distribution," "expanded power generation capacity," and "enhanced operation capacity of a power utility," in reality, no energy project has yet been categorized as GEN. However, if a project outcome deals with access and affordability, there is a great chance for GEN.

Examples of gender outcomes (these could be output indicators, depending on the project designs):

- improved access to electricity by poor rural households,
- increased number of women having access to renewable energy supplies and nonpolluting technologies, and
- improved affordability for poor households (including those headed by women).

Outputs: For projects with a GEN or EGM category, relevant GAP performance targets and indicators need to be reflected in at least half of project outputs.

Examples of gender outputs (with numerical or percentage targets, where possible):

- Access
 - ✓ number of poor households connected to energy services (number or percentage of poor households headed by women among them can also be monitored)
- Affordability
 - ✓ number of poor households subsidized (or credit provided) for connection (number or percentage of poor households headed by women among them can also be monitored)
- Energy and technology use
 - ✓ number of households adopting clean cookstoves and other workload-saving technologies
- User knowledge
 - ✓ number and percentage of households familiar with efficient use of clean energy (with percentage of training participated by women)
- Consumer/customer satisfaction
 - ✓ consumer satisfaction with the electricity services pertaining to adequacy of supply, prices charged, and tariff levels (ratings disaggregated by sex)
- Employment opportunities
 - ✓ number of jobs (person-days) generated for women by the project (and percentage of total jobs generated) by the project construction work
 - ✓ number of women-owned or -managed energy sector enterprises established or trained (and percentage of total)
 - ✓ number and amount of microfinance or small and medium-sized enterprise finance accessed by women for energy-based enterprises (and percentage of total)
 - ✓ number of women receiving technical and skills development training provided to women (and percentage of total)
- Decision making
 - ✓ percentage of women represented in electricity users groups, committees, cooperatives, utility management level, energy board, and other decision-making bodies
 - ✓ percentage of women participated in policy formulation public consultation meetings

- Capacity of service providers
 - ✓ number of project staff and staff of energy agencies and utilities receiving gender awareness training
 - ✓ gender equality performance of energy sector agencies or utilities improved (e.g., human resources strategy)
 - ✓ sector policy or strategy explicitly highlighting gender equality adopted

Activities with Milestones: For projects with a GEN or EGM category, GAP implementation should be included in the “activities with milestones,” along with approximate time lines, and key GAP activities should also be included as relevant.

In general, “activities with milestones,” including for projects of some gender elements category, should highlight

- activities with high women’s concentration,
- project services targeted at women,
- gender training and capacity-building activities,
- the collection of sex-disaggregated data to monitor and report gender impacts and other gender-responsive processes, and
- tranche release conditions that ensure gender-responsive policy.

Inputs: Projects inputs should ensure that technical and financial resources are sufficient for GAP implementation. Although there is no space to specify gender-specific inputs in the DMF, ensure that

- the project cost estimate table includes allocation of sufficient funds required for GAP implementation (e.g., gender specialists, field agents, surveys, travel budgets for review missions); and
- the project administration memorandum (PAM) includes GAP implementation as part of the project schedule, consultant terms of reference (TOR), and institutional arrangements.

Assumptions and Risks: The project should identify gender-related assumptions and risks. The gender analysis conducted during project preparatory technical assistance implementation should verify assumptions on potential benefits and risks.

Some examples are

- assumptions about the sustained commitment, acceptance, and understanding of pro-poor and gender issues of government and key stakeholders;
- assumptions about the capacity of implementing agencies to implement gender design features and the project GAP;
- assumptions about communities’ acceptance to address gender issues;
- risks that gender considerations will not be adequately addressed;
- risks that there is weak capacity to implement the gender design features of the project; and
- risks that communities might not be united in their commitment to address gender issues.

Appendix 1

ADB's Gender Mainstreaming Project Categories

At the approval stage, Asian Development Bank (ADB) loans and grants are classified into one of four categories: (i) category I: gender equity as a theme (GEN); (ii) category II: effective gender mainstreaming (EGM); (iii) category III: some gender elements (SGE); and (iv) category IV: no gender elements (NGE). The first two categories are counted against ADB's gender mainstreaming targets set to be 40% of all approved sovereign projects by 2012.

GEN and EGM projects both require (i) gender analysis during project preparation, (ii) gender targets or indicators in at least half of the project outputs in the design and monitoring framework, (iii) a gender action plan that incorporates gender-inclusive design features to directly benefit women or girls included in the project's report and recommendation of the President and in the project administration manual, and (iv) loan covenant to support the gender plan or gender-inclusive features. On top, GEN requires a project outcome to include gender equality targets.

SGE projects are either

- those by their nature that are likely to directly improve women's access to social, economic, or financial resources or opportunities (such as education, health, rural development, microfinance, and water supply and sanitation projects), but that include little gender analysis and few or no specific design features to optimize the benefits for women; or
- those that are unlikely to directly improve women's access to social, economic, or financial resources or opportunities (such as road or railway projects), but in which effort was made during project preparation to identify possible positive and negative impacts on women, and to include proactive gender design features to enhance benefits to women, and to include mitigating features in the project design or resettlement plan (such as provision for employment of women in project construction work, information campaigns on HIV/AIDS risk, or special resettlement assistance to households headed by women).

NGE projects are none of the above, which means those projects that do not include any proactive gender-inclusive measures. NGE does not mean that the project would not have any gender benefits.

Source: ADB. 2012. *Guidelines for Gender Mainstreaming Categories of ADB Projects*. Manila.

Appendix 2

Terms of Reference for Gender Specialist for Project Design

Qualification: The Gender Specialist should have a postgraduate university degree in social sciences or public administration (an additional degree in engineering will be an advantage). She/he should have formal training in gender analysis and gender planning and demonstrated experience, skills, and expertise in mainstreaming gender in infrastructure, especially in the energy sector, including in renewable energy systems. She/he should be familiar with the energy sector in the Asia and Pacific region, especially on issues of “vulnerability,” “accessibility,” and “affordability” related to energy resources and services. Experience in conducting primary gender research is needed. She/he should also be familiar with gender analysis tools and methodologies in the energy sector. She/he should have consulted for international or nongovernment organizations (NGOs) supporting gender and development work in the energy sector.

She/he will be responsible for the following key tasks:

- Review ADB documents on the requirements for gender mainstreaming such as Policy on Gender and Development (1998), OM C2 on Gender and Development in ADB Operations (2010), and Guidelines for Gender Mainstreaming Categories of ADB Projects (2012).
- At the outset, agree with ADB and the executing agency on the intended gender category.
- As part of the poverty and social analysis, conduct a detailed gender analysis as guided by ADB’s Gender and Energy Tool Kit, particularly emphasizing access to energy services and use of energy services and gender division of labor, control of energy sources and technologies, women’s and men’s energy needs and preferences, and opportunities for and constraints on women’s participation.
- Identify the socioeconomic profile of key stakeholder groups in the target population and disaggregate data by sex. Analyze the link between poverty and gender.
- Assess and identify potential gender-differentiated impacts of the project.
- Collect sex-disaggregated baseline data that could be used to monitor potential project gender benefits and impacts.
- Assess and recommend key gender elements in mitigation measures (e.g., resettlement, HIV, trafficking in women).

- Identify government agencies, nongovernment and community-based organizations, and women's groups that can be utilized during project preparatory technical assistance (PPTA) and project implementation. Assess their capacity.
- Review the related policy and legal framework, as necessary.
- Based on gender analysis, develop a gender action plan (GAP) that mirrors the design and monitoring framework (DMF) outputs and includes gender-inclusive design features, gender targets and indicators, time lines, assigned responsibilities, and implementation arrangements.
- Provide cost estimates for GAP implementation.
- Integrate GAP or gender design features in the project design and relevant project documents.
- Prepare terms of reference for gender specialist services to implement GAP or project gender features, including for any NGOs to be recruited for implementation.
- Prepare other documentations related to gender required in the report and recommendation of the President (RRP) (e.g., DMF gender targets, implementation arrangements of the project administration memorandum [PAM], summary poverty reduction, and social strategy).

Appendix 3

Terms of Reference for Gender Specialist for Project Implementation Support

Gender Action Plan

The main responsibility of the gender specialist is to support the implementation of the project gender action plan (GAP). The specific tasks are to

- Provide the necessary support to the executing agency and/or implementing agency for GAP implementation, including orientation and training on the role of the GAP in enhancing project effectiveness, in GAP activities and implementation mechanisms, and the implementing agencies' responsibilities in ensuring GAP implementation.
- Provide training for project staff at all levels on GAP and implementation of GAP activities and maintain the desired level of gender awareness.
- Assist in the recruitment of project staff to ensure gender equality in recruitment and a gender focus in staff experience to support GAP implementation.
- Provide the necessary support to the local nongovernment organization (NGO) and/or community-based organizations for the implementation of GAP activities.
- Conduct regular field trips to monitor GAP implementation, collect data reflecting progress on GAP targets and indicators, and prepare progress reports.
- Amend and/or develop GAP activities based on monitoring inputs.
- Provide support for ADB review mission teams to ensure that GAP implementation is being adequately assessed and reported on.
- Act as the main focal point/contact for all gender-related activities between the project, the implementing agency, the ADB resident mission, NGOs, and other consultants.
- Prepare and conduct before and after surveys to assess project gender impacts.

Risk Mitigation

(Where no gender specialist is assigned, this task may be assigned to the social safeguards specialist.)

- Provide support to the implementing agency to ensure the gender-inclusive implementation of project resettlement plan and/or indigenous peoples/ethnic minority development plan.
- Monitor and ensure implementation of GAP risk mitigation activities and/or risk mitigation activities identified in project assurances/loan covenants, based on gender-sensitive approaches.
- Monitor and collect gender data, as relevant, on risk mitigation in relation to climate change impacts, prevention of HIV and STI, and the trafficking of women and girls.
- Monitor to ensure that gender equality labor standards/laws are being effectively implemented.
- Monitor project implementation with the view to identifying any unanticipated risks and/or negative gender impacts. If such risks and/or impacts eventuate, adjust, adapt, and/or develop project activities to implement appropriate mitigation measure.
- Support/provide training for gender mainstreaming in risk mitigation for the implementing agency and relevant project consultants and staff.

Appendix 4

Selected References

- J. Acharya. 2009. *Energy for All: Scaling Up Access to Energy for the Poor*. Regional Seminar on Gender, Environment and Natural Resources Management. New Delhi, India. October.
- J. Arpaillange. 2001. *Sri Lanka: Community and Economic Activity Profile Surveys, Frequency Book*. Poverty and Gender Evaluation of Energy Programme. The World Bank, Asia Sustainable and Alternative Energy Program, Energy, Poverty and Gender. October. <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/>
- Asian Development Bank (ADB). 1998. *Policy on Gender and Development*. www.adb.org/Gender/
- . 2003. *Gender Checklist: Resettlement*. Manila. www.adb.org/Documents/Manuals/Gender_Checklists/Resettlement/
- . 2004. *Proposed Grant Assistance to Sri Lanka for the Power Fund for the Poor*. Manila.
- . 2006. *Gender Law and Policy Toolkit*. Manila. www.adb.org/gender/checklists
- . 2006. *Proposed Grant Assistance to the Kingdom of Bhutan for the Rural Electricians Training Program*. Manila.
- . 2007. *Project Performance Management System: Guidelines for Preparing a Design and Monitoring Framework*. Central Operations Services Office, ADB: Manila.
- . 2008. *Strategy 2020: The Long-Term Strategic Framework for the Asian Development Bank 2008–2020*. Manila.
- . 2009. *Energy Policy*. Manila.
- . 2009. *Intersections—Gender, HIV, and Infrastructure Operations: Lessons from Selected ADB-Financed Transport Projects*. Manila.
- . 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the Socialist Republic of Viet Nam for the Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project*. Manila.
- . 2009. *Safeguard Policy Statement*. www.adb.org/Safeguards/
- . 2010. Memorandum: Gender Mainstreaming Categories of ADB Projects—Guidelines. Manila. 26 February.
- . 2010. *Operations Manual C2 on Gender and Development in ADB Operations*. Manila.
- . 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Grant to the Kingdom of Bhutan for the Rural Renewable Energy Development Project*. Manila.
- . 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Administration of Loan to the Republic of Uzbekistan for the Talimarjan Power Project*. Manila.
- . 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Administration of Technical Assistance Grant to the Democratic Socialist Republic of Sri Lanka for the Sustainable Power Sector Support Project*. Manila.

- . 2011. *Gender Equality. Bridging the Gap*. Manila.
- . 2011. *Guidelines for Gender Mainstreaming Categories of ADB Projects*. Manila.
- . 2011. *Proposed Regional Grant Assistance to Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal, and Sri Lanka*. Manila.
- . 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Government of India for the Gujarat Solar Power Transmission Project*. Manila.
- . 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of Bangladesh for the Power System Efficiency Improvement Project*. Manila.
- . 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Uzbekistan for the Advanced Electricity Metering Project*. Manila.
- . 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility and Technical Assistance Grant to the Government of India for the Madhya Pradesh Energy Efficiency Improvement Investment Program*. Manila.
- ADB. Country Gender Assessments. <http://www.adb.org/themes/gender/publications/%28286%29%2C1208>
- ADB and International Labour Organization (ILO). 2011. *Women and Labour Markets in Asia: Rebalancing for Gender Equality*. Bangkok.
- Energia: International Network on Gender and Sustainable Energy. 2009. *Energia News 12.1. Energy Policies for the Poor and Women*. The Netherlands. July.
- Energia: International Network on Gender and Sustainable Energy. 2010. *A Guide on Gender Mainstreaming in the Africa Biogas Partnership Programme (ABPP)*. The Netherlands. July.
- Gender CC. Women for Climate Change. <http://www.gendercc.net/policy/conferences.html>
- G. Kelkar and I. Shakya. 2007. Appropriate Gender-Analysis Tools for Unpacking the Gender-Energy-Poverty Nexus. *Gender and Development, Oxfam*. Volume 15, Issue 2.
- M. Larsen. 2009. The Gender Action Plan (GAP) in Lao PDR. 53rd Session of Commission on the Status of Women. The World Bank. March. http://siteresources.worldbank.org/INTGENDER/Resources/GAP_LaoPDR.pdf
- J. Masud, D. Sharan, and B. H. Lohani. 2007. *Energy for All: Addressing the Energy, Environment, and Poverty Nexus in Asia*. Manila: ADB.
- H. C. Rex and J. Tang. 2010. Shining a Light on Women: Results from the Power to the Poor Rural Electrification Pilot in Lao PDR. EAP Gender Workshop, Nha Trang, Viet Nam: World Bank. February.
- L. Schalatek. 2009. *Gender and Climate Finance: Double Mainstreaming for Sustainable Development*. North America: Heinrich Boll Foundation.
- S. Tanaka. 2010. *Gender and Energy: Key Issues and Good Practices for ADB Operations*. Powerpoint presented at the Gender and Development Knowledge Sharing Program on 9 March 2010. Manila.
- United Nations Development Programme (UNDP). 2004. *Gender and Energy for Sustainable Development: A Toolkit and Resource Guide*. New York. December.
- UNDP. 2007. *Gender Mainstreaming. A Key Driver of Development in Environment and Energy*. New York.
- World Bank. 2009. *The Gender Action Plan in Lao PDR*. http://siteresources.worldbank.org/INTGENDER/Resources/GAP_LaoPDR.pdf
- World Health Organization. 2011. Indoor Air Pollution and Health. *Fact Sheet No. 202*. <http://www.who.int/mediacentre/factsheets/fs292/en/>

