

The benefits of involving women in energy system supply chains

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Women's involvement in energy supply chains has advantages for the acceleration of access to modern energy services, for the women involved and for their families. In energy supply roles in rural communities, women perform as well as men and in some cases even outperform them. Opening up the prospects of business and jobs in a traditionally male-dominated sector to women, supports gender equality, but it frequently requires challenging gender norms. Conversations and actions to address inhibiting social norms are needed to increase inclusive and equal opportunities. This policy brief's insights come from ENERGIA's research programme on gender and energy.

Context

Women play a crucial role in scaling up energy access, especially in hard to reach communities. As household energy managers and through their networks, women are in a unique position to connect with their peers, increase awareness and deliver energy products and services. Women's participation in energy supply has the potential to address several Sustainable Development Goals (SDGs) beyond energy access for all (SDG 7). It provides women with an income generation opportunity (SDG 8); which effects poverty reduction for families (SDG 1). Furthermore, women's engagement in decent work is shown to improve gender equality (SDG 5) through changing gender norms and increased participation in household and community level decision-making.

Engaging women in quality jobs in the energy supply chain allows women to benefit from the huge investments that will be made in the coming decade to achieve SDG 7. For example, according to IEA, Africa requires an almost fourfold increase in energy sector investment, to around

US\$120 billion a year through 2040, to achieve reliable electricity supply for all. Including women in decision-making and in supply has positive outcomes on reaching customers.

However, energy supply chains tend to be a realm dominated by men, both on the supply and customer side. The values, beliefs and attitudes of men and women's behaviours in many societies create barriers to women entering the energy sector. Hence, targeting of women is needed to attract women's participation in the sector. Involving men is also crucial to shift gendered social norms and ensure lasting change. ENERGIA's Gender and Energy Research Programme found numerous benefits of involving women in energy system supply chains across business, societal and personal levels, challenging stereotypes and social norms. Below we describe the most compelling of these benefits and key findings.

The ENERGIA Gender and Energy Research Programme

POLICY BRIEF #3

Key findings

Impacts and benefits of involving women in energy supply

Women perform as well as and are as ambitious as men

Including women in energy supply businesses makes sense as women perform just as well as men. This was reflected in a study conducted in 272 villages in rural Rwanda, where group enterprises – involving solar charging of LED lights – had fixed quotas for women to be appointed as sales agents. It showed that women groups performed as well as men groups, in what has previously been a male-led domain. Women also aspire to grow their businesses just like their male counterparts – and they do not shy away from competition.

Customers also trust women more to deliver better quality services. Two case studies of solar supply chains in Kenya found that after recruiting women in sales, quality of services was perceived to have improved (with fewer thefts and more efficient revenue collection). This ultimately increased sales.

Positive impacts on income and children's education

The research provides evidence that involvement in energy entrepreneurship has positive benefits for the women involved and their families. The appointment of women LED light sales agents in rural Rwanda, resulted in an increase in income and access to clean lighting in their households, as well as positive educational effects. The 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.

Increased self-confidence and skills

Women successfully involved in energy supply become more confident and self-reliant, strengthening their agency and decision-making about their own life. Gaining technical skills gives women self-esteem and builds faith in themselves. This was found to be the case in our research looking at energy supply projects in Kenya, India and Nepal.

Women engaged as energy entrepreneurs gain both business and technical skills, which allow businesses to grow and women to enter new careers. Our studies in Rwanda and Kenya demonstrated that increased visibility in the community and enhanced communications skills and self-confidence often enable women to serve in leadership roles in local community groups and committees, improving their status and challenging gender norms.

“Yes, [the Solar Mama project] has changed the thinking of the community. Men respect women and women feel proud of themselves.” Woman entrepreneur in Kenya

Challenging social norms

Engaging women in supply changes gender-stereotyping

Considerations for actions in policy and practice

1. Actions to increase women's participation and benefits from inclusion in localised systems of energy supply

- Specifically target women in recruitment and training, and offer support that addresses skills and confidence.
- Where society does not support women working in the energy supply chain, actions are needed to address social expectations and attitudes alongside the provision of technical training and business skills. In these situations, capacity building alone is not enough.
- An example of actions is the building of dialogue between men and women on gender norms and aspirations in order to identify how to address and overcome socio-cultural barriers to women's inclusion in energy supply.

2. Actions to recruit and retain women in energy sector jobs

- Modify the institutions and job profiles in the energy sector to attract women and accommodate their needs and obligations. This includes providing a female-friendly work environment and addressing socio-cultural factors such as combining work with care roles.
- Work with community based women's groups to find champions and leaders who can take part in the planning, recruitment and training process and ensure that the project's work environment accommodates women staff's needs.
- Develop and update tools and practical guidance on how to recruit and retain women in energy supply systems appropriate to the context, and ensure effective implementation and learning.

3. Actions to ensure that objectives of gender inclusivity reach implementation

- Formulate women's inclusion as a goal in all energy interventions.
- Develop gender sensitive approaches. Approaches that do not take gender into account are not gender neutral, and are found to negatively impact gender equality.
- Ensure monitoring, evaluation and accountability on realisation of gender inclusion goals.

attitudes; in particular, it can change men's beliefs in what women can do, and so challenge existing norms. In particular, women taking up leadership roles transforms how women are viewed in the community. 98% of our survey respondents in Nepal and 77% in Kenya confirmed that women's involvement in energy supply has changed the way they think about women. Women working in energy supply in Kenya also become role models for young girls. 85% of our survey respondents in Kenya and 64% in Nepal said that women's involvement in supply has positively affected their aspirations for girls, with female and male respondents expressing similar views.

"...because I am [an entrepreneur in a village-level enterprise] I get to now meet a lot of people and others come for advice from me. I am trusted, and I think I can now contest for the position of a village leader." Woman entrepreneur in Rwanda

For inclusive engagement of women who live in poverty in energy supply, reduction of risk and removing gendered barriers is needed

While there are many economic and social benefits of participation in energy entrepreneurship, entrepreneurship is not always the best way to engage women living in poverty. Many of these women prefer less risky wage employment that offers stable hours and income, rather than taking loans and having an unpredictable income.

Due to structural and cultural factors, energy entrepreneurship on its own will not create gender equity. Women entrepreneurs face barriers driven by societal standards and expectations of behaviour. Gendered barriers range from the individual level, such as a lack of decision-making power, to the institutional level, which indicates inadequate opportunities to access and influence change.

How to overcome barriers women entrepreneurs face

Multiple levels of support are needed

Because the structural and cultural factors limiting women's entrepreneurship are manifold and intertwined, integrated actions are needed to realise women entrepreneurs' potential in the energy supply chain. This was reflected in our research projects in India, Kenya and Nepal. Effective support includes: business education and skills development; training to foster self-belief and initiative; access to finance and capital; and access to business coaches, mentors and networks.

Engage community based women's groups

Fostering entrepreneurship is only one way to increase women's engagement in energy supply. Community based women's groups and cooperatives in energy business also offer opportunities for engaging women. Community based women's groups can help to

strengthen women's capabilities, increase their participation in household decision-making and expand their political power. The groups can also contribute to spreading knowledge about the use of clean energy products, challenging norms about fuel use and women's involvement in supply. The study in India, for example, found that community based organisations play a key role in the choice for clean cooking energy through their influence on strengthening women's decision-making in the household.

Donors and policy makers as change agents

Our research found that external stakeholders, such as donors and policy makers, can play an important role as "change agents" in overcoming barriers to women's empowerment and driving change. Through, for example, designing and funding projects that prioritise women's energy needs at the household level, and ensure substantive women's participation in the energy decision-making process at all levels. This is important for projects at the local level and for ensuring sustainability of impacts on the ground.

The role of gender quotas

Gender quotas establish a set proportion or number of places to be filled by women (and/or men). Our study in Rwanda with small scale or village level enterprises showed that simple gender quotas can be an effective means of ensuring that women enter the energy sector. However, additional measures also need to be taken to bridge gaps (in skills, capital etc.) and level the playing field in the sector, for women to reach their full potential. For instance the experience in India with the 30% reservation of jobs at state level for women, has not led to significantly increasing women's role in technical positions. Also for supporting women in enterprise growth, quota are insufficient. Our research indicates that mentoring, for example, is an important tool in supporting women entrepreneurs.

Gender-sensitive interventions and the importance of context

Both the opportunities and barriers to women engaging in energy enterprise are influenced by contextual factors such as social norms, policies and economic stability and growth. To empower women in energy supply sustainably, interventions need to go beyond short-term wins and be gender-sensitive, taking consideration of engrained local gender norms and socio-cultural barriers. This was a key finding from our research which looked at the types of interventions that did and did not successfully engage women. For example, in Nepal, a micro-hydro power project specifically trained women for technical functions taking a gender sensitive approach. However, none of the women took up the technical jobs due to strong gender norms in society about appropriate work for women. This example emphasises that interventions require more than technical training, and that long-term engagement is needed to achieve changes in behaviour and attitudes towards women's roles.

Conclusions

Women make excellent business leaders. Involving women in energy supply chains is beneficial to individuals, businesses and communities, and should be prioritised in energy sector development. Evidence on how to engage and retain women in energy supply should be shared and promoted. Practical insights should be combined with business models to optimise their contribution to achieving energy for all and reducing gender inequalities.

Further research

ENERGIA's Gender and Energy Research programme has developed new evidence and brought together studies from different contexts which show that women energy entrepreneurs are able to effectively expand energy access for rural communities. However, further targeted, rigorous research is needed to support practitioners and policy makers to act upon the issues which emerged during the programme. Priorities include:

- exploring appropriate business models that consolidates women's role as energy entrepreneurs in facilitating access to energy;
- benefits for women and their families;
- success factors in removing barriers to sustained operation and growth of women-led enterprises in remote markets
- the types of business development support that are most effective to support women in different types of energy enterprises to achieve goals of income generation, enterprise growth and increased access to energy services.

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About the ENERGIA Gender and Energy Research Programme

The findings in this briefing are based on research commissioned and overseen by ENERGIA, 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

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