

Why energy access and gender equality are inextricably linked

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The ENERGIA Gender and Energy Research Programme

POLICY BRIEF #2

The Sustainable Development Goal 7 (SDG7)'s ambitious mandate to ensure access to modern energy for all will only be reached if gender is taken into account. ENERGIA's Gender and Energy Research programme has found evidence on the differences between women and men in their energy needs, both in the household and in business, and in their level of access to energy. The implication is that policies and programmes that do not recognise and address these needs and differences in acquiring access to energy services are at best ineffective in reaching women and, at worst, can reinforce gender inequalities. This briefing shares the key research findings and offers recommendations for improving women's access and use of modern energy services.

Since 2015, Sustainable Development Goal 7 (SDG7) has provided an ambitious mandate: to ensure access to modern energy for all, to double the share of renewable energy in the global energy mix, and to double the global rate of improvement in energy efficiency. By 2017, the number of people without access to electricity dipped below 1 billion for the first time, however, figures are projected to increase back over one billion people without access to electricity by 2030. At the same time, slow progress has been made in reducing reliance on the traditional use of solid biomass as a cooking fuel. Currently, three billion people worldwide lack access to clean-cooking solutions, causing an estimated 3.8 million premature deaths per year, with women and children most at risk. By 2030, 2.3 billion people will still be reliant on traditional fuels for their energy needs, according to current projections.

While efforts to achieve SDG7 are hampered by a range of factors such as a lack of scalable business models, our evidence points to the overwhelming reality that energy interventions are not meeting women's specific needs. Women have different energy needs to men as a result of pre-existing social expectations and entrenched inequalities. This must be recognised and addressed in order to meet targets for affordable, reliable, sustainable, and modern energy access for all by 2030.

In fact, energy access and gender equality are inextricably linked and addressing them together will also help to make gains towards SDG5, for example around its targets on discrimination, rights to economic resources, enhanced use of technology and unpaid care work.

Overview of key findings

Energy policies which address both women's specific energy needs and the local existing social and cultural traditions are needed to meet universal energy goals

Policies which do not explicitly target women often result in inequitable access to energy services between men and women. This is because women's access to energy services and how they use energy differs to men as a result of deep-rooted cultural practices and social conventions, such as restrictions on women's movement outside of the home and responsibility for childcare and other household tasks.

However, our research has found that energy policies are increasingly recognising and addressing gender issues. For instance, Nepal has recognised specific goals of time-saving and drudgery in the 2013 National Energy Strategy, and the promotion of the use of renewable energy by women for productive purposes was included in the 2016 Renewable Energy Subsidy Policy. Other examples are Nigeria's National Energy Policy of 2013, which explicitly mentioned the objective of promoting gender sensitivity, and the national cooking energy programme in India that explicitly issues LPG connections in the name of the women. Encouraging women to join the energy sector is another aspect of gender sensitive policy.



Photo: Sven Torfinn/ENERGIA

In Kenya, for instance, recruitment policy takes into account women's family responsibilities and in India 30% of jobs at all levels are reserved for women.

However, even where policies are responsive to the different energy dynamics between men and women, there are still frequently gaps between policy and implementation. Our study of 14 systems of electricity supply initiatives in India, Kenya and Nepal, showed efforts to include gender in energy at the national level were not very effectively transmitted to the supplier and village levels. As a result, it was mostly men, and not women, who become involved in supply at the local level, and women had less access to energy services.

Our research also found that although gender responsive policies increase opportunities for women, they do not necessarily address gender-stereotyping attitudes. For example in India, where there is a gender quota, women are mainly found in administrative jobs and men are found in technical ones. Similar traditional job distribution was found in NGOs.

Gender neutral programmes and projects tend to reflect and often reinforce gender roles in society, and therefore next to gender responsive policies, implementation processes are needed that support processes to shift gender norms and roles to higher inclusiveness.

Women's daily lives can be improved by appliances that reduce drudgery and save time

End-use appliances are essential for the provision of modern energy services, as they convert modern energy supply into the services required for heating, cooling, mechanical power, and so on. The impact of having access to energy can be increased by making appropriate appliances available to households and businesses.

Women's Energy Entrepreneurship directly addresses multiple SDGs.



Our evidence shows that households use an increasing number of appliances and that these bring savings in time, reduce drudgery, and provide convenience, collectively allowing for better time management. For example, lighting brings about multiple changes in people's lives, including shifts in time-use patterns which may differ between men and women. The relevance of the availability of appropriate appliance is demonstrated in our study in Rwanda, where men used portable lights to help them cut grass for cattle feed, so they were also able to manage their time use. In Kenya, our research found that men used solar lanterns while producing bricks and portable lights enabled women to study part-time and prepare themselves for employment.

When it came to women's access to income generation, the evidence shows that access to modern energy and the use of appropriate appliances can have a transformative impact on women's lives. Our research in India and Nepal showed that the use of water pumps and farm machinery made it possible for women to do jobs that they previously could not, related partially to physical strength, but largely to norms around which jobs are appropriate for women. Renting of equipment at relatively low cost enabled women to benefit from technologies that had previously been inaccessible. These changes not only increased their income, but also positively influenced expectations around gender roles in their community.

Involving women in energy-system supply chains is good for women and for their families, communities and business

Increasing the involvement of women in energy-system supply chains – as entrepreneurs, as employees or as business leaders - is a win-win situation. Our study in Rwanda provided evidence that all-female village level enterprises - involving solar charging of LED lights - perform as well as all-male enterprises and in some instances even outperform men. Being an energy entrepreneur not only offers women the opportunity to earn an income, but also helps build their confidence, for example by gaining technical skills, as well as challenging certain gender stereotypes. Our study in Kenya found a positive change in attitudes towards women who had been recruited and trained as solar engineers, and in India women entrepreneurs experienced increased visibility and recognition of their socio-economic and political status as a result of their role as solar entrepreneurs.

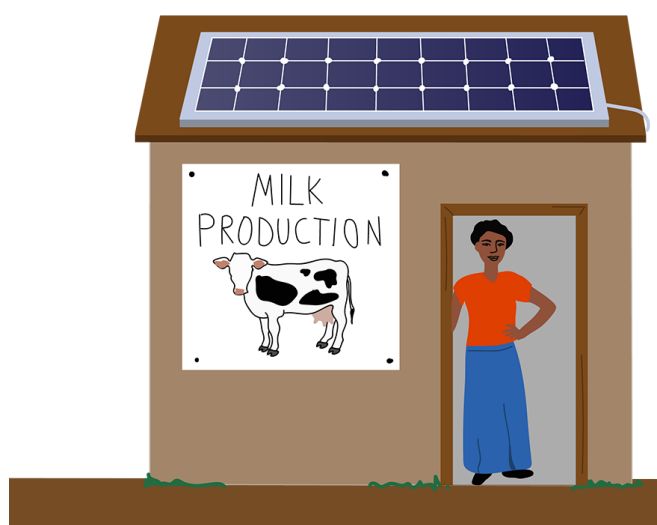
Working as an entrepreneur also appears to influence women's attitudes to children's education, particularly when it comes to their aspirations for their daughters. In Kenya, 85% of women entrepreneurs surveyed for one study reported a positive change in their aspirations for their daughters, while in Nepal, the corresponding number was 64%. Our study in Rwanda found that children in the households of all-female village-level entrepreneurs were studying almost an hour longer per week than those in the households of all-male entrepreneurs.

Modern energy supply needs to be affordable, reliable and convenient to have impacts

Affordability is well-recognised as a significant barrier for low-income households and the enterprises they run, whether it relates to grid connection or use. Our research found that this has a significant gender dimension, in particular in countries and areas where women are overrepresented among the poor. This was the case in our study area in Kenya, where it was particularly widows and single/divorced women who could not afford connections, and those who could kept their consumption to a minimum to keep expenditure low.

Subsidies have been a common policy instrument aimed at helping low-income households gain access to modern energy sources, primarily for cooking and lighting. Our study on energy subsidies in Nigeria, India and Bangladesh found that the subsidy schemes did not always result in lower energy costs for many reasons, such as poor targeting, elite capture, and diversion along the supply chain, as well as a lack of knowledge of the target group of the subsidised price. At the same time, our research also found that subsidy reform would be likely to especially affect poor women unless mitigation measures to safeguard them were put in place.

Other factors of energy supply such as reliability and convenience are also crucial to understand energy access, and also here, there are gender issues. Poor reliability of electricity supply is a widespread problem in businesses as well as for the provision of essential public infrastructure, such as health centres and schools. Poor electricity supply was pinpointed as the biggest obstacle to growth by 25% of enterprises surveyed in Tanzania and 19% in Ghana. The convenience of acquiring access, both of electricity and fuels, influences access both in absolute terms and through gendered norms and decision making. Our research found that distance to collection points of LPG or electricity grid had a gender dimension in areas where women's mobility was restricted and they had less opportunities to work outside of the home.



Gender responsive approaches for women's productive uses of modern energy contribute to women's empowerment

Women tend to be represented in different types of enterprises than men, which has implications for their energy needs and their level of access to energy services. Men's enterprises are frequently formal and energy intensive; for example, milling and metal works. Women are more limited in their choice of sectors and jobs, and typically engaged in the informal sectors in businesses that are closely linked to the types of tasks allocated to women in the household, such as selling food and tailoring. Our research found that these gendered differences lead to differences in energy demand profiles - where women's businesses typically use appliances with lower electricity demand than men's businesses that require high capacity electricity supply.

These differences were found to lead to a gender bias in productive use interventions, which tend to focus on enterprises with high electricity use to increase return of investment. However, interventions aimed at promoting productive use of energy for women as well as men need to take this into account so as not to miss out on women's businesses.

Statistical data from Ghana and Tanzania show that there is a positive relationship between the productive use of electricity and women's economic empowerment. Use of electrical appliances allowed for diversification in products for sale, which positively influenced income. Modern energy services can help entrepreneurs attract more customers, allow for variation in products, or enable women to grow and process cash crops, all of which has an impact on income. This positive relationship is not automatic, and it depends largely on the economic context of the enterprise and the skills and ambitions of the entrepreneurs.



Engaging women in the political process can increase their access to energy services and help challenge unequal gender norms.

Political economy analysis often focuses mainly on the macro- (national) level, but our research points to the importance of also considering the micro-(household) and meso-(regional) level drivers and actions. Power relations between men and women (at the household level) will determine what kind of energy appliances are purchased, and therefore influence who benefits most from the services that can contribute to time-saving or create opportunities for income generation. Our research found that at the regional level, women's collectives have been effective in giving poor women voice. At the national level, our evidence shows that politicians now increasingly seeing the advantage in addressing women's specific needs in order to gain political support.

Social norms are values, beliefs and attitudes that shape practices, behaviour and institutions governing social and economic relationships between women and men, and affecting. As evidenced above women's ability to access modern energy services is deeply influenced by social norms. However, norms are not static and societies undergo changes, sometimes driven by social and political mobilisation. For instance, education was helping both men and women to

challenge gender stereotypes about household responsibilities and the types of businesses that men and women can and should set up in Ghana. Other factors were found to play a role in changing gender norms, such as in the study areas in India and Nepal, where outmigration was by far the biggest driver of change in gender norms, as women take on traditionally "male" decision-making and activities, such as using farm machinery.

Support women's role in energy decision-making at household, organizational and policy levels.

From deciding where to place solar lights in their homes to writing policy at the highest levels, women's voices must be taken into account. Women's organizations should be created, supported and listened to. Women should be encouraged to vote and participate in the legislative process. It is essential to influencing the energy-system development in their favour.



Policy considerations

Energy policy and programme implementation should incorporate women's views and voices at household and community levels during energy decision-making processes

- Engage both women and men in the design, implementation, and monitoring and evaluation (M&E) of energy policies and programmes using context-appropriate approaches to ensure women's views and voices are heard and taken into account.
- Support women's autonomous organisations and networks, which are playing a role in more transformative agenda-setting, to exert greater influence in energy organisations and energy policy forums where key decisions are made.

Gender aware and gender responsive policy and programme implementation

- Conduct gender assessments, targeted interventions and gender-responsive monitoring and evaluation using appropriately disaggregated data and gender sensitive indicators.
- Target women as well as men using practical strategies such as developing gender action plans.

Access to energy services through innovative financial mechanisms

- Promote measures to make upfront costs of connections, electricity subscriptions, and energy-using equipment and appliances affordable.
- Create financing mechanisms and business models, such as pay-as-you-go schemes that are aligned with the financial constraints and irregular cash flow streams of poor people, are among the measures that can improve affordability.
- Support an enabling environment e.g. access to banking and appropriate credit facilities ensuring equal legal rights for women in having national identification, owning land and property, and having

access to municipal services can improve their access to subsidies for agricultural equipment

Involve women in energy-system value chains and employment both by overcoming gender barriers and through equal opportunity strategies

- Promote women's entrepreneurship in the energy sector, including business education and skills development, training on personal agency, access to finance and capital, and access to coaches, mentors, and networks.
- Support women's groups and associations to target customers together, access supplies at a lower cost, or increase their bargaining power with authorities.
- Encourage the recruitment of women in non-traditional employment with appropriate equipment and support, ensuring that women can participate beyond administrative roles.
- Develop guidance for specific energy subsectors based on good practices and lessons from past experiences.
- Address women's social conditions beyond education and financing, emphasising how the energy supply chain should be modified to involve women and accommodate their needs, such as childcare support, separate toilets, flexible working hours and safety considerations.

Improve affordability, reliability and convenience of energy supply

- Gender sensitive approach to affordability include targeting and informing women of subsidies or policies
- Quality of supply as well quantity needs to be improved through emphasising maintenance, monitoring and sustainability of existing systems and networks
- Improve and strengthen the distribution systems for electricity and fuels, especially to more remote rural areas, taking into account the differentiated gender impact
- Ensure provision of reliable electricity supply to public infrastructure services such as schools, health clinics and water supply. Poor women will especially benefit from these

efforts as they often face more difficulties to access capital, have less mobility or flexibility to compensate for unreliable supply.

Target women's productive uses of energy

- Energy supply companies should be aware of (and target) the potential of women's businesses for productive use of energy. Specific actions to promote the use of modern energy in women's businesses include supporting access to the type of energy and energy appliances that women need, provision of information, financing mechanisms, investments in energy infrastructure, and targeted subsidies.
- Support organisations that offer women the option of renting (rather than buying) energy appliances

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About ENERGIA's Gender and Energy Research Programme

This briefing was developed based on the report "Gender in the transition to sustainable energy for all: From evidence to inclusive policies", which presents the overall findings and policy implications of ENERGIA's Gender and Energy Research Programme. This was a five-year research programme (2014-2019), funded by DFID which explored gender, energy and poverty linkages. Research was conducted in 12 countries: Bangladesh, Ghana, India, Indonesia, Kenya, Myanmar, Nepal, Nigeria, Rwanda, Senegal, South Africa, and Tanzania. In all, 29 universities and research institutions 21 of which were from the Global South, participated in the Programme.

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ENERGIA is an international network of like-minded organisations and professionals, active in Asia and Africa. Our vision is that women and men have equal and equitable access to and control over sustainable energy services as an essential human right to development. To achieve this, we:

- contribute to energy access for all by scaling up the delivery of energy services through women-led micro and small businesses,
- advocate for and provide technical support to mainstream gender approaches in energy policies and programmes,
- provide the evidence base for improving energy investment effectiveness through research,
- raise awareness and enhance knowledge of issues related to gender and energy through networking and knowledge products