

Gender in SDG7: Bridging the knowledge gap

Women at the heart of energy access



ENERGIA
INTERNATIONAL NETWORK ON
GENDER AND SUSTAINABLE ENERGY



Energy matters; gender matters

Energy interventions affect men and women differently. Both can benefit substantially, but only if their differential needs and differing ability to access energy services are properly understood. Gendered approaches can help empower women and reduce poverty. They can help deliver energy interventions that are effective, efficient and sustainable.

Energy matters; gender matters. Both are critical in international efforts to reduce poverty and combat climate change. Goal 5 of the Sustainable Development Goals (SDGs) is to “achieve gender equality and empower all women and girls”, whilst Goal 7 aims to “ensure access to affordable, reliable, sustainable and modern energy for all”.

The Gender and Energy Research Programme was initiated in order to extend the knowledge base that policy makers require in order to pursue these two goals effectively. A defining feature of the research programme is the firm belief that Goal 7 can be better served if energy issues are examined from a gender perspective. The programme is also concerned with understanding to what extent, and under what conditions, increased energy access can contribute towards Goal 5 and, thereby, also towards poverty reduction. A major purpose of the programme is to start addressing the distinct shortage of data concerning linkages between gender and energy access.¹



¹ ENERGIA research programme policy brief, Michael Stockbridge (ed) (2017).



Empirical research is needed to inform policy and practice so that it can realise and enhance the potential positive social and economic impacts of energy interventions. As part of its commitment to the Sustainable Energy for All initiative (SEforALL), the UK Department for International Development (DFID) has funded ENERGIA to implement and manage a Gender and Energy Research Programme, which runs from 2014 to 2019.

This research programme has built a body of evidence on gender and energy by collecting and analysing empirical evidence. This evidence is translated into energy policy recommendations that can support the development of effective policy and project interventions that contribute to gender equality in energy access. The programme covers seven research projects:

- 1 Exploring factors that enhance and restrict women's empowerment through electrification.
- 2 Productive uses of energy in the street food sector.
- 3 The political economy of energy sector dynamics.
- 4 Gender and fossil fuels subsidy reform.
- 5 Female microenterprise creation and business models for private sector distribution of low-cost off-grid LED lighting: randomized experiments in East Africa.
- 6 Unlocking the benefits of productive uses of energy.
- 7 Building the evidence base for women's empowerment and entrepreneurship improving the effectiveness of energy interventions: a literature review.

Evidence-building areas in the ENERGIA Gender and Energy Research Programme

- The opportunities for energy supply to contribute to income generation by both men and women.
- That energy sector reform and subsidies do not affect men and women similarly.
- The organisation of energy supply, and recognising the added value of involving women in the supply of energy.
- Understanding how to achieve energy access among the poorest, as women are disproportionately represented among the poorest and, further, within households access is not evenly distributed.
- Recognising the relevance of energy appliances and that energy use is key to the realisation of benefits and the sustained use of energy once access has been established.

Evidence, findings and messages from the research programme has been published on the Research website of ENERGIA: <http://www.energia.org/research/gender-energy-research-programme/>.

This website will be updated with final reports, publications, overview analysis and databases as these documents become available, throughout 2018 and 2019.

Exploring factors that enhance and restrict women's empowerment through electrification

Partners

University of Oslo, Centre for Development and the Environment, The Energy & Resources Institute, Seacrest Consulting, Dunamai Energy

Research questions

Explore how women's opportunities and empowerment through electrification are affected by: The choice and design of technological system; Ownership and management of the systems; The process of electrification; Cultural factors; Policy, regulations and financing schemes

Countries

India, Kenya, Nepal

Unlocking the benefits of productive uses of energy

Partners

Institute of Development Studies, Deutsche Gesellschaft für Internationale Zusammenarbeit

Research questions

- Does electrification have a different impact on men and women with regards to productive uses?
- Which gender constraints affect women's chances to benefit from the productive use of energy as much as men?
- What works to achieve gender equity in the promotion of productive uses of energy?

Countries

Ghana, Tanzania, Myanmar

Women's Empowerment and Entrepreneurship to Improve Energy Interventions' Effectiveness

Partners

Johns Hopkins Bloomberg's School of Public Health, Babson College, International Center for Research on Women

Research questions

Understanding the role of women's energy entrepreneurship in efforts to advance the sustainable development goal 7 of energy access for all.

- What is the evidence that women's energy entrepreneurship is a viable way to increase access for underserved populations?
- What is the evidence that being an energy entrepreneur is good for women and their families?
- What current programs or business models demonstrate positive impact?
- What are the gaps in research and programs to adequately engage women in this sector?

Countries

Literature review global with focus on applicability to southern context.

Productive uses of energy in the street food sector

Partners

University of Twente, University of Cape Town, ENDA Énergie, MARGE

Research questions

To fill the evidence gap on the impacts of access to energy services on the development of women's enterprises in the street food sector and the factors that influenced or motivated them to choose specific energy services.

Countries

Rwanda, Senegal, South Africa

Female microenterprise creation and business models for private sector distribution of low-cost off-grid LED lighting

Partners

Environmental Economics Policy Research Unit - African-branch of Environment for Development - Sweden, Nuru East Africa Ltd, Innovations for Poverty Action

Research questions

To test new business and micro-enterprise models designed to empower rural women and increase business sustainability.

Countries

Rwanda

Gender factor in political economy of energy sector dynamics

Partners

M.S. Swaminathan Research Foundation,
Centre for Rural Technology - Nepal

Objective

Women's agency in the use of energy in the social reproduction and production spheres, leading to gender sensitivity in energy policies and women's empowerment in energy transitions.

Countries

India, Nepal

Gender and Fossil Fuels Subsidy Reform

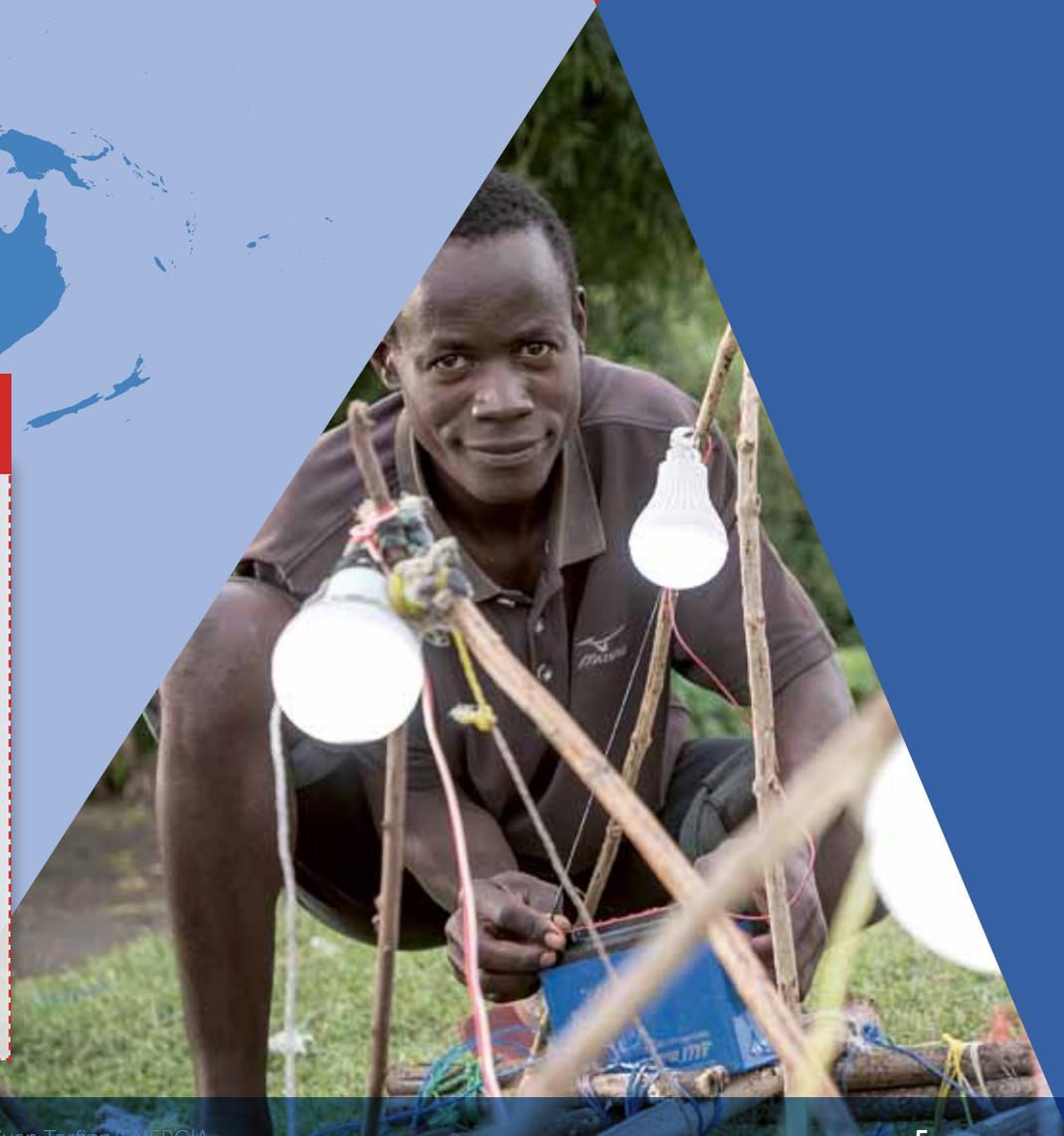
Partners

Global Subsidies Initiative of the International Institute for Sustainable Development
Bangladesh Institute of Development Studies, Integrated Research and Action for Development, Spaces for Change, The SMERU Research Institute, Universitas Gadjah Mada

Objective

Examine the impacts of fossil fuel subsidies and their reform from a gender perspective.

Countries *Bangladesh, India, Nigeria, Indonesia*



1. Exploring factors that enhance and restrict women's empowerment through electrification (EFEWEE)

What are the impacts of access to electricity on women and girls? Do gendered approaches to decentralised energy systems provide greater empowerment for women and girls than existing decentralised energy interventions?

Objective

This research project explores how women's opportunities and empowerment through electrification are affected by:

- the choice and design of technological system (grid/decentralised and their specific configuration)
- ownership and management of the systems (commercial, public, community-based organisations)
- the process of electrification (e.g. conventional, gender-sensitive and participatory approaches)
- cultural factors (e.g. established everyday practices, gender ideologies, roles and relations, household finances, poverty)
- policy, regulations and financing schemes

Partners

- University of Oslo, Centre for Development and the Environment (SUM), Norway
- The Energy & Resources Institute (TERI), India
- Seacrester Consulting, Kenya
- Dunamai Energy, Malawi

Countries *India, Kenya, Nepal*

Key messages for policy and practice

- Policies addressing access to household energy can unlock income generation opportunities for women-headed households by integrating productive uses of energy.
- Integrated planning of electricity services along with other public services is likely to contribute to the overall uplifting of households, businesses and communities.
- Increased focus on village-scale systems can enhance reliable and universal electricity access, women's empowerment and economic development.
- Steps to include women in management and operation of village-scale supply can offer win-win solutions in terms of women's empowerment, higher customer satisfaction and system viability.

2. Productive uses of energy in the street food sector

The street food sector is an important sector in developing countries because it provides sustenance for the growing urban populations as well as creating income-generating opportunities for the poor, and especially poor women.

Objective

This project fills the evidence gap on the impacts of access to energy services on the development of women's enterprises in the street food sector and the factors that influenced or motivated them to choose specific energy services. Evidence is also collected on the extent to which these energy changes in their enterprises influence women's economic and social empowerment. This evidence will lead to insights for the energy and policy fields related to enterprise development by providing directions on how policies can become more gender-sensitive and thereby promote the benefits of energy access to women.

Research partners

- University of Twente, the Netherlands
- University of Cape Town, South Africa
- ENDA Énergie, Senegal
- MARGE, Rwanda

Countries *Rwanda, Senegal, South Africa*

Key messages for policy and practice

- Policies addressing access to household energy can unlock income generation opportunities for women-headed households by integrating productive uses of energy.
- Greater integration between the street food sector's stakeholders and local authorities from various sectors would be beneficial for effective interventions in the street food sector, including in terms of energy access.



3. The political economy of energy sector dynamics

A gendered political economy analysis in the energy sector will identify not only the political and economic processes but also the interests and the gender norms, rules and institutions behind decision making.

Objective

Women in rural areas, particularly those in remote areas, have very limited access to modern energy (electricity and LPG). Despite recent policies which have introduced gender mainstreaming into the energy sector, there is still a disregard for gender-specific energy needs. The overall research objective is to understand the factors that constrain or facilitate women's agency in the use of energy in the social reproduction and production spheres, leading to gender sensitivity in energy policies and women's empowerment in energy transitions.

By studying the macro-, meso- and micro-level of energy policy formulation and implementation, and the final use of energy at the household and individual levels, the research aims to answer the central question on how rural women can be empowered to gain access to modern energy services. To this end, it looks at three specific areas of political economy:

- participation in production or self-organisation
- ownership of assets such as land and energy appliances
- valuing women's time.

Research partners

- M.S. Swaminathan Research Foundation, *India*
- Centre for Rural Technology, *Nepal*

Countries *India, Nepal*

Key messages for policy and practice

- While energy access policy may include gender considerations at the macro-level, outcomes at the micro-level are often rendered ineffective by gendered social norms.
- Gender-responsive meso-level innovation is key to implementing those policies that can create access and develop capacity to use the appliances using modern energy supply at the micro-level.
- Organisations that involve women as active agents in agriculture and allied enterprises have been shown to result in their members gaining access to productive resources including clean energy.
- It is women's agency through income earning, greater control over earnings and asset ownership that brings about an energy transition.

4. Gender and Fossil Fuels Subsidy Reform

Are women, relative to men, disproportionately disadvantaged by existing fossil fuel subsidies, prices and subsidy reform? How might this be rectified in future?

Objective:

This study examines the opportunities for and impacts of energy sector reform, and the removal of fossil-fuel subsidies, on gender, especially from the perspective of women and children.

Research partners:

- Global Subsidies Initiative (GSI) of the International Institute for Sustainable Development (IISD), *Switzerland*
- Bangladesh Institute of Development Studies (BIDS), *Bangladesh*
- Integrated Research and Action for Development (IRADe), *India*
- Spaces for Change, *Nigeria*
- The SMERU Research Institute, *Indonesia*
- Universitas Gadjah Mada, *Indonesia*

Countries *Bangladesh, India, Nigeria, Indonesia*

Key message for policy and practice

Although context is key when it comes to fuel subsidy and its reform, income and affordability of fuels are important too. Different types of subsidies appear more efficient at delivering gender and access benefits than others, for example targeted LPG connection subsidies aimed at women via their bank accounts (e.g. the Indian PMUY scheme), over blanket fuel consumption subsidies. The following key messages are emerging from the research on energy sector reform across four countries

1. Current fuel subsidies are not working well for women.
2. Better targeting of fuel subsidies is needed.
3. Subsidy reform needs to be undertaken with care.
4. Subsidies are not the only element that leads to fuel switching and better access.
5. Do something else: investing in something other than fuel subsidies might be more beneficial in terms of women's empowerment.

5. Female microenterprise creation and business models for private sector distribution of low-cost off-grid LED lighting: randomized experiments in East Africa

Does a gendered approach in private-sector business models provide greater empowerment to women and girls than traditional approaches in the energy sector?

Objective

This study aims to test new business and micro-enterprise models designed to empower rural women and increase business sustainability by involving women in village-level enterprises selling low-cost off-grid LED lighting in Rwanda.

The evidence from this study is based on NURU in Rwanda, a company whose business model involves LED lights that are charged at a central location in a community.

Research partners

- Environmental Economics Policy Research Unit (EPRU), *South Africa*; Africa-branch of Environment for Development, *Sweden*
- Nuru East Africa Ltd, *Rwanda*
- Innovations for Poverty Action (IPA), *Rwanda-office*

Countries *Rwanda*

Key messages for policy and practice

- Households in developing countries are unable to afford off-grid lighting at normal retail prices.
- Evidence on measures such as providing information about the value of the good, or reducing credit constraints, suggests these do not have a sufficient impact. The study suggests that reduction of costs to end-users removes an important barrier to access to lighting for the poor. When the prices of the NURU solar lights dropped by two-thirds, the demand for these lights increased by nearly fifty percent.

6. Unlocking the benefits of productive uses of energy

Productive uses of energy are considered an essential element if one is to unleash the income generation and poverty reduction potential of energy access interventions. However, men benefit more from these opportunities than women.

Objective

This research aims to assess how a gendered approach to electricity supply can be implemented to promote more benefits for women. Further, this study will provide an understanding of the enablers of gendered access to energy and of access to decent work to improve the planning, design and implementation of programmes and policies.

Research partners

- Institute of Development Studies, *UK*
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), *Germany*

Countries *Ghana, Tanzania, Myanmar*

Key messages for policy and practice

Initiatives to promote productive uses of electricity are typically unintentionally biased towards male-dominated enterprises as economic and technical considerations lead to targeting of types of enterprise and enterprise locations in which men have a higher presence. Two strategies can be followed for women to benefit as much as men from the productive use of energy: adapt to the existing context or transform it.

Adapting means targeting energy supply to the typical characteristics of female enterprises: small, volatile in income, and intertwined with household care responsibilities.

Transforming requires:

- Supporting women's enterprises to scale up
- Supporting women to crossover to male dominated activities through apprenticeships, mentorships, exposure to role models, and skills development
- Supporting women to move up the value chain of energy intensive activities
- Complementing initiatives to change attitudes with initiatives to provide similar starting conditions: access to capital, education and skills
- Identifying gender specific barriers related to paid/unpaid work, access to resources, mobility and time use and target interventions to remove the critical ones.





7. Building the Evidence Base for Women's Empowerment and Entrepreneurship to Improve Energy Interventions' Effectiveness: A Literature Review

Despite efforts to engage women in the dissemination of clean energy technologies using a range of business models and strategies, there is limited systematically collected data on the factors influencing women's success in energy businesses.

Objective:

This study aims to address this gap by undertaking a literature review to capture existing insights on:

- The role of the private sector and market-based approaches and current innovations for strengthening women's agency and economic empowerment in scaling up energy access.
- Which private sector business models, related to energy investments in increasing energy access or promoting energy efficiency, contribute most to women's empowerment?
- Key business and behavioural drivers of success of women's involvement in energy-based enterprises.

Research partners

- Johns Hopkins Bloomberg's School of Public Health, USA
- Babson College, USA
- International Center for Research on Women (ICRW), USA

Countries Global literature review with focus on applicability in Southern contexts

Key findings for policy and practice

Women are more likely to start businesses that address social concerns, and this can also be expected in the energy sector.

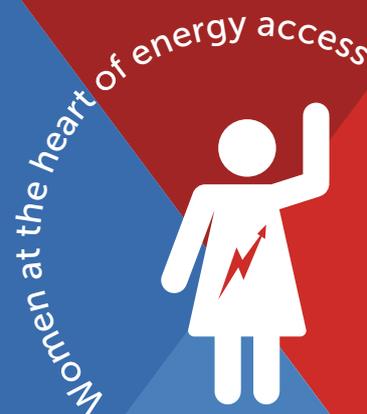
Agency-based training may be particularly important for entrepreneurs in resource scarce environments, heavily regulated markets, and for those with low legitimacy social status such as females and the poor.

About ENERGIA

ENERGIA, International Network on Gender and Sustainable Energy, is 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 an 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.

ENERGIA is hosted by Hivos, People Unlimited, a humanistic organisation that seeks new solutions to persistent global issues. With smart projects in the right places, Hivos opposes discrimination, inequality, abuse of power and the unsustainable use of our planet's resources.



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