

Gender Mainstreaming

A Key Driver OF Development IN Environment & Energy



SUSTAINABLE ENERGY SERVICES

The why and how of mainstreaming gender in sustainable energy services



Men and women in Mongolia are trained to make briquettes for fuel as part of a SGP Mongolia project.

Why is gender relevant to policymaking and programming in the area of sustainable energy services?

the lives of men and boys. Some 2.5 billion people rely on traditional biomass fuels—such as wood, dung, charcoal, and agricultural wastes—for cooking and heating. Almost all of them live in poverty in developing countries, in rural areas or urban slums that are not connected to the power grid and where clean fuels are either unavailable or prohibitively expensive. Over 1.6 billion people lack electricity.

This lack of access to modern energy services is an important barrier to achieving the Millennium Development Goals (MDGs). However, for women and girls, the burdens imposed by poor energy services and the resulting reliance on biomass fuels define their daily routines and limit their prospects for a brighter future.

Because of gender-based divisions of labour found the world over, lack of access to clean, modern energy services has a more pervasive and severe impact on the lives of women and girls than on



Solar crop dryer used by women in a SGP Palestine project.

What is gender mainstreaming?

'Gender' refers to the socially constructed rather

than biologically determined roles of men and women as well as the relationships between them in a given society at a specific time and place. These roles and relationships are not fixed, but can and do change.

'Gender mainstreaming' has been defined by the United Nations Economic and Social Council as 'a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of the policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated'. The relative status of men and women, the interaction between gender and race, class and ethnicity, and questions of rights, control, ownership, power, and voice—all have a critical impact on the success and sustainability of every development intervention.

In practice, gender mainstreaming means identifying gaps in gender equality through the use of sex-disaggregated data, developing strategies to close those gaps, putting resources and expertise into implementing strategies for gender equality, monitoring implementation, and holding individuals and institutions accountable for results. Gender mainstreaming is not an end in itself; it is a process whose ultimate goal is **to achieve gender equality** (Millennium Development Goal 3).

Expanded freedoms for all, women and men, girls and boys, is UNDP's goal—both because it is necessary for development effectiveness and because equality is a core value of the UN Charter, a value all UNDP staff have pledged to protect as representatives of the UN system.



Women suffer the daily drudgery of an 'un-mechanised' life, spending the bulk of each day performing basic manual tasks, including hauling fuelwood and heavy containers of water, often whilst caring for small children.

The burden of fuel collection

In poor communities in most developing countries, women and girls are responsible for collecting traditional fuels, a physically draining task that can take from 2 to 20 or more hours per week, according to studies by ENERGIA, an international network on gender and sustainable energy. As a result, women have less time to earn money, engage in politics or other social causes, learn to read or acquire new skills, fulfill other domestic responsibilities, or simply rest. Girls are sometimes kept home from school to help gather fuel and attend to other domestic chores. And when environmental degradation forces them to search farther afield, women and girls become more vulnerable to sexual harassment and assault as well as to injuries from carrying heavy loads over long distances.

The 'invisible' health crisis

The use of these traditional fuels creates a massive, yet 'invisible,' public health crisis. Poor women in rural areas and informal urban settlements spend much of each day indoors at the cooking fire, often with their youngest children strapped to their backs or at their feet. In cold months, they spend the better part of each day tending a fire for heat. In homes without a chimney or other source of adequate ventilation, the noxious smoke from indoor fires and stoves exposes families to harmful levels of gases, particles, and dangerous compounds, such as carbon monoxide, benzene, and

formaldehyde. According to the World Health Organisation, this chronic exposure is associated with 1.6 million deaths per year due to pneumonia, chronic respiratory disease and lung cancer in developing countries, mostly among women and children under five. Indoor air pollution is also linked to asthma, bronchitis, tuberculosis, cataracts, low birth weight, and heart disease. One life is lost every 20 seconds to what the World Health Organisation calls 'the killer in the kitchen'.

The daily drudgery of an 'un-mechanised' life

Without access to modern energy services, poor rural women must spend the bulk of each day performing the basic tasks necessary for survival—grinding grain, processing food, planting and harvesting, weaving cloth and sewing clothes, hauling containers of water that typically weigh 20 kilograms, and transporting goods (and children) on their backs or heads—all without mechanical or motorised equipment. In slum settlements, women are disproportionately affected by lack of basic services and infrastructure. The time and effort spent by women and girls on routine tasks could be reduced significantly if adequate infrastructure were in place to deliver electricity, modern cooking and heating fuels, running water and sanitation, and basic transportation services.

Modern energy services, on the other hand, liberate and empower women. Because women and men use energy differently in their daily lives, the introduction of modern energy services affects them in different ways.

- Access to cleaner fuels, such as liquid petroleum gas (LPG), for domestic cooking and heating reduces women's exposure to harmful indoor air pollution. Time formerly spent in collecting biomass fuels can instead be devoted to increased education, literacy, and income-generating activities.
- Decentralised rural electricity systems—such as diesel generators and renewable energy sources, including micro-hydro and wind—power the mechanical devices rural women need to break free of time-consuming tasks.

- Modern lighting has been shown to increase women's literacy and educational levels, and make communities safer, giving women more opportunities to engage to public life.
- Mechanised water pumping frees women and girls of water-hauling burdens.
- Modern transportation services give women access to commercial, social, and political opportunities; take heavy loads of water and fuel literally off their backs; and, can rush them to potentially life-saving emergency obstetric care, if needed.
- Modern energy services also enable the introduction of information and communications technologies, critical tools for women's education, empowerment, economic productivity, and participation in markets..

How can UNDP strengthen the gender dimension of its work in sustainable energy services at the policy level?

UNDP has a key role to play at the policy level in supporting the formulation of gender-responsive energy policies.¹ It can fulfill this role by working with its partners to:

Raise awareness and advocate for better policymaking processes

Often a critical first step is simply raising awareness of the different energy needs of women and men. Most policymakers—and thus most policies—do not take into account gender differences related to the distribution and management of energy services. In reality, energy planning that is 'gender neutral' can actually be detrimental to development since it will by-pass women's concerns and needs in the process. For instance, policies that aim to support small businesses by expanding access to electricity can 'miss' women micro entrepreneurs who rely on fuel for process heat (e.g., heat used in food preparation, brewing, or pottery making), for which electricity is often not the most cost-effective option.

A policy that promotes LPG, for example, would be more beneficial to such predominately women-owned businesses.

Becoming conversant in the various rationales for gender-sensitive policymaking will make you a more effective advocate (see Box 1). Choose your rationale based on your audience. An engineer might be most receptive to efficiency arguments, for instance, whereas someone working for a relief organisation affiliated with a religious or spiritual group might find a welfare or poverty alleviation argument particularly persuasive.



LPG Substitution for wood fuel in boarding schools, homes and small enterprises in Northern Ghana. Before and after conversion

BOX 1

Rationales for Gender-Sensitive Energy Policies

- **Welfare:** Lighten the onerous daily burdens of poor women
- **Efficiency:** Make interventions more effective and sustainable
- **Empowerment:** Transform women's lives through increased skills, income, social status, and decision-making power
- **Equality:** Create a fairer society through equal rights, power, and resources
- **Poverty alleviation:** Address the energy needs of the world's poorest people—most of whom are women and their children—as a way of alleviating poverty
- **Meeting the MDGs:** Expanding access to modern energy services for the poor and underserved ensures achievement of all the MDGs

¹ This section draws heavily on *Gender & Energy for Sustainable Development: A Toolkit and Resource Guide*, pp. 28–41.

Every effort should be made to ensure that new technologies have features valued by the target population; if people don't see the benefit of a technology, they won't use it!

Create demand

Raising the awareness of poor households regarding suitability of technological and clean energy options and how to use them—through public information and marketing campaigns as well as work with community and women's groups—is as important as raising the awareness of policymakers.

Ensure availability of appropriate technologies that people want

Making clean, efficient, affordable technologies available to meet demand is a critical corollary to the point above. Every effort should be made to ensure that new technologies have features valued by the target population; if people don't see the benefit of a technology, they won't use it! In the case of household energy, the key target population is women, as managers and procurers of energy services. Women as owners of small businesses also are an important target. In order to be successful, new energy technologies generally need to be perceived by the target population as better than the technologies they supersede, and consistent with people's needs and preferences.

Raise the profile of women and women's concerns in energy institutions

Energy institutions are largely dominated by men and thus often bring a male bias to the issues they identify as critical and the solutions they develop. Attracting more women professionals in the energy sector and improving their status can help introduce a gender dimension into energy policies (although this does not guarantee

gender-responsive policies, since women too can be gender blind). Creating mechanisms for the meaningful participation of women's groups can also help. And shifting the focus from the traditional, supply-side emphasis on technological solutions to the demand-side, energy services-based approach, which looks at energy use within its social and cultural settings, would also yield more gender-sensitive policies.

To ensure a pool of qualified women, technical training needs to be made more accessible to and acceptable for women. At the community level, some ways to do this include holding training at times and in locations more compatible with women's family responsibilities as well as prevailing cultural norms (since women's mobility is often more restricted than that of men); offering women-only training sessions; and, ensuring that trainers are gender sensitive. Combining technical training with other sorts of capacity building efforts—such as teaching business management, accounting, and marketing skills—is an effective approach. At higher levels of education, promoting acceptance of women in technical roles also is a priority. Supporting networks of women professionals and providing gender training in universities can help.



Women are included in hands-on training for a SGP Solar Energy project in the Dominican Republic.

Collect and use sex-disaggregated data

The collection of sex-disaggregated data—as well as data disaggregated by other socioeconomic variables—allows decision-makers, energy institutions, and development agencies to better understand who is using energy and how. Such understanding is critical to assessing needs, examining policy alternatives, formulating effective policies and programmes, monitoring progress, and evaluating results. Statistical data on women's time and productive activities are particularly critical, as is information on women's access and control over resources, technologies, and decision-making. Collection and analysis of disaggregated data during the monitoring phase of policy or project interventions can highlight the gender distribution of benefits and identify any inequities—for instance, a failure to reach women entrepreneurs in providing decentralised energy services (such as LPG) for income generation, due to women's lack of capital or inability to obtain credit to make the initial investment. Such information could lead to the introduction of corrective measures to increase the gender equity of policies or projects, such as a credit component targeted at women entrepreneurs.

Introduce gender-sensitive budgeting

Seemingly neutral policies and mechanisms can, in practice, entrench inequality—between women and men, girls and boys, and different classes and ethnic groups within societies. Analysing national budgets from the perspective of their impact on different groups promotes equity across the development spectrum by identifying how resources are allocated across societies. Gender-sensitive budgeting, or 'gender budgeting', requires understanding not just the complex content of national budgets, but also the negotiation processes used to arrive at final budget decisions. Successful initiatives for gender budgeting share several characteristics.² They ensure accountability, transparency, and sustainability as well as bringing

women into budgetary debates by building alliances with a variety of civil society organisations. They are viewed not as 'one-off' initiatives, but rather are embedded in ongoing capacity-building efforts. And they capitalise on windows of opportunity opened by larger processes of political change. In 2004, UNDP supported gender-sensitive budget analysis in 35 countries.³



Women working at a forestry plantation in Myanmar.

Promote innovative financing schemes

Poor women often are unable to finance the purchase of small-scale, decentralised energy technologies and appliances that could increase their income opportunities and lessen their burdens. This is because requirements for securing credit—such as having collateral and a credit history—can work to exclude poor women. However, women's access to credit can be increased through the use of micro-credit models of the Grameen Bank sort. Such models can be adapted to make them more suitable for financing purchases of energy equipment, which generally involve larger loan amounts as well as longer time frames for repayment, generally derived from business income generated using the equipment. Lenders like village savings and credit institutions should be encouraged to expand into energy lending—though some capacity building will be required. Women's groups and other community-based organisations can be good intermediaries between poor women and local financial institutions.

² This section draws on 'Gender and Budgets Overview Report' by H.H. Balmori in *Gender and Budgets; Cutting Edge Pack*, produced by BRIDGE, the Government of Japan and UNDP, 2003.

³ According to MYFF data.



How can UNDP strengthen the gender dimensions of its programming on sustainable energy services?

In an ideal world, programmes are developed from the bottom up by communities themselves; they address the priorities identified by community members and often tackle several inter-connected problems at once, such as children's health and school attendance or environmental degradation and energy. In such an approach, known as 'inte-

grated development', energy is an instrumental component to a larger end (i.e., overall development and meeting the MDGs) rather than the focus of project interventions.

Many projects fall short of this ideal, however. In the energy technology area, NGOs and private companies often focus on a few specific technologies, which they in essence 'sell' to communities. The emphasis is thus on technology adoption as the primary end.

Regardless of the approach taken (i.e., integrated development versus single-technology solutions), there are opportunities for UNDP to promote gender mainstreaming in energy projects. Below is a list of basic actions to consider at each stage of programming.

Project conceptualisation

- Assess situation using data disaggregated by sex, income, ethnic origin, and age.
- Involve community women and women's NGOs in strategy development and agenda-setting.
- Perform gender-sensitive energy needs assessment (i.e., assess who is currently using energy and for what purposes).

Problem identification

- Ensure that women from the community are able to take part in the stakeholder analysis (divide women and men into different groups; ensure times/locations of meetings are convenient and culturally acceptable for women).
- Identify current livelihood strategies of women and men, and the role of energy technologies in those strategies.
- Identify the priorities of men and women in terms of improving their livelihoods, and determine how energy technologies can advance those aims.

Project formulation

- Document the different roles and responsibilities of women and men, and how energy is used in these different roles.
 - Capture and reflect women's specialised knowledge, including on household fuels and energy technologies.
 - Ensure that factors that could limit women's participation/benefits (e.g., discriminatory attitudes and lack of time) are well understood and measures are in place to address them.
 - Assess whether the initiative will increase the workload of women/men/girls/boys.
 - Seek the views of women and men on the value of proposed interventions.
 - Identify gender differences in access to and control over resources related to energy and energy services.
- Identify potential benefits and risks to women and men of proposed interventions; formulate strategies to mitigate risks.
 - Seek women's and men's views about proposed technology options and design features as well as anticipated benefits.

- Determine, for both women and men: who is likely to make decisions about technology options; who will be involved in maintenance/repair and what training will be necessary; who controls relevant resources; and who has the willingness and ability to contribute labour, material, or money to the project.
- Consider how project design will address external constraints in policies, institutions, and processes.
- Create management structures that involve women and men on an equal footing.
 - Ensure implementing organisations have capacity for gender analysis and gender-sensitive programming.
 - Assess gender sensitivity of key project actors and where necessary, provide briefings and/or offer trainings on gender and energy issues.
- Identify specific project objectives related to gender.
 - Set gender issues out clearly in the logical framework.
 - Identify activities required to ensure attention to gender issues.
 - Ensure development of a budget for gender-related analysis, expertise, training, and activities.
 - Ensure that responsibilities and expectations concerning gender aspects are clearly indicated in project documents, agreements, and contracts.
 - Develop gender-sensitive, sex-disaggregated project indicators, with participation from women and men (see Box 2 for examples).

BOX 2***Examples of Gender-Sensitive Energy Indicators***

- Number of poor households that are project beneficiaries; number headed by men/women
- Income-producing opportunities associated with the equipment or technology produced; extent to which opportunities are available to men/women
- Actual income increases due to project, for men/women
- Financing available for acquiring equipment; extent to which financing is accessed by men/women
- Effects of project on primary school enrolment, attendance, and performance, for boys/girls
- Increase in non-agricultural employment and incomes of women
- Overall increase in women's income
- Effect of project on time spent by women in household activities
- Effect of project on total daily workload of women
- Ownership of productive equipment by women
- Increases in decision-making power of women in household, community, and government
- Literacy and skills training for women/men
- Reduction in indoor air pollution
- Changes in the number of visits to health clinics
- Increased access to clean water/pumped water
- Impact of project on sanitation
- Forest land preserved
- Reclamation of eroded agricultural land



Forest management trainees in Myanmar.



A SGP project in Guatemala introduced men and women to solar cookers that would allow them to cook a warm meal while they were out working in the fields.

Project implementation

- Take all possible steps to ensure gender balance in project staff and training.
- Include gender expertise in TORs for project staff.
- Create mechanisms to promote gender balance among participants in all project meetings and gender equity in authority and decision-making.
- Do gender audits on budgets to ensure that inputs are used in ways that ensure equality of outcomes for men and women.

Ensure that factors that could limit women's participation and benefits (such as discriminatory attitudes and lack of time) are well understood and measures are in place to address them.

Monitoring and Evaluation

- Track progress on gender objectives; determine whether they have been met.
- Pay attention to gender-related indicators, such as women's time and workload, access to and control of income and resources, energy services and technologies, decision-making, and reproductive roles.
- Consider project outcomes and results in light of differences in stated needs and priorities of women and men.
- Ensure that reports reflect gender issues, use sex-disaggregated data, and identify gender gaps as well as gender-related successes.
- Include gender expertise in TORs for evaluators.
- Incorporate views of women and men as users of energy services and technologies in all assessments.

Impact assessment

- Identify impacts of project on women and men.
- Identify lessons learned related to working with a gender perspective in energy.

Resources

The single best, most comprehensive resource for energy and gender policy-making and programming is *Gender & Energy for Sustainable Development: A Toolkit and Resource Guide*, available online at: <http://www.undp.org/energy/>. It contains analysis, policy and programme recommendations and lessons learned, guides and checklists, sample programme outlines, case studies, links to institutions, and a comprehensive bibliography.

ENERGIA, the international network on gender and sustainable energy, also has many useful training manuals and publications available online at: www.energia.org.

CASE STUDY

Clean Energy For Remote Communities of Karakalpakstan

Villagers in over 1,000 rural communities in Uzbekistan live without electricity, unconnected to the central power grid. Because high investment costs make it unlikely that these villages will be grid-connected in the foreseeable future, renewable energy sources such as photovoltaics are these communities' best hope for achieving access to electric power services. Such alternatives have remained largely untapped, but UNDP Uzbekistan is working to help the country take better advantage of this potential.

The energy situation is especially acute in Karakalpakstan, the country's biggest region (which has also been hit hard by the Aral Sea eco-catastrophe). In Karakalpakstan, domestic energy use is primarily managed by women. Lacking electricity, residents are forced to rely on expensive and polluting alternatives—such as coal, kerosene, diesel, or fuelwood—to generate light and heat and to pump well water. Use of these fuels damages the health of the region's impoverished residents, with the impacts exacerbated by the use of diesel fuel to fill household lamps during periods when kerosene is in short supply. Health damage associated with indoor emissions from diesel fuel have affected women and children most severely, due to their greater time spent inside the home.

With \$90,000 from UNDP's Energy Thematic Trust Fund, the Clean Energy for Remote Rural Communities in Karakalpakstan Project financed the domestic production of 25 photovoltaic (PV) systems, which were installed, in collaboration with regional government and local authorities, in Kostruba and Koibak, two remote settlements in northern Karakalpakstan. Instruction manuals were produced in the Karakalpak language, and residents with technical know-how received further training in maintenance of the PV systems.

Access to electricity has opened up a world of opportunities for the villagers of Karakalpakstan. Children can do their homework in the evenings, and women can knit, sew, make rugs, and produce other handicrafts for sale in the local markets. People can read books at night, watch satellite TV channels, and listen to the audio tape player.

UNDP helped local authorities secure the assistance of major donors, including the Turkish Technical Assistance Agency (TIKA), the Government of Germany, and a national trust fund, 'Saving the Aral Sea Region Genofund'. The project's second phase will entail establishment of a renewable energy (RE) centre in Karakalpakstan, which will promote development of RE technologies and assist in the establishment of local enterprises in this field. UNDP Uzbekistan is actively promoting RE development by implementing additional projects on transferring 'know-how' and promoting domestic production by local companies of solar panels for electricity generation and water heating.



Solar panels in Uzbekistan provide clean, renewable energy.

CASE STUDY***Renewable Energy-Based Village Power in New Ibaday, Philippines***

The small community of New Ibaday is enjoying the benefits of a newly installed 20kW power plant fueled by the sun. The photovoltaic, mini-grid system was established in 2004 through the efforts of the New Ibaday Non-Agricultural Multi-Purpose Cooperative (NINAMC)—a women-led organisation—and their partners, the Palawan Provincial Government (PGP), the Philippines Department of Energy, and UNDP. The system now provides electricity for about half of the village's 400-plus households.

The project was originally conceptualised as an add-on to the UNDP-Global Environment Facility (GEF) project on Palawan New and Renewable Livelihood Support. Community members, with the assistance of the local government, established NINAMC to serve as a small-scale, renewable-energy service company. The first members of the cooperative were women; they were more enthusiastic about attending meetings with the local government and placed higher priority on the power plant as a means to enhance livelihoods and provide for their children. Women still lead the cooperative today.

Prior to the project, privately owned, diesel-powered electric generator sets provided power to only about 5 percent of New Ibaday's households. The power supplied by these diesel generators was erratic (providing power only from 6 PM to 10 PM) and expensive (costing US\$3 per month for each 10W bulb, in a village where total monthly income averages US\$66). Households served by the new PV system enjoy important benefits, such as more hours of light per day, brighter illumination for doing schoolwork and other activities, links to the outside world via radio and television, and elimination of indoor air pollution, the fire hazard of kerosene wick lamps, and the noise of diesel generators.

The project's sustainability rests on community ownership, the leadership of the community's women, strong ties with partner institutions (such as local government), and a reliable income stream that can be used to maintain the system.

CASE STUDY***UNDP supports multifunctional platform programmes in West Africa***

UNDP's Regional Energy for Poverty Reduction Programme provides advisory services to initiatives in Burkina Faso, Ghana, Guinea, Mali, and Senegal. These initiatives focus on multifunctional platforms, built around a simple diesel engine that can power various equipment—such as a cereal mill, husker, alternator, battery charger, pump, or welding and carpentry equipment—as well as generating electricity.

The platform reduces many of women's burdensome and exhausting tasks and offers them income-generating opportunities and management experience. As women become more independent economically, their social status rises, along with their participation in public life. The programme also contributes to increased education levels for girls and adult literacy among women. The initiative has improved the quality of people's lives in some 600 communities and supported the formulation of regional and national policies aimed at increasing poor people's access to energy services in rural areas.