



Consortium on Gender, Security & Human Rights

Energy Infrastructure: Gendered Analyses

Bibliography with Abstracts

2020

The **Consortium on Gender, Security and Human Rights** created this bibliography to provide a guide to the landscape of research-based knowledge on the relationship between energy infrastructure and gender. Our goal is to provide the policy, activist and scholarly communities with increased access to the findings of academic research, as well as to a curated selection of the extensive and valuable resources produced by policy agencies and international organizations.

The Consortium on Gender, Security and Human Rights

Bibliographic Resources Series

<http://genderandsecurity.org/projects-resources/bibliographic-resources>

Art and Artists' Responses to Gender, Armed Conflict and Human Rights

Climate and Ecological Crises:

The Climate Crisis: Gendered Impacts, Women's Agency, and Feminist Analyses
Ecofeminism

Feminist Engagement with Green New Deals and Green Growth Agendas

Food Security, Gender and the Climate Crisis

Masculinities, the Environment, and Technological "Solutions" to the Climate Crisis

Migration, Gender and the Climate Crisis

Disarmament, Demobilization, and Reintegration (DDR) and Gender in Colombia /

Desarme, desmovilización y reintegración (DDR) y Género en Colombia

Selected English and Spanish Language Sources

Environmental Disasters: Gendered Impacts and Responses

Extractive Industries: Gender Analyses

Feminist Critiques of the Sustainable Development Goals

Feminist Foreign Policy

Feminist Political Ecology

Gender and Security in Afghanistan, India and Pakistan

Gender Responsive Budgeting and Gendered Public Finance

Infrastructure:

Energy Infrastructure: Gendered Analyses

Roads, Transportation, Mobility and Gender

Water Infrastructure, Gender and Development

Land:

Land Grabbing, Large-Scale Land Acquisition and Gender

Land Rights and Gender

Land Tenure and Gender

Los derechos a la tierra, el despojo y el género

Land Rights, Land Grabbing & Gender: Spanish Language Sources

Os direitos à terra e o gênero

Land Rights and Gender: Portuguese Language Sources

LGBTQ+ People in Militaries, Wars and Post-War Settings

Masculinities and Armed Conflict

Masculinities and Peacekeeping

Masculinity and Gendered Concepts of Honor, Shame, Humiliation and Vulnerability (focusing on the Middle East)

Private Military and Security Companies: Gendered Perspectives

Sexual Violence and Armed Conflict

Taxation, Tax Justice and Gender Equality

Please check the website for new bibliographic resources posted since this one was published.

This bibliography aims to provide a guide to the landscape of research-based knowledge on the relationship between energy infrastructure and gender. It is divided into thematically into five sections; each theme is further divided into sub-sections, the first devoted to academic research and the second collecting some of the valuable literature emerging from NGOs, think tanks, policy institutions and international organizations.

- The first and largest section of the bibliography concerns gendered access to and consumption of energy. It includes resources on gendered energy poverty and the relationships between climate crisis outcomes and equitable energy access and consumption, or lack thereof.
- The second section covers gender in relation to renewable energy industries and policy (solar, wind, hydroelectric, carbon reduction, etc.). This literature includes resources on the challenges and opportunities for gender equity presented by transitions to low-carbon energy systems. The section also contains several resources that focus on women's entrepreneurship and leadership in renewable energy and energy policy, presenting both liberal, participatory approaches and more structural and transformative ones.
- The third section highlights an important and emerging body of literature on Indigenous communities, gender, and energy. These resources underscore the importance of Indigenous women's participation in energy management decisions and policy.
- The fourth section contains resources that bring a feminist power analysis to issues of gender in energy infrastructure and that critique mainstream gender and energy studies.
- The fifth section compiles resources about gender in energy policy, programming, and research. This includes policy recommendations regarding gender in energy infrastructure, writing stressing the importance of gender-diversity in formal energy infrastructure decision-making bodies, and evaluations of past energy-focused research and programs.

Consortium interns Tanvi Kohli, Inès Llorente, Marina Schwadron, Abbie Titcomb, and Clio Tsivanidis undertook the principal research for this bibliography, with additional contributions from Consortium staff members. Entries include citations and, insofar as possible, abstracts or summaries. If you are familiar with resources that you think should be included in the next draft of this bibliography and/or in the Consortium's Research Hub, please send us the citation, and, if possible, the PDF. Resources can be submitted through our website at: <http://genderandsecurity.org/projects-resources/bibliographic-resources>.

Another excellent resource for research on gender and energy infrastructure is the [ENERGIA Knowledge Centre](#). We have included some, but not all, publications from ENERGIA in this bibliography.

This bibliography was created by the Consortium on Gender, Security and Human Rights, as part of our Feminist Roadmap for Sustainable Peace and Planet (FRSPP) project. The FRSPP focuses on the transnational economic actors and processes that tend to deepen the inequalities that underlie armed conflicts and to undermine the prospects for peace that is both politically and environmentally sustainable. Its goal is to provide: forward-looking expert knowledge of those processes; analyses of their impacts on gender relations and other structural inequalities underlying armed conflicts; and recommendations for how to engage and modify those processes to be more supportive of the societal transformations critical to building gender-equitable, sustainable peace. Topics addressed in the FRSPP include, inter alia: the economic recovery policy prescriptions of international financial institutions; extractive industries and natural resource policy; land rights, large scale land acquisition and land grabbing; infrastructure reconstruction; and climate disruption.

Table of Contents

<i>I. Gendered Access to and Consumption of Energy</i>	<i>3</i>
A. Academic Resources	3
B. Non-Academic Resources	37
<i>II. Renewable Energy, Technological Solutions to Climate Change, and Gender</i>	<i>56</i>
A. Academic Resources	56
B. Non-Academic Resources	94
<i>III. Indigenous Communities, Gender, and Energy</i>	<i>120</i>
A. Academic Resources	120
B. Non-Academic Resources	122
<i>IV. Feminist Perspectives on Gender in Energy Infrastructure</i>	<i>123</i>
A. Academic Resources	123
<i>V. Gender in Energy Policy, Programming, and Research</i>	<i>126</i>
A. Academic Resources	126
B. Non-Academic Resources	148

I. Gendered Access to and Consumption of Energy

A. Academic Resources

Aina, O.I., and A.I. Odebiyi. 1998. "Domestic Energy Crisis in Nigeria: Impact on Women and Family Welfare." *African Economic History*, no. 26, 1–14.

No abstract available.

Summary:

Energy consumption in the household sector in Nigeria is characterized by a general dependence on fuelwood, high inefficiency of energy consumption, decentralization of consumption (settlements are dispersed, making supply of electricity, for example, uneconomical), and an urban-rural dichotomy. The detrimental effects of fuelwood deficits and scarcity of alternative sources of fuel are mostly felt by women as a social group, poor rural women in particular. Although the Nigerian government established an Energy Commission in 1987 with the sole responsibility of coordinating the activities of NGOs and government agencies in charge of electricity generation, petroleum products production, coal production, and gas supply, the various agencies continue to operate without the necessary linkages. As it is, the requisite framework to address household energy issues is lacking, while the issue of fuelwood is yet to be addressed by government policy decisions. The present domestic energy crisis in Nigeria calls for immediate policy intervention. To effectuate an effective policy package, critical characteristics of the sector must be known, while the implications of the different options must be documented. (*Summary from AFRICABIB*)

Anneck, Wendy Jill. 2000. "Women and Energy in South Africa." *Energy for Sustainable Development* 4 (4): 44–7.

Abstract:

The article provides a brief overview of the historical absence of women from the formal energy sector, and their invisibility as users and clients in South Africa. This changed in the last decade of this century when women began to be recognised as an important category of managers of domestic energy for productive and reproductive purposes, and the need for these to be sustainable. It changed even further with the appointment of women as Minister and Deputy Minister of Minerals and Energy, and as Chief Executive Officer of the Central Energy Fund. However, there is still a great deal to be done to change the fundamentally unequal relations between people with access to power and resources in South Africa and those without. (*Abstract from original source*)

Anneck, Wendy. 2002a. "Climate Change, Energy-Related Activities and the Likely Social Impacts on Women in Africa." *International Journal of Global Environmental Issues* 2 (3–4): 207–22.

Abstract:

This paper attempts to draw the links between climate change, energy-use, gender relations and the subsequent impacts on the every-day lives of poor women in Africa. The approach is one of broad-brush strokes in an attempt to provide an overview of the breadth and complexity of factors to consider in such an analysis. It is anticipated that climate change will result in aridification, decreased runoff, increased air temperatures and increased extreme weather conditions such as floods, droughts and high winds. Water resources, agriculture, human health, forestry, rangelands, biodiversity, fishing, forestry and tourism are all sectors that women are engaged in and that will be affected. Gender, the socially constructed relationships between men and women, plays a part in vulnerability. The paper highlights the difference in energy use in developed and developing countries and between men and women and goes on to explore the impact of energy use on climate change. The most vulnerable energy sub-sector is biomass fuels, which are used by the largest and most vulnerable category of consumers - poor women. The paper examines women's susceptibility to changes in the sectors mentioned and concludes with some recommendations on preparations which should be made towards sustainability. (*Abstract from original source*)

Keywords: climate change; energy; women and gender; sustainable development

Anneck, Wendy. 2012. "Still in the Shadows: Women and Gender Relations in the Electricity Sector in South Africa." In *Electric Capitalism: Recolonising Africa on the Power Grid*, edited by David McDonald, 288–320. Abingdon: Routledge.

No abstract available.

Summary:

"The use of a reticulated electricity system to light up 16 street lights and a few public buildings in Kimberley in 1872 provides the entry point for this study of gender relations in South Africa. In this chapter I posit the difference between electricity as a current of moving electrons and electrification as a technology embedded in social processes—including that of relations between men and women" (Anneck 2012, 288).

Anneck, Wendy. 2015. *Whose Turn Is It to Cook Tonight? Changing Gender Relations in a South African Township*. Cape Town: Department for International Development.

Abstract:

This study is set in an urban area, in a township called Khayelitsha in South Africa, where poverty, violence and unemployment are endemic. Since the new democratic order came to power in 1994, there have been two changes in policy that impact on this study. The first is that gender equality has been legislated (with some machinery to enforce this), the second is that an accelerated electrification programme has been implemented so that 75% of the formal houses and shacks in Khayelitsha are electrified. This study uses cooking as the domestic chore that epitomises traditionally gendered domestic relationships to explore the hypothesis that when women have access to

modern energy services their daily drudgery is reduced and they are able to improve their own lives. The findings include the resentment felt by some men that they can no longer use force to compel their partners to perform domestic duties to their own satisfaction, and that, backed by strong institutional support for gender equality, access to modern energy services (in this case electricity) can facilitate shifts in gender roles and responsibilities in the domestic sphere. (*Abstract from original source*)

Keywords: gender relations; energy; gender violence; domestic tasks; household electrification

Antwi, Sarpong Hammond. 2020. “The Trade-Off between Gender, Energy and Climate Change in Africa: The Case of Niger Republic.” *GeoJournal*, June. doi:10.1007/s10708-020-10246-9.

Abstract:

This article examines the role of gender in climate change adaptation and energy access in Africa. Drawing on the energy situation in Niger Republic, it argues that redressing gender concerns is critical to mitigating the impact of climate changes and energy poverty in the Sahelian country. A gender sensitivity analysis reveals that Niger is a take-off stage, a state of gender equity verified from the willingness of men to support women, as well as the entrepreneurial mindset of respondents coupled with supporting policies at both macro and micro levels. The study nonetheless recommends a more significant continental effort toward gender integration in energy planning processes. It also justifies the pursuance of alternative livelihood activities and an adjustment of policy frameworks towards universal energy access by 2030, as a means to breaking the vicious circle of limited income, increased vulnerability and narrowed opportunities that thwart gender equality and mainstreaming efforts in the country and across Africa. (*Abstract from original source*)

Avrin, A., H. Yu, and D. M. Kammen. 2018. “Supporting Social and Gender Equity through Micro-Grid Deployment in the DR Congo.” In *2018 IEEE PES/IAS PowerAfrica*, 646–51. Piscataway, NJ: IEE.

Abstract:

Energy use has long been associated with improvements in development and social outcomes but in many areas, realization of these benefits is stalled by the challenges of building out the infrastructure for a centralized grid. The development of mini-and micro-grids has opened up new opportunities for electricity access by offering flexibility in deployment, the potential for more localized control, and greater versatility in financing options. When powered by renewable energy, these systems offer the additional benefit of environmental gains. While tools to optimize clean energy system deployment in traditional contexts exist, there remains a need for an approach that links the identification of appropriate energy systems with the unique social context of off-grid communities, such as conflict resolution, gender equity, and the limitation of illegal environmental degradation. Below, we propose that a data-informed, participatory framework can assist in site selection and design process for deploying

microgrids, to maximize the likelihood that electricity provision will lead to positive social and environmental outcomes, including the reduction of tensions and the promotion of peace in conflict-prone regions. We apply this framework to communities in the Democratic Republic of the Congo. (*Abstract from IEEE Xplore Digital Library*)

Babalola, Folaranmi Dapo. 2010. “Harnessing Energy Crisis and Gender Empowerment: Impacts of Household Energy Consumption Pattern on Women’s Welfare and Education.” Paper presented at the e4e E-Conference organised by United Nations Girls’ Education Initiative (UNGEI), May 3–7.

No abstract available.

Summary:

“Energy and women are linked in many diverse ways, particularly through the nature of the (predominantly biomass) energy resource base, the characteristics of the household and community economy, the features of energy policy, and the position of women in families and communities. Energy can be a vital entry point for improving the position of women in households and societies. To realise this potential, energy must be brought to centre stage and given the same importance as the other major global issues. In developing countries, especially in rural areas, 7% of world primary energy demand rely on biomass, such as fuelwood, charcoal, agricultural waste and animal dung, to meet their energy needs for cooking (IEA, 2006). The use of these traditional fuels in open fires or with simple stoves is not only less efficient and more polluting than modern energy options, but they are also unreliable, not easily controllable, and subject to various supply constraints (Heruela, and Wickramasinghe, 2008). The poor in developing countries therefore pay much more in terms of health impacts, collection time, and energy quality for the equivalent level of energy services as their counterparts in the developed world” (Babalola 2010, 2).

“The significance of the energy sector within the broader poverty-energy-environment-nexus is well established (Adelekan and Jerome, 2006). Reliance on traditional biomass energy is particularly high in sub-Saharan Africa, accounting in some countries for 70 to 90% of primary energy supply and up to 95% of the total consumption” (2).

“African countries continue to rely on biomass energy to meet the bulk of their household energy requirements. In Nigeria, it is estimated that about 91% of the household energy needs are met by biomass (Karekezi, 1999). An important step to finding lasting solutions to gender disparity in household energy problems might be a better understanding of the household sector i.e. accessibility and affordability of the various energy sources, household consumption pattern and impacts of fuel shortages; all these will help to fast track possible solution and plan for engendering gender empowerment. The study was therefore conducted in selected rural and urban areas of southwest Nigeria with the view to evaluating the households’ energy consumption pattern and the impacts on the welfare and standard of living of women and girl child in particular” (3).

Batliwala, Srilatha. 1983. "Women and Cooking Energy." *Economic and Political Weekly* 18 (52/53): 2227–30.

Abstract:

This paper discusses the impact of the cooking energy system on women. A woman in poverty has low access to cooking fuel, spends the longest time obtaining it, and puts it to use in stoves which are not only fuel-inefficient, but which also subject her to serious or fatal disease. Cooking energy also increasingly determines a woman's nutrition level, and that of her family. It is, therefore, essential that all innovations in the cooking energy system be undertaken only in continuous interaction with the women whose lives they will most affect. This interaction must be initiated at the idea/conceptual stage, and not when the prototype is ready for testing. (*Abstract from JSTOR*)

Batliwala, Srilatha, and Amulya K. N. Reddy. 2003. "Energy for Women and Women for Energy (Engendering Energy and Empowering Women)." *Energy for Sustainable Development* 7 (3): 33–43.

No abstract available.

Summary:

The women-energy nexus involves the challenge of engendering energy and the challenge of empowering women through energy. The first challenge arises from the gender disaggregation of energy consumption patterns. A quantitative account of the share of women in these patterns is presented through a description of the rural energy consumption pattern of the village of Pura in South India. The results indicate that women work more hours than men. Women also perform the back-breaking tasks and are displaced by agricultural mechanisation. The energy output-input imbalance is aggravated by the fact that, in developing countries, women traditionally eat last and least in a family—women therefore take in less food energy than men. The gender distribution of labour results in negative health impacts. The scarcity of energy services in rural areas has serious social and gender impacts. Tackling them requires energy interventions to improve the quality of life for women. Examples of such energy interventions are the community biogas plant at the village of Pura and the multi-purpose platforms of the Mali project.

Since technological opportunities exist for such energy interventions, attention is turned to the second challenge of empowering women through energy entrepreneurship. This requires a change of mind-set on the part of energy planners and activists -- they must promote the notion of women as managers and entrepreneurs, and not just beneficiaries, of improved energy services. The idea is to push the following sequence: women as deprived in energy consumption patterns → women as beneficiaries of energy interventions → women as managers of enterprises → women as energy entrepreneurs. This is nothing short of a paradigm shift—but once achieved and implemented, the results will speak for themselves. Such an approach will engender energy by converting it into a force for improving the quality of life as well as enhancing productive

capacities—a virtuous circle of energy for women and women for energy. (*Summary from original source*)

Chikulo, B. C. 2014. “Gender, Climate Change and Energy in South Africa: A Review.” *Gender & Behaviour* 12 (3): 5957–70.

Abstract:

Climate change is one of the most pressing global environmental challenges facing humanity in the 21st century. Recently, the World Development Report 2012: Gender Equality and Development (World Bank, 2012) placed gender and equality at the centre of development discourse. In addition, the UNDP (2009) document Gender and Climate Change Human Development Report (UNDP 2007) made the critical linkage between gender equality, poverty and climate vulnerability. Consequently, a greater realization has emerged that gender inequality intersects with risk and vulnerability. Women are disproportionately vulnerable to climate change because of socially determined social roles and they have fewer resources to cope due to their reliance on climate-sensitive resources. In addition, energy collection and utilization is the primary responsibility of women, especially in rural communities, where most energy is derived from traditional biomass fuels such as wood, charcoal and agricultural waste. Consequently, women face critical challenges with regard to the use and provision of energy in household. As a result, in many instances, it is women and female children who suffer the most from the shortage of energy due to their traditional roles for collecting fuel. Furthermore, a lack of access to energy mainly affects women in their role as household managers because they are usually responsible for providing energy for the household. Without access to convenient, affordable clean fuels for cooking and heating, women have to spend large amounts of time and physical energy gathering traditional fuels to heat water and cook meals. The time and physical effort expended by women and females in gathering traditional fuels seriously exposes them to health and safety problems. As a result, the introduction of cleaner modern energy services such as electricity is important for the empowerment of women and children. It enables them to participate more fully in the development process. This paper examines the link between climate change, gender and energy and its impact on gender relations in South Africa. The article concludes that although a lot has been achieved in terms of the legislative framework and policy, the challenge facing the South African Government is how to link the objectives of gender and energy with that of climate change mitigation within a sustainable development framework. (*Abstract from original source*)

Choudhuri, Pallavi, and Sonalde Desai. 2020. “Gender Inequalities and Household Fuel Choice in India.” *Journal of Cleaner Production* 265 (August). doi:10.1016/j.jclepro.2020.121487.

Abstract:

The use of solid cooking fuels—wood, straw, crop residue, and cow-dung cakes—is associated with higher levels of environmental pollution and health burden. However, even in an era when incomes have grown and poverty has declined, the proportion of

Indian households using clean cooking fuels such as kerosene or Liquefied Petroleum Gas (LPG) has increased only slightly. Even among the wealthiest quintile, only about 40 percent of the households rely solely on clean fuel. Since the chores of cooking and collection of fuel remain primarily the domain of women, we argue that intra-household gender inequalities play an important role in shaping the household decision to invest in clean fuel. Analyses using data from the India Human Development Survey (IHDS), a panel survey of over 41,000 households conducted in two waves in 2004-05 and 2011–12, respectively, show that women’s access to salaried work and control over household expenditure decisions is associated with the use of clean fuel. (*Abstract from original source*)

Clancy, Joy, and Ulrike Roehr. 2003. “Gender and Energy: Is There a Northern Perspective?” *Energy for Sustainable Development* 7 (3): 44-9.

No abstract available.

Summary:

Energy, in a Northern context, is seen as gender-neutral; women and men are regarded as equal in their uses of and views about energy, hence policies accurately reflect the needs and wishes of the population. However, recent research has shown that the assumption of gender neutrality might be a misconception. This paper tests the hypothesis of gender neutrality in energy in the North by reviewing the available evidence. The paper argues that on the basis of gender equality, it is valid to ensure that women and men’s views should be equally reflected in energy policy and that women should have the opportunity of meaningful and rewarding professional career opportunities in the energy sector.

The paper uses four questions as the framework of analysis. Are the lives of women and men affected differently in terms of the energy forms they use? If gender differences towards energy exist, are women and men able to exercise choices that reflect those differences about energy? Do women and men in the North have different preferences for energy policy? Are women able to make effective contributions as academics, as activists and as workers in the energy sector?

The findings indicate that there would appear to be a distinct gender dimension in the way women’s and men’s lives are affected by energy use while the evidence about gender differences in preferences for particular primary energy forms as a basis of supply is, with the exception of nuclear energy, equivocal. Women are clearly under-represented as professionals in the energy sector. There are examples of creative approaches to encouraging women to join the sector but less attention seems to be paid to keeping them there. An interesting finding is the shift in attitudes of young men towards attitudes more strongly associated with women: being more environmentally conscious and socially aware. Young men do not always subscribe to the ‘masculine culture of work’. (*Summary from original source*)

Clancy, Joy, Fareeha Ummer, Indira Shakya, and Govind Kelkar. 2007. "Appropriate Gender-Analysis Tools for Unpacking the Gender-Energy-Poverty Nexus." *Gender & Development* 15 (2): 241–57.

Abstract:

In rural and low-income urban households, energy is ‘women’s business’: women are responsible for providing energy, and use it for domestic chores and productive activities. However, the poor quality fuels many women use contribute to their time poverty, ill health, and level of drudgery. Despite these negative impacts, energy policy remains gender-blind. This can be attributed to the invisibility of women’s needs to energy planners, stemming from a lack of appropriate gender-analysis tools to meet the particular data requirements of the energy sector. This article analyses why standard gender tools do not provide appropriate gender-disaggregated energy data, and describes a set of tools that have been developed for that purpose. The paper concludes with an evaluation of recent experiences testing the tools in Pakistan, India, and Nepal. (*Abstract from original source*)

Clancy, Joy S., Soma Dutta, Nthabiseng Mohlakoana, Ana Rojas, and Margaret Njirambo Matinga. 2015. "The Predicament of Women." In *International Energy and Poverty: The Emerging Contours*, edited by Lakshman Guruswamy and Elizabeth Neville. New York: Routledge.

No abstract available.

Clark, Maggie L., Jennifer L. Peel, James B. Burch, Tracy L. Nelson, Matthew M. Robinson, Stuart Conway, Annette M. Bachand, and Stephen J. Reynolds. 2009. "Impact of Improved Cookstoves on Indoor Air Pollution and Adverse Health Effects among Honduran Women." *International Journal of Environmental Health Research* 19 (5): 357–68.

Abstract:

Elevated indoor air pollution levels due to the burning of biomass in developing countries are well established. Few studies have quantitatively assessed air pollution levels of improved cookstoves and examined these measures in relation to health effects. We conducted a cross-sectional survey among 79 Honduran women cooking with traditional or improved cookstoves. Carbon monoxide and fine particulate matter (PM_{2.5}) levels were assessed via indoor and personal monitoring. Pulmonary function and respiratory symptoms were ascertained. Finger-stick blood spot samples were collected to measure C-reactive protein (CRP) concentrations. The use of improved stoves was associated with 63% lower levels of personal PM_{2.5}, 73% lower levels of indoor PM_{2.5}, and 87% lower levels of indoor carbon monoxide as compared to traditional stoves. Women using traditional stoves reported symptoms more frequently than those using improved stoves. There was no evidence of associations between cookstove type or air quality measures with lung function or CRP. (*Abstract from original source*)

Keywords: indoor air pollution; particulate matter; pulmonary function; respiratory symptoms; C-reactive protein

De Groot, Jiska, Nthabiseng Mohlakoana, Abigail Knox, and Hans Bressers. 2017.
“Fuelling Women’s Empowerment? An Exploration of the Linkages between Gender, Entrepreneurship and Access to Energy in the Informal Food Sector.” *Energy Research & Social Science* 28: 86–97.

Abstract:

This interdisciplinary review paper explores linkages between access to energy, women's empowerment and entrepreneurship. This will be discussed in the context of the informal food sector. Despite expectations that access to energy for productive uses empowers women by enabling them to generate an income, women in developing countries face a range of barriers when establishing and operating enterprises, including access to energy. The literature reviewed in this paper suggests that, although improved access to energy for women in the informal food sector may create a range of benefits for women, the empirical evidence base upon which such claims are made is limited. Access to a range of energy services suitable to their enterprise would provide women with building blocks to operate their enterprise, alleviate restrictions on growth, increase their sustainability, and provide them with increased control over enterprise operation. These may help to create an enabling environment for empowerment, rather than directly contributing to it. Consideration of the gendered dynamics and logics of entrepreneurship in the design of development interventions, in particular with regard to motivations for operating an enterprise, spatial distribution of enterprises, growth strategies and risk behaviour, may lead to more sustainable and empowered enterprises in the long-term. (*Abstract from original source*)

Keywords: energy services; informality; gender; enterprise; productive uses; empowerment; development

Dutta, Soma. 2020. “Promoting Women’s Entrepreneurship in Distribution of Energy Technologies: Lessons from ENERGIA’s WEE Programme.” *IDS Bulletin* 51 (1): 71-90.

Abstract:

In the energy access space, women’s entrepreneurship has gained momentum in the last few years. ENERGIA, International Network on Gender and Sustainable Energy, has been implementing the Women’s Economic Empowerment (WEE) programme since 2014, focusing on developing women’s enterprises in the clean energy sector. With its five partners, ENERGIA has supported more than 4,000 women in clean energy businesses in seven countries. WEE programme experience in the dissemination of clean energy technologies shows women entrepreneurs to be effective in ‘last-mile’ distribution for affordable clean energy technologies through their social networks. Supporting women entrepreneurs calls for a multi-pronged strategy combining the approaches of enterprise development and women’s empowerment. Useful tactics to promote women energy entrepreneurs include combining technology and business skills

upgrading with empowerment and agency building; sustained mentorship support; and trust-based one-to-one selling approaches. There is also a need to take an ecosystem approach that places an equal emphasis on the enabling environment and direct support to entrepreneurs. (*Abstract from original source*)

Keywords: gender; energy; women's entrepreneurship; economic empowerment; last mile

Farhar, Barbara C., Beth Osnes, and Elizabeth A. Lowry. 2014. "Energy and Gender." In *Energy Poverty: Global Challenges and Local Solutions*, edited by Antoine Halff, Benjamin K. Sovacool, and Jon Rozhon, 152–79. Oxford: Oxford University Press.

No abstract available.

Summary:

Despite women's current lack of access to modern energy in the developing world, there are reasons for optimism about future energy development and its impact on women. A central thesis of the chapter is that definition of key sustainable energy goals and measurement of progress toward them are critical in achieving progress. Global energy-relevant issues as they relate to gender are discussed. A sampling of distributed energy projects and programmes is described, focusing on those addressing key concerns of women—cooking, distributed electrification, and lighting. Impacts and indicators relative to energy poverty and energy access and the post-2015 development framework are explored. (*Summary from Oxford Press Scholarship Online*)

Keywords: education and energy; energy and gender; healthcare and energy; health impacts; biomass cooking; cookstoves; technology; Millennium Development Goals; sustainable energy; women's energy issues

Fingleton-Smith, Edwina. 2018. "The Lights Are on but No (Men) Are Home. The Effect of Traditional Gender Roles on Perceptions of Energy in Kenya." *Energy Research & Social Science* 40 (June): 211–9.

Abstract:

This paper explores how men and women's roles in society are reflected in the way they use and perceive energy in Kenya. Drawing on qualitative data collected from 75 in-depth interviews with energy users around Kenya it suggests that there is a disconnect between the people who benefit from modern energy technologies in a household setting, and the people who purchase them. Gendered roles mean that men do not spend much time in the house; however they often make major purchasing decisions for the household as a result of traditional gender power divisions. The dominant economic position of men leads to a situation in which men do not believe they benefit greatly from modern household energy technologies, but are needed to purchase these very services in order to facilitate increased access to them. For people designing and implementing energy access programs in Kenya and beyond, this represents a significant challenge, and one that is especially pertinent today given the increased

popularity of market based models for the dissemination of energy technologies.

(Abstract from original source)

Keywords: energy; energy program design; Kenya; gender dynamics; qualitative research

Fuuna, Peter. 2000. "Structural Adjustment, Energy Crisis and Environment: A Comparative Gender Study of Rural and Urban Households." In *Local Environmental Change and Society in Africa*, edited by M.A. Mohamed Slih, 153–72. Dordrecht: Springer Netherlands.

Abstract:

The main objective of this study is to analyse the impact of structural adjustment programmes on household energy among rural and urban dwellers in Uganda, as well as to ascertain the adaptation strategies of both men and women and their effect on the environment. The more detailed objectives of this study are: to examine the factors leading to the energy crisis in urban and rural areas; to contribute knowledge to the circumstance under which men and women operate, to elucidate their constraints and how they view their problems and options; to assess the strategies the population has employed and why; then finally to assess the strategies (within the framework of structural adjustment) of how to deal with the energy crisis and the environment in both rural and urban areas. *(Abstract from Springer)*

Havet, Ines. 2003. "Linking Women and Energy at the Local Level to Global Goals and Targets." *Energy for Sustainable Development* 7 (3): 75–9.

No abstract available.

Summary:

"In September 2000, at the Millennium Summit in New York, world leaders agreed to a set of time-bound, measurable goals and targets to be achieved by 2015 of combating poverty, hunger, disease, illiteracy, environmental degradation and discriminations against women. Placed at the heart of the United Nations' global agenda, they are called the Millennium Development Goals (MDGs) [United Nations, 2002].

"While there is no MDG on energy, it is clear that expanded access to energy services for the third of humanity that does not have electricity or modern fuels is an essential prerequisite to meeting all of the MDGs. The delivery of health, education and sanitation services, as well as value-adding economic opportunities to reduce poverty, requires energy inputs" (Havet 2003, 75).

Johnson, Oliver W., Vanessa Gerber, and Cassilde Muhoza. 2019. "Gender, Culture and Energy Transitions in Rural Africa." *Energy Research & Social Science* 49 (March): 169–79.

Abstract:

Research over the past two decades on links between energy, gender and development suggests that greater inclusion of gender concerns in energy sector decision-making improves development outcomes. In practice, this has typically led to gendered energy approaches that focus more on technological fixes rather than providing appropriate energy services, and on meeting women's immediate needs rather than addressing the broader cultural, socio-economic and political contexts important for attaining genuine gender equity. In this paper, we take a systems perspective to explore gender issues in the context of a transition from traditional to modern energy services, such as lighting, powering appliances and charging mobile phones. Viewing gender through the lens of the Energy Cultures Framework, we analyse the case of the Mpanta solar mini-grid in rural northern Zambia. We find that the transition to more modern energy services is far from gender neutral: despite providing broad benefits within the community, the benefits derived from a new technology and service were not evenly distributed between men and women due to broader socio-cultural practices and norms. This paper extends the application of the Energy Cultures Framework in two important ways. Firstly, it incorporates an explicit gender dimension into the framework. Secondly, it applies the framework in a new context – rural energy transitions in low-income countries. In doing so, this paper offers important insights for research and practice in energy, gender and development. (*Abstract from original source*)

Karlsson, Gail. 2013. “A Human Rights Approach to Energy, Poverty and Gender Inequality.” In *Human Rights: The Hard Questions*, edited by Cindy Holder and David Reidy, 231–45. Cambridge: Cambridge University Press.

No abstract available.

Summary:

There are close to three billion people living with little or no access to modern energy sources for household and productive uses. They primarily use traditional biomass fuels from local woodlands and fields – firewood, dung, agricultural residues and charcoal. Recognizing the importance and magnitude of this problem, the UN General Assembly designated 2012 as the International Year of Sustainable Energy for All, and the UN Secretary-General has launched a global initiative on Sustainable Energy for All by 2030.

Is lack of adequate energy a human rights issue? Although the Universal Declaration of Human Rights includes the right to a standard of living that is adequate for health and well-being, energy is not specifically mentioned. Some level of energy access seems to be essential for basic subsistence, including fuel for cooking food and keeping warm. But is there a right to “modern” energy services, such as power for water pumping, agricultural production, food processing, lighting and communications?

In 1986, the UN member states expanded the list of human rights to include a right to development “by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political

development” (United Nations General Assembly 1986). Possibly a right to energy would fall within this category, as a necessity for people’s economic and social development. (*Summary from Cambridge University Press*)

Khan, Hasna J. 2003. “Case-Study: Battery-Operated Lamps Produced by Rural Women in Bangladesh.” *Energy for Sustainable Development* 7 (3): 68–70.

No abstract available.

Summary:

“Through consultations with community members and non-governmental organisations (NGOs) about energy needs in an area of remote islands outside the reach of the grid, electric lighting was identified as a high priority. The project identified a low-cost solution for improving the quality of indoor lighting of rural households by replacing the traditional kerosene lamps with modern battery-operated lamps. The project trained rural women to produce the lamps in a micro-enterprise manufacturing facility and distribute them through rural markets. By helping women shift away from traditional farm labour to skilled labour and gainful employment in the energy sector, the project has elevated the knowledge base of rural women and exposed them to mainstream commercial activities, while also meeting community needs for lighting” (Khan 2003, 68).

Kim, Elena, and Karina Standal. 2019. “Empowered by Electricity? The Political Economy of Gender and Energy in Rural Naryn.” *Gender, Technology and Development*: 1–18.

Abstract:

This article examines if and how access to electricity has contributed to women’s empowerment in the broader context of the political economy of gender and energy in rural Naryn, Kyrgyzstan. Earlier literature has pointed to how electricity provided through development interventions has facilitated a range of desirable services, conditional for children’s education, communication technologies and economic growth. Access to electricity has been linked to gender equality and women’s empowerment via providing women new opportunities for agency and income. The context of this article is rural Kyrgyzstan where electricity has been available since the 1970s as a service delivered by the centralized Soviet state. This study provides important insights into how this has affected local development and gender relations in a post-socialist country. It reveals the complexity of energy access and challenges the assumptions that access to modern energy such as electricity will lead to fulfillment of SDG#7 on affordable and clean energy or increased economic activity and abandonment of traditional energy use. The findings demonstrate that electricity provides an important resource for communication, income generation and household chores. However, the lack of reliability and affordability of electricity in rural areas in the larger context of post-Soviet transitional challenges and changing gender norms, has

undermined women's potential empowerment and has worked to maintain gender inequalities. (*Abstract from original source*)

Keywords: gender; electricity; energy; women's empowerment; Kyrgyzstan

Lee, Rebekah. 2006. "Hearth and Home in Cape Town: African Women, Energy Resourcing, and Consumption in an Urban Environment." *Journal of Women's History* 18 (4): 55–78.

Abstract:

This article adds to the literature on energy consumption in South Africa through the contribution of a historical and gendered perspective. It focuses on how differing generations of African women in the apartheid (1948–1994) and post-apartheid periods resourced, consumed, and related to various types of fuels. "Energy histories" solicited from twenty-five African female residents of Cape Town across three generational cohorts show women's broad and complex engagement with the material fabric of the city. In an era of globalized access and technological change, electricity was increasingly seen as essential to a modern, "easy" lifestyle. Electrical appliances themselves provided a medium through which women questioned and brokered household power relations. Yet women also revealed a tenacious loyalty to older patterns of energy use. This was reflective of the historically uneven progress towards electrification of African townships, as well as issues more intimately related to gendered and generational dynamics. (*Abstract from original source*)

Mahat, Ishara. 2006. "Gender and Rural Energy Technologies: Empowerment Perspective—A Case Study of Nepal." *Canadian Journal of Development Studies / Revue Canadienne d'Études du Développement* 27 (4): 531–50.

Abstract:

This paper analyzes whether alternative energy technologies have been able to lift the socio-economic status of rural women in Nepal, and mountain women in particular, in terms of saving their labour and time spent in managing household energy. It also examines if these technologies have provided increasing opportunities for women to be involved in socio-economic activities in rural villages. It is based on research conducted in Kavre, one of the first districts where the Rural Energy Development Program (REDP), supported by the UNDP, implemented micro hydro plants and other rural energy technologies. (*Abstract from original source*)

Mahat, Ishara. 2011. "Gender, Energy, and Empowerment: A Case Study of the Rural Energy Development Program in Nepal." *Development in Practice* 21 (3): 405–20.

Abstract:

Rural women in general, and mountain women in particular, are greatly involved in managing household energy systems in Nepal. Alternative energy technologies have a high potential to reduce women's workloads and improve their health status, as well as

increasing efficient energy supply. Interventions in rural energy are primarily aimed at reducing firewood use and increasing economic growth through rural electrification, rather than aiming to reduce human drudgery, especially that of women. Hence, such intervention takes place without considering the needs, roles, interests, and potential of rural women, even though women are the primary users and managers of rural energy resources. This article aims to analyse the gender implications of rural energy technologies in Kavre district, where the Rural Energy Development Program (REDP) has been implemented, especially in terms of saving women's labour and increasing socio-economic opportunities for women. (*Abstract from original source*)

Keywords: gender and diversity; labour and livelihoods; South Asia

Mahat, Ishara. 2015. "Gender, Energy and Poverty in Nepal: Perspectives from Human Development." In *Sustainable Livelihood Systems in Nepal: Principles, Practices and Prospects*, edited by Ambika P. Adhikari, Govinda P. Dahal, Ishara Mahat, Bishwa Regmi, Kalidas Subedi, and Bharat Shrestha, 263–79. Kathmandu: International Union for Conservation of Nature (IUCN) and Canada Foundation for Nepal (CFFN).

Abstract:

Access to rural energy in general, and biomass in particular, has significant impact on people's well-being. This is especially true for the life qualities of rural women in Nepal, as they are directly involved in production and management of household energy. Energy poverty involves deprivations on multiple fronts such as economic, social, cultural and ecological. Low access to energy services is one aspect of poverty, as energy choices of poor households are influenced by poverty. Energy poverty has multidimensional implications on human development, and particularly on women from rural areas. For instance, increased use of biomass limits the economic productivity and reproduction capacities of women, which, in turn, restricts their capabilities to access many socio-economic opportunities. The challenges are to identify alternative options that help to address both energy poverty as well as human poverty in order to increase the human capabilities (especially of women) and their freedom, improving the overall well-being of rural households. It is important to think about the type of fuel technologies and their delivery mechanisms that can possibly help to make a large-scale transition away from traditional biomass cooking to improve the well-being of women and their families in rural Nepal. (*Abstract from original source*)

Keywords: gender; energy; poverty; capabilities and freedom; Nepal

Malonza, Rosemary, and Mildren Lumayo Fedha. 2015. "An Assessment of Gender and Energy in Kenya: The Underlying Issues." *International Journal of Scientific & Technology Research* 4 (9): 137–53.

Abstract:

Despite concerted efforts by the government and non-state actors to improve access to modern energy resources and services in Kenya, women's energy needs have remained largely unrecognized in most national policies, planning processes and development

efforts. This has led to negative implications on their health, education and livelihoods. This study employed desk review research design in analyzing secondary data. The study found that Kenya has made some progress in gender and energy with specific policies and strategies. However, low implementation has slowed down the progress. The study concludes that Kenya is yet to achieve gender and energy goals. (*Abstract from original source*)

Keywords: gender; energy; poverty; MDGs; Kenya

Mathur, Jaskiran Kaur, and Dhiraj Mathur. 2005. "Dark Homes and Smoky Hearths: Rural Electrification and Women." *Economic and Political Weekly* 40 (7): 638–43.

Abstract:

It is commonly argued by power utilities that rural electrification is commercially unviable and is responsible for the financial mess state electricity boards are in. This paper examines rural electrification from a socio-developmental perspective and argues that the direct and indirect benefits of rural electrification in reducing the burden on women, its positive impact on health, education and farm income, justifies the expense of network expansion for universal access. It also advocates multiple uses of electricity as this would enhance these benefits, have a beneficial effect on the environment, increase the viability of rural electrification and result in savings on household (total) energy expenditure. (*Abstract from original source*)

Matinga, Margaret N., Nthabiseng Mohlakoana, Jiska de Groot, Abigail Knox, and Hans Bressers. 2018. "Energy Use in Informal Food Enterprises: A Gender Perspective." *Journal of Energy in Southern Africa* 29 (3): 1–9.

Abstract:

The informal sector provides economic opportunities to the poor, and in sub-Saharan African countries it is dominated by women. Energy is a key input into the food sector enterprises. A study was carried out to review academic and non-academic literature on the use and gender impacts of modern energy in informal food enterprises. The review established that few studies have addressed energy for the informal food sector from a gender perspective. Although these few are qualitative in nature, they tend to lack in-depth analysis of gender and of the cause-and-effect linkages between modern energy use in the informal sector and the gendered goals of women and men. Moreover, a lack of understanding of gender from a relational perspective focusing on both women and men impeded conclusions on empowerment in terms of whether increased access to modern energy in the informal food sector contributes to closing the gender gap. This paper makes three key recommendations. First, scholars need to address the gaps and take a relational approach, so that studies are not just about women but also about the power relations between various groups of women and men. (*Abstract from original source*)

Keywords: informal food sector; gender; energy use

Matinga, Margaret N., Bigsna Gill, and Tanja Winther. 2019. "Rice Cookers, Social Media, and Unruly Women: Disentangling Electricity's Gendered Implications in Rural Nepal." *Frontiers in Energy Research* 6 (January). doi:10.3389/fenrg.2018.00140.

Abstract:

Rice cookers, social media, and television sets are commonly used in rural Nepal. In this paper we explore how gender norms condition the uptake of these artifacts, and the gendered implications of their uses. We draw on material from a household survey, in-depth interviews, focus group discussions, and key informant interviews, collected in 2017 in Dhading and Tanahun districts in rural Nepal. The results show that each of the three artifacts initiate distinct, gendered dynamics in terms of uptake, uses, and effects. Women's use of electric rice cookers aligns with their gendered identity as cooks, helping them improve their gendered work and do not trigger resistance from men. In contrast, the use of mobile phones, social media, and television, prompt complex gender outcomes, resistances, and negotiations. Young people use social media to initiate self-negotiated marriages, shunning arranged marriages thus increasing their agency. It was reported that these self-negotiated marriages tend to be earlier (ages 12–14) than before, as young girls drop out of school to marry their chosen partners, thus threatening their empowerment. Access to television and internet has increased awareness about family planning methods, but persistent gender hierarchies hinder women from freely deciding on and accessing these methods. Women and youth pursuing new opportunities that challenge gender norms are sometimes labeled as unfaithful and unruly by others in the villages. The paper highlights the need to understand subversive responses to social and cultural changes mediated by electricity so that policy and practice can support the desired social transformations. (*Abstract from original source*)

Keywords: gender relations; energy poverty; electricity access; women's empowerment; energy justice

Mihyo, Paschal B., and Truphena E. Mukuna, eds. 2015. *The Gender-Energy Nexus in Eastern and Southern Africa. Ethiopia: The Organization for Social Science Research in Eastern and Southern Africa (OSSREA)*.

No abstract available.

Summary:

The Regional Economic Communities (RECs) in Eastern and Southern Africa have been at the forefront to developing new energy policies and programmes aimed at reaching the UN goal of Ensuring Access to Clean Energy for All by 2030. In the year 2006, the East African Community passed the EAC Strategy to Scale Up Access to Modern Energy Services, committing its Member States to reach the UN goal of "access to all" by 2030. The Inter-governmental Authority for Development adopted its Environmental and Natural Resources Policy in 2007 which includes issues of renewable energy. The Common Market for Eastern and Southern Africa launched its Model Energy Programme in 2012, followed the same year by its comprehensive baselines database on renewable resources covering all its Member States. In the year

2009, the African Union General Assembly at its 12th Ordinary Session adopted the Policy on "Scaling Up Renewable Energy in Africa". The regional policies have been domesticated by Member States of the RECs. Although their targets are very ambitious, implementation programmes launched at national level are robust and producing results. Both in the policies and implementation programmes, gender issues have, however, not featured prominently. Noting this deficit, the Organisation for Social Science Research in Eastern and Southern Africa called for researchers to assess the extent to which energy policies in Eastern and Southern Africa have taken gender issues on board.

This book is the product of that project. It has ten chapters that investigated the gender-energy nexus in Zimbabwe, Ethiopia, Tanzania, Swaziland, Sudan and Kenya. The book will prove useful to all policy makers, researchers and analysts who may be interested in strengthening the gender content of the programmes as we move towards 2030. We believe it triggers and helps policy makers and researchers to create platforms to use its findings, and those of others, to see how in gender terms those at the bottom of the energy access pyramid can be factored into these programmes, to make sure they are not left behind. (*Summary from African Books Collective*)

Table of Contents:

Introduction - Paschal B. Mihyo

1. The Gender-Energy Nexus in Zimbabwe - Charles Mutasa

2. Gender-Energy Nexus in Ethiopia: An Analytical Review - Alemu Tolemaria and Dejene Mamo

3. The Gender-Energy Nexus in Tanzania: Assessing Rural Electrification in the Context of Gender Mainstreaming among Women - Henry M. Kigodi and Japhace Poncian

4. Towards a Gender Transformative Agenda? A Critique of Gender Mainstreaming in Energy Policy in Kenya - Moses A. Osiro

5. Community Perspectives on the Demand, Availability and Accessibility of Energy Resources in Swaziland: A Case Study of Sinceni on Deforestation - Londiwe D. Hlophe and Musa M.A. Dube

6. Gender Equity and Household Decision-Making in Alternative Energy Technologies Adoption: A Case of Access to Biogas Technology in Central Tanzania- Anna Wawa

7. Cooking Fuel in Sudan: Utilisation Patterns, Health Hazards and Cleaner Fuel Adoption - Yahia O. Adam

8. Turning Challenges into Opportunities in Household Energy Demand: Women Tiftif Makers in Yeka Sub-city Addis Ababa - Betelhem Ephrem

9. Gender-Sensitive Clean Energy Technologies for Sustainable Development amongst Pastoralist Maasai Communities, Kenya - Truphena E. Mukuma

10. Bridging the Gender Gap in Access to Energy in East Africa: A Needs-Based Approach - Paschal B Mihyo

11. Conclusions and Recommendations - Truphena E. Mukuma

Mulumba, Deborah. 2011. "The Gendered Politics of Firewood in Kiryandongo Refugee Settlement in Uganda." *African Geographical Review* 30 (1): 33–46.

Abstract:

This paper examines the environmental destruction that arises from sudden location of refugees in rural settlements in Uganda. It highlights the gendered biases created when women are forced to traverse long distances to gather firewood. In doing so, the paper seeks to improve the provision of humanitarian support to refugee populations and the physical environment in their settlements. The research design was exploratory, descriptive, and largely qualitative even though small amounts of primary quantitative data were collected from a sample of 100 women and 30 men. Results of the data analysis show that refugee settlements have a negative effect on the environment in and around refugee settlements due to the excessive cutting of trees needed for firewood and charcoal. Moreover, the data show that women refugees, whose gender role it is to collect firewood, had to travel long distances in search of fuel wood, a process that exposed them to exploitation and domestic violence. The paper concludes with some recommendations including the provision of fuel energy and the adoption of environmental strategies that can conserve the ecosystem in and around refugee settlements. (*Abstract from original source*)

Keywords: women; refugees; gender; environment; firewood; refugee settlement; Uganda

Namaganda-Kiyimba, Jane, and Joseph Mutale. 2020. “Gender Considerations in Load Estimation for Rural Electrification.” In *2020 IEEE Conference on Technologies for Sustainability (SusTech)*. doi:10.1109/SusTech47890.2020.9150501.

Abstract:

More than 1.5 billion people in the world today do not have access to electricity. In developing countries, most of these people live in rural and remote areas far from the main grid necessitating establishment of off-grid electrical systems such as solar PV microgrids. Establishment of these off-grid systems requires accurate prediction of the load so as to have a sustainable system that can meet the electrical needs of the community fully. An evaluation of the efficacy of the current methods for load estimation has been carried out in this research. Informed by this evaluation, an improved approach is proposed that yields more accurate estimates of the electrical demand for off-grid systems in rural areas. Load characteristics that take account of the influence of gender as well as changes in customer habits on estimated load are investigated using the Markov Chain process. MATLAB software is used to generate the load profiles. The results show that average electricity consumption in a similar village that is already electrified can be used as a sound basis to estimate the consumption in a village without electricity. Moreover it has found that the effect of gender on estimated demand is critical in microgrid design. (*Abstract from original source*)

Nathan, Dev, and Govind Kelkar. 1997. “Wood Energy: The Role of Women’s Unvalued Labor.” *Gender, Technology and Development* 1 (2): 205–24.

Abstract:

This paper argues that in a farm, family-specific aspects of gender relations—that women’s labor is unvalued as ‘domestic service,’ or that it has a lower value and lower opportunity cost than men’s labor—lead to the overuse of women’s labor in activities like wood fuel collection. This inhibits farm families from investing in labor-saving and fuel-saving devices, like improved stoves. It also has an adverse impact on farm women’s leisure time and their health. The paper argues that the primary emphasis in policy to bring about an increase in fuel efficiency or fuel switching should be on increasing the possibility of women’s income-earning opportunities, mainly outside the homestead, as in rural industry. (*Abstract from original source*)

Nathan, Dev, Manjula M., R. Rengalakshmi, and Govind Kelkar. 2018. “Energy Use and Women’s Work in Agriculture.” *Economic and Political Weekly* 53 (17): 7–8.

No abstract available.

Summary:

Changes in women’s use of energy in agriculture, in the spheres of crop production and social reproduction, can bring about a reduction in greenhouse gas emissions. Two technological changes—the shift from household cooking with carbon-emitting solid biomass fuels to liquified petroleum gas as a clean cooking fuel; and the shift from methane-emitting flooded rice cultivation to the System of Rice Intensification with electricity-based alternate wetting and drying—have been considered in this regard. The changes in women’s roles and energy use accompanying these technological interventions have been examined. (*Summary from original source*)

Njenga, Mary, and Ruth Mendum, eds. 2018. *Recovering Bioenergy in Sub-Saharan Africa: Gender Dimensions, Lessons and Challenges*. Resource Recovery and Reuse Series: Special Issue. Colombo, Sri Lanka: International Water Management Institute (IWMI) and CGIAR Research Program on Water, Land and Ecosystems (WLE).

No abstract available.

Summary:

There is a strong link between gender and energy in view of food preparation and the acquisition of fuel, especially in rural areas. This is demonstrated in a range of case studies from East and West Africa, where biochar, human waste and other waste resources have been used to produce briquettes or biogas as additional high-quality fuel sources. The synthesis of the cases concludes that resource recovery and reuse for energy offers an alternative to conventional centralized grid projects which, while attractive to investors and large-scale enterprises, do not necessarily provide job opportunities for marginalized communities. Reusing locally available waste materials for energy production and as soil ameliorant (in the case of biochar) in small enterprises allows women and youth who lack business capital to begin modest, locally viable

businesses. The case studies offer concrete examples of small-scale solutions to energy poverty that can make a significant difference to the lives of women and their communities. (*Summary from CGIAR*)

Table of Contents:

1. Gender and Energy and the Rationale for Resource Recovery and Reuse (RRR) for Energy - Ruth Mendum and Mary Njenga
2. Human Waste-to-fuel Briquettes as a Sanitation and Energy Solution for Refugee Camps and Informal Urban Settlements - Tyler Karahalios, Catherine Berner and Mary Njenga
3. The Impact of Gendered Roles in the Briquette Production and Supply Chain: Lessons Learned from Green Heat Ltd, Uganda - Gabriel Okello, Vianney Tumwesige, Ronald Angura, Daphne Nasige, Dorothy Kyomugisha and Mary Njenga
4. Adoption and Economic Impact of Briquettes as Cooking Fuel: The Case of Women Fish Smokers in Ghana - Solomie Gebrezgabher, Sena Amewu and Mary Njenga
5. Biogas as a Smart Investment for Women's Empowerment and Livelihood Enhancement - Judith Libaisi and Mary Njenga
6. An Assessment of the Business Environment for Waste-to-energy Enterprises and How it Affects Women Entrepreneurs in Kenya - Solomie Gebrezgabher, Avinandan Taron, Jack Otero and Mary Njenga
7. Gender and Improvement of Cooking Systems with Biochar-producing Gasifier Stoves - James K. Gitau, Ruth Mendum and Mary Njenga
8. Women in Energy: Perspectives on Engaging Women Across the Energy Value Chain: The Case of wPOWER - Ruchi Soni, Wanjira Mathai, Linda Davis and Mary Njenga
9. Gender as Key in Community Participation - Megan Romania, Mary Njenga and Ruth Mendum
10. Challenges and Solutions for Gender Mainstreaming and Gender Integration in Research and Development - Ruth Mendum, Ana Maria Paez and Mary Njenga
11. Take-home Messages on Gender and Resource Recovery and Reuse (RRR) for Energy - Ruth Mendum and Mary Njenga

Offenberger, Ursula, and Julia Nentwich. 2013. "Home Heating, Technology and Gender: A Qualitative Analysis." In *Sustainable Energy Consumption in Residential Buildings*, edited by Klaus Rennings, Bettina Brohmann, Julia Nentwich, Joachim Schleich, Thure Traber, and Rolf Wüstenhagen, 191–211. Heidelberg: Physica.

Abstract:

Few empirical studies take gender into account when analysing sustainable consumption. Even those studies that consider gender are not without shortcomings in their theorizing on gender. Drawing on insights from gender theory, we use a multilevel approach to investigate the relevance of gender to domestic energy consumption in Germany. (*Abstract from Springer Publishing*)

Ogwumike, Fidelis O., and Uche M. Ozughalu. 2014. “Interactions among Poverty, Access to Modern Energy Sources, and Gender in Nigeria.” *The Journal of Developing Areas* 48 (4): 225–41.

Abstract:

This study examines the interactions among poverty, access to modern energy sources and gender in Nigeria. Descriptive statistics and logistic regression technique are used. The 2010 Nigeria Living Standard Survey data set obtained from the National Bureau of Statistics is used. The findings of the study show, among other things, that contrary to what happens in many countries of the world, both incidences of poverty and lack of access to modern energy sources are more pronounced among male-headed households than among female-headed households. The logistic regression estimates show, among other things, that poverty reduces the odds in favor of having access to modern energy sources and while female headship of household reduces the odds in favor of being in poverty, it increases the odds in favor of having access to modern energy sources. The forgoing should serve as invaluable guide to the Nigerian government and policy makers. (*Abstract from original source*)

Keywords: poverty; modern energy sources; gender; Logit Model; Nigeria

Osunmuyiwa, Olufolahan, and Helene Ahlborg. 2019. “Inclusiveness by Design? Reviewing Sustainable Electricity Access and Entrepreneurship from a Gender Perspective.” *Energy Research & Social Science* 53 (July): 145–58.

Abstract:

There is a substantial literature analysing the role of electricity as a catalyst for economic development. However, there are significant knowledge gaps in whether such systems are or can indeed be designed in a gender sensitive way to promote equal opportunity for socially inclusive entrepreneurship at the local level. We make three main contributions with this paper. First, we carry out a literature review to unpack the gender-electricity-entrepreneurship nexus by identifying the agenda of the gender-energy and gender-entrepreneurship literature respectively and how they intersect and understand gender over time. Second, we synthesise key factors identified as hindering and driving empowerment in relation to electricity and entrepreneurship and identify the weaknesses of the respective literature. Third, we outline the contours of the conceptual intersection and develop a framework which shows how electricity systems can be designed to become favourable and economically empowering for both men and women. Furthermore, we demonstrate how local value chains can benefit from this electric inclusiveness. Finally, with our framework, we develop recommendations for strategic action and identify points of intervention in policy, planning, design and operation of electricity systems. (*Abstract from original source*)

Keywords: gender and energy; gender and entrepreneurship; electricity access; women's empowerment

Parikh, Jyoti. 2011. “Hardships and Health Impacts on Women Due to Traditional Cooking Fuels: A Case Study of Himachal Pradesh, India.” *Energy Policy* 39 (December): 7587–94.

Abstract:

This paper explores the inter-linkages of gender, energy use, health and hardships in the Himalayan State of Himachal Pradesh in India. It brings out a gender-differentiated and age-differentiated picture of hardships and health impact on the use of traditional biofuels. The study is based on survey with questionnaires covering 4296 individuals, 729 households, 84 villages and 9 districts where biomass fuels meet 70% of household fuel needs. On an average, women walk 30 km each month taking 2.7 h per trip for fuel wood collection over hilly terrain, often at high altitudes and undergo stress like stiff-neck, backache, headache and loss of work days. Girls below 5 and females in 30–60 age-groups have higher proportion of respiratory symptoms than males of similar age-groups. While many studies are done on the health impact of cooking fuels, very little quantitative work is done on the other aspects of the fuel chain viz. collection, transportation and processing of fuels. Such studies would guide energy policy and health policy to improve the lives of women. (*Abstract from original source*)

Keywords: gender; biomass fuels; hardships

Parikh, Jyoti, Kirk Smith, and Vijay Laxmi. 1999. “Indoor Air Pollution: A Reflection on Gender Bias.” *Economic and Political Weekly* 34 (9): 539–44.

No abstract available.

Summary:

Women and children below five years are among the most affected due to pollutants released during the burning of bio-fuels in traditional stoves. While there has been some attempt to reduce such exposure through the introduction of appropriately designed stoves, a better solution would be to redesign the petroleum policy such that kerosene is easily available to people at affordable prices. This would not only ease the pressure on forests and other bio-fuel resources but also have a positive effect on the health of women and children. (*Summary from original source*)

Patnaik, Sasmita, and Shaily Jha. 2020. “Caste, Class and Gender in Determining Access to Energy: A Critical Review of LPG Adoption in India.” *Energy Research & Social Science* 67. doi:10.1016/j.erss.2020.101530.

Abstract:

Complex interrelationships between caste, class and gender in India define opportunities and access to energy for certain social groups differently than others. An understanding of access to energy through these lenses allows us to design energy policies differently, accounting for the socio-economic inequality in pricing, subsidies and implementation of policies. This paper attempts to evaluate access to energy through the lens of caste, class and gender. We use an integrated framework (Gender

Equality and Social Inclusion (GESI)) to analyse Government of India's most recent and possibly the largest initiative for the provision of clean cooking energy - Pradhan Mantri Ujjwala Yojana (PMUY), and assess the extent to which PMUY is able to enhance use of LPG by overcoming the existing caste, class and gender-based exclusion. The analysis of PMUY has been supported through theoretical insights from the literature and empirical evidence from India's largest multidimensional energy access database – ACCESS 2018. Though the scheme recognises the pre-existing inequities, our analysis suggests a focus on caste, class and gender in the implementation procedures would be imperative for the scheme along with others focused on LPG access to achieve its objective. (*Abstract from original source*)

Pearl-Martinez, Rebecca. 2020. “Global Trends Impacting Gender Equality in Energy Access.” *IDS Bulletin* 51 (1): 7–26.

Abstract:

Achieving a just and equitable transition to a sustainable energy system will rest on efforts to address gender inequality. Women in developing countries are impacted by energy poverty in far greater numbers than men, and they do not have the same opportunities as men to take advantage of emerging opportunities that can help deliver energy access for marginalised populations. This article, geared to policymakers, brings attention to six global trends – decentralisation of energy services, affordability, mobile payments, women’s entrepreneurship, urbanisation, and humanitarian settings. Achieving energy access for all, as called for under Sustainable Development Goal 7, will require attention to the ways in which these trends drive or hamper gender equality in energy access. (*Abstract from original source*)

Permana, Ariva Sugandi, Norsiah Abd. Aziz, and Ho Chin Siong. 2015. “Is Mom Energy Efficient? A Study of Gender, Household Energy Consumption and Family Decision Making in Indonesia.” *Energy Research & Social Science* 6 (March): 78–86.

Abstract:

This study highlights gender-related factors and attempts to understand their influence in residential energy consumption. This pilot study was done in Bandung City, Indonesia. It employed a questionnaire survey and face to face interviews. Questionnaires were randomly distributed to the households in Bandung City. In this study, energy consumption included household uses of power for lighting, entertainment, thermal comfort and cooking. Energy consumption was estimated based upon electrical and liquefied petroleum gas (LPG) consumption. The results showed that when the decisions about energy expenditure and control of energy consumption in the household were solely made by a woman, energy consumption tended to be the lowest. There are three possible ways decision can be made, by the wife, husband and a joint decision. This evidence suggests several things. They are that (1) women are good household energy managers, (2) men may be careless with respect to energy consumption, (3) women may be more cautious about household expenditures, and (4)

when joint decisions were made the husband and wife relied-upon-each-other in reaching agreement. This suggests useful entry points for energy efficient initiatives.
(Abstract from original source)

Keywords: gender; control over expenditure; energy consumption

**Petrova, Saska, and Neil Simcock. 2019. “Gender and Energy: Domestic Inequities Reconsidered.” *Social & Cultural Geography* (August).
doi:10.1080/14649365.2019.1645200.**

Abstract:

Energy poverty is widely recognized as a problem that affects millions of households globally. Particularly in the ‘Global North’ context, research into this phenomenon has tended to treat households as monolithic units, with little investigation into whether and how energy poverty is differentially experienced within homes. We address this research lacuna by scrutinizing the gender dimensions of domestic energy use and deprivation. Drawing on extensive qualitative research in Poland, Greece and Czechia, we identify two ways in which energy poverty is differentially experienced along gender lines: household practices of responding to and resisting energy poverty, and the emotional labour of living with energy poverty. We also demonstrate how the negotiation of domestic energy deprivation can unveil not only gendered vulnerabilities, but also agency and emancipatory mechanisms. The paper thus provides insights that set an agenda for further research on gendered energy injustices beyond a simplistic, dichotomized victimization discourse. (Abstract from original source)

Keywords: gender; energy poverty; infrastructure; home; inequity

Phillips, Kristin D. 2020. “Prelude to a Grid: Energy, Gender and Labour on an Electric Frontier.” *The Cambridge Journal of Anthropology* 38 (2): 71-87.

Abstract:

People in the Singida region of Tanzania have long utilized diverse energy sources for subsistence. The wind separates grain from chaff. The sun ripens the millet and dries it for storage. More recently, solar panels charge phones and rural electricity investments extend the national grid. Yet as an electric frontier, Singida remains only peripherally and selectively served by energy infrastructures and fossil fuels. This article sketches Singidans’ prospect from this space and time of energy transition. Drawing on ethnographic research conducted between 2004 and 2019, it asks: how do rural Singidans eke energy from their natural and social environment? How can ideas of the sun and of labour in Nyaturu cosmology inform understandings of energy? And how are new energy technologies reshaping Singida’s social and economic landscape? I theorize energy as a deeply relational and gendered configuration of people, nature, labour and sociality that makes and sustains human and natural life. (Abstract from original source)

Keywords: Africa; electricity; energy; gender; labour; nature; solar; Tanzania

Pueyo, Ana, and Mar Maestre. 2019. “Linking Energy Access, Gender and Poverty: A Review of the Literature on Productive Uses of Energy.” *Energy Research & Social Science* 53 (July): 170-81.

Abstract:

This article reviews the empirical literature about gender and productive uses of energy, focusing on electricity, to answer three research questions: do men and women obtain different benefits from the Productive Use of Electricity (PUE)?; which gendered constraints affect women’s chances to benefit from the PUE; and which interventions work to achieve gender equity in the PUE? We find that PUE literature has so far considered gender mainly at the household level, by looking at the labour supply effects of access to electricity. However, the role of enterprises as labour absorbers and income generators, has been devoid of gender considerations. This omission is significant because women tend to operate in smaller and less energy intensive enterprises, and hence can draw less benefits from PUE interventions. The wider literature on gender and labour markets offers valuable insights about the constraints that explain performance differentials between male and female led enterprises. However, this literature is dominated by experimental and quasi-experimental approaches unable to capture the complexity in which gendered PUE interventions would operate. We draw from the insights provided by these different strands of literature, but further recommend a mixed methods approach to advance the research agenda about gender and PUE. (*Abstract from original source*)

Keywords: gender; energy access; productive uses of energy; electricity; poverty

Pueyo, Ana, Marco Carreras, and Gisela Ngoo. 2020. “Exploring the Linkages between Energy, Gender, and Enterprise: Evidence from Tanzania.” *World Development* 128 (April). doi:10.1016/j.worlddev.2019.104840.

Abstract:

The productive use of electricity is essential for poverty reduction in newly electrified rural communities as well as for the financial sustainability of electricity suppliers. Because men and women assume different roles in the rural economy, the inclusion of gender concerns in interventions to promote productive uses of energy could improve development outcomes. Using a multi-methods approach, this study provides new evidence about how men and women use energy in rural micro-enterprises in Tanzania, and which benefits they obtain from it. In our research region, most businesses are owned by men and men-owned enterprises use electricity more frequently and intensely than women owned enterprises. The latter dominate the productive use of cooking fuels like charcoal and firewood. Electricity use is consistently associated with better business performance, but women entrepreneurs do not use it as much as men. There are multiple reasons for this gender imbalance. First, women enjoy less favourable starting conditions for enterprise creation due to poor access to finance, education, and other resources. Furthermore, women are required to balance care responsibilities with paid work and are subject to social norms that determine the acceptability of certain productive activities. Typically, female activities are less profitable and less mechanised than men’s. Consequently, in the absence of gender interventions, male entrepreneurs

are more likely to benefit from the promotion of productive uses of electricity. The paper discusses several approaches to improve the gender equity of PUE interventions. *(Abstract from original source)*

Pueyo, Ana, Simon Bawakyillenuo, and Marco Carreras. 2020. “Energy Use and Enterprise Performance in Ghana: How Does Gender Matter?” *The European Journal of Development Research* (April). doi:10.105/s41287-020-00273-0.

Abstract:

The potential impact of electricity use on enterprise performance has a gender dimension that has been overlooked by the energy and development literature. This omission disregards the evidence of a gendered division of labour and the different energy consumption patterns of different productive activities. To address the gaps in the literature, this paper analyses an enterprise development programme that jointly provides improved electricity supply, business services and enterprise clustering in Ghana. The paper aims to understand: the gender awareness of the intervention; the different energy use patterns in men and women’s enterprises; the different benefits men and women obtain from the productive use of energy; and the reasons behind the differences observed. We adopt a multi-methods approach combining gender differentiated firm level data from 400 microenterprises, with in-depth semi-structured interviews to enterprise owners and employees, key informant interviews, and focus group discussions. The results, which are specific to the research region, show clearly differentiated energy use patterns in enterprises owned by men and women. Men’s enterprises display higher electricity consumption, while women dominate the use of cooking fuels, mainly charcoal. The use of electricity shows a positive correlation with business profits, regardless of the owner’s gender, which is higher for enterprises owned by women. The main reasons for women’s lower electricity consumption are: the gendered division of labour, which limits women’s economic activity to a narrow number of sectors and to smaller scale operations; the lower value of women’s work which creates disincentives to mechanisation; social norms determining the types of jobs men and women can do; and women’s lower access to starting capital. We conclude that, in the absence of gender considerations, interventions for the promotion of productive uses of energy are likely to target electricity intensive activities dominated by men. We finalise by offering policy suggestions to improve the gender equity of these interventions. *(Abstract from original source)*

Räty, R., and A. Carlsson-Kanyama. 2010. “Energy Consumption by Gender in Some European Countries.” *Energy Policy* 38 (1): 646–9.

Abstract:

Household total energy use has been estimated in numerous studies in recent decades and differences have mainly been explained by levels of income/expenditure. Studies of gender consumption patterns show that men eat more meat than women and drive longer distances, potentially leading to higher total energy use by men. In this study we calculated the total energy use for male and female consumption patterns in four

European countries (Germany, Norway, Greece and Sweden) by studying single households. Significant differences in total energy use were found in two countries, Greece and Sweden. The largest differences found between men and women were for travel and eating out, alcohol and tobacco, where men used much more energy than women. We suggest that these findings are policy relevant for the EU, which aims to mainstream gender issues into all activities and to lower its total energy use. (*Abstract from original source*)

Keywords: energy; gender; consumption

Robinson, Caitlin. 2019. “Energy Poverty and Gender in England: A Spatial Perspective.” *Geoforum* 104 (August). doi: 10.1016/j.geoforum.2019.05.001.

Abstract:

A growing research agenda has sought to understand the substantial inequalities that exist in domestic energy provision. One way in which these inequalities are shaped is through socio-spatially contingent gender relations, an area underexplored with regards to energy poverty. This paper aims to uncover the spatialities of gender and energy poverty. It argues that established energy vulnerability frameworks can challenge the assumption that gender inequality is synonymous with energy poverty, but to do so these framings must move beyond a focus upon the household to recognise the vulnerability of individuals. Gendered vulnerabilities likely to enhance energy poverty are delineated for a case study of England, underpinned by socio-spatial analyses of gender-sensitive indicators. Five dimensions of gendered, socio-spatial energy vulnerability are evidenced in this context: exclusion from the economy; time-consuming and unpaid reproductive, caring or domestic roles; exposure to physiological and mental health impacts; a lack of social protection during a life course; and coping and helping others to cope. The findings demonstrate that whilst it is possible to draw initial conclusions about the spatialities of gendered energy vulnerability associated with health and economic activity, this is more complex concerning gendered aspects of energy vulnerability related to infrastructure that tend to be measured at the scale of the household, or those aspects of vulnerability that are relatively private or personal.

(*Abstract from original source*)

Keywords: gender inequality; energy poverty; energy vulnerability; gender-sensitive indicators; spatial analysis

Salmon, Claire, and Jeremy Tanguy. 2016. “Rural Electrification and Household Labor Supply: Evidence from Nigeria.” *World Development* 82: 48–68.

No abstract available.

Summary:

In Nigeria, the most populated African country, rural electrification is a critical issue because of the low household electrification rate and the poor quality of the grid. This energy poverty has harmful economic and social consequences in rural areas, such as low productivity, lack of income-generating opportunities and poor housing conditions.

In this paper, we consider electrification as a technical shock that may affect household time allocation. Using the 2010–11 General Household Survey, we investigate how electrification affects female and male labor supply decisions within rural households in Nigeria. Focusing on husband–wife data, we consider potential dependence in spouses’ labor supply decisions and address the challenge of zero hours of work using a recent copula-based bivariate hurdle model (Deb et al., 2013). In addition, an instrumental variable strategy helps identify the causal effect of electrification.

Our results underline that this dependence in spouses’ labor supply decisions is critical to consider when assessing the impact of electrification on these outcomes.

Electrification increases the working time of both spouses in the separate assessments, but the joint analysis emphasizes only a positive effect of electrification on husbands’ working time. In line with the household labor supply approach, our findings highlight that, within the household, the labor supply decisions of one spouse significantly affect those of the other spouse. Thus, if we neglect the effect of electrification on the spouse of the individual examined, we may fail to assess how this individual has been actually affected by this common shock on both spouses. Our results suggest that these within household relationships promote husbands’ working time at the expense of wives’ working time. *(Summary from original source)*

Keywords: rural electrification; labor supply; developing countries; joint decision making; bivariate hurdle model; copulas

Samad, Hussain A., and Fan Zhang. 2019. “Electrification and Women's Empowerment: Evidence from Rural India.” Policy Research Working Papers, World Bank Group, Washington, DC.

Abstract:

Electrification has been shown to accelerate opportunities for women by moving them into more productive activities, but whether improvements in economic outcomes also change gender norms and practices within the household remains unclear. This paper investigates the causal link between electricity access and women's empowerment, using a large gender-disaggregated data set on India. Empowerment is measured by women's decision-making ability, mobility, financial autonomy, reproductive freedom, and social participation. Using propensity score matching, the study finds that electrification enhances all measures of women's empowerment and is associated with an 11-percentage point increase in the overall empowerment index. Employment and education are identified as the two most important causal channels through which electrification enables empowerment. *(Abstract from World Bank Group E-Library)*

Sedai, A. K., R. Nepal, and T. Jamasb. 2020. “Electrification and Socio-Economic Empowerment of Women in India.” Cambridge Working Papers in Economics, Cambridge University, London.

Abstract:

This study examines the effect of quality of electrification on empowerment of women in terms of economic autonomy, agency, mobility, decision-making abilities, and time allocation in fuel collection in India. It moves beyond the consensus of counting electrified households as a measure of progress in gender parity, and analyzes how the quality of electrification affects women's intra-household bargaining power, labor supply decision and fuel collection time. We develop a set of indices using principal component analysis from a large cross-section of gender-disaggregated survey. We use two stage least squares instrumental variables regression to assess the causal effect of access and hours of electricity on women's empowerment using geographic instrumental variables along with district and caste fixed effects. The results show that quality of electrification has significant positive effects on all empowerment indices. However, the effect differs at the margin of deficiency, location, living standards and education. The study recommends revisiting the paradigm of access to electrification and women empowerment by focusing on the quality of not only extensive but also intensive electrification to enhance life and economic opportunities for women and their households. (*Abstract from original source*)

Keywords: electrification; socio-economic empowerment of women; India

Skutsch, Margaret, and Joy Clancy. 2006. "Unraveling Relationships in the Energy-Poverty-Gender Nexus." In *Transforming Power: Energy, Environment, and Society in Conflict*, edited by John Byrne, Leigh Glover, and Noah J. Toly, 61–92. New York: Routledge.

No abstract available.

Summary:

This chapter attempts to unravel some of the relationships in the gender, energy and poverty nexus. It starts by explaining that there is an energy dimension to poverty, and considers why energy policy and planning in most developing countries has paid scant attention to this. Energy poverty is a concept that captures the energy dimension of poverty. It has a number of effects on poor families, which tend to use less energy than wealthier ones. To understand more clearly why energy planning fails the poor, one has to understand that it involves two quite different sub-sectors: the modern sector, including renewable energy technologies (RETs), and the traditional sector. New and RETs can be considered part of the modern, commercial energy sector and are receiving increasing attention. Of several important reasons, the chapter explores: the structure of mainstream development theories and the failure of the energy sector to keep abreast of developments in other sectors as regards gender. (*Summary from Taylor & Francis*)

Standal, Karina, and Tanja Winther. 2016. "Empowerment through Energy? Impact of Electricity on Care Work Practices and Gender Relations." *Forum for Development Studies* 43 (1): 27–45.

Abstract:

Electricity provides a range of desirable services such as the electric light and the use of mobile phones and is regarded as a conditional factor for economic growth. Gender equality and women's empowerment are also promoted as a key to development on the international agenda. However, relatively little is known about how the advent of electricity in new contexts affects gender relations. The present analysis of electricity's impact on gender relations engages with the concepts of care work and empowerment. Based on two ethnographic case studies in rural communities in Uttar Pradesh, India, and Bamiyan, Afghanistan, we examine how and to what extent the introduction of electricity affected women's care work practices and empowerment – and potentially transformed gender relations. We also draw on our own empirical material from other parts of India (West Bengal and Jharkhand). We find that electricity affected everyday life in terms of providing important resources and enhancing women's opportunities to perform their expected role as care workers more efficiently and in a qualitatively better way. The women appreciated this positive effect of electricity in their everyday lives. However, we argue that in India, electricity at the same time reinforced structures of gender inequality such as patriarchy and dowry practices, and we trace this tendency to the conceptualisation of women as care workers in combination with conventional, gender 'neutral' electricity interventions. In contrast, there are signs that women's status increased in the Afghanistan case, which we link to the unusual inclusion of women engineers in the electricity supply. (*Abstract from original source*)
Keywords: electricity; gender relations; empowerment; care work; India; Afghanistan

Sudhakara Reddy, B., and Hippu Salk Kristle Nathan. 2013. "Energy in the Development Strategy of Indian Households—The Missing Half." *Renewable and Sustainable Energy Reviews* 18 (February): 203–10.

Abstract:

There is a growing consensus that universalization of modern energy services is central to reducing major elements of poverty and hunger, to increase literacy and education, and to improve health care, employment opportunities, and lives of women and children. In India, as per 2011 census, over 700 million people lack access to modern energy services for lighting, cooking, water pumping and other productive purposes. Devoid of these services people, mostly women, are forced to spend significant amounts of their time and effort on subsistence activities like firewood collection, carrying these head load for miles, and then burning these hard earned fuels inefficiently in traditional chullas. These adversely affect the health and standard of living for women and act as a barrier to gender development (here 'gender' means women unless otherwise specified). Although the links between gender inequity, poverty, and energy deprivation have been studied by many, not many practical solutions to the above problems have emerged. The present paper explores the nexus among gender–energy–poverty, highlights areas of gender concern, and suggests actions. We analyze how women from rural areas and low income households are at the receiving ends of energy poverty. We then analyze the roles women as an important stakeholders in universalizing modern energy services. We show how women self-help groups can be a vital link in large-scale diffusion of energy-efficient and renewable

technologies. The paper concludes with policy pointers for sustainable development and gender empowerment through energy solutions. (*Abstract from original source*)

Keywords: domestic energy sector; gender; self help groups; entrepreneurs; energy poverty

Sunikka-Blank, Minna. 2020. “Chapter 8 – Why Are Women Always Cold? Gendered Realities of Energy Injustice.” In *Inequality and Energy*, edited by Ray Galvin, 173–88. Cambridge, MA: Academic Press.

Abstract:

Energy policies tend to rely on stakeholders' rational decision-making, but in reality our practices, transport choices and consumption patterns are influenced by socio-cultural factors, and gender roles. Women still do a disproportionate share of household work: in the UK, men averaged 16 h a week helping out at home compared with 26 h per week by women and up to 60 h if on maternity leave. This makes women, especially after they become mothers, key absorbers of energy policy. If energy infrastructure is considered gender neutral, it is ignored how gender is a key factor in wealth and income (and time) distribution. Women have a lower average income than men and are less likely to own their property. This puts women and men mostly in very different economic positions. Becoming a mother and separating from your partner exposes women to poverty: women and their children in single parent households are disproportionately affected by the consequences of fuel poverty, in all European countries. In 2017, 14% of UK single parent households were in fuel poverty, twice the risk faced by couples with children, and nearly a third of single parent households reported poor condition in their homes (leaks, mold, etc.,). Further, fuel poverty seems to persist across generations: research shows that children born to basic educated mothers in Finland are four times as likely to be born to a single mother and more likely to experience parental separation, thereby accumulating disadvantages. This chapter argues that energy inequality, as documented in previous chapters, can put a double burden on women in terms of a higher risk of energy poverty especially among single parents and the feminization of pro environmental behavior at the expense of women's time. (*Abstract from original source*)

Rathi, Sambhu Singh, and Claire Vermaak. 2018. “Rural Electrification, Gender and the Labor Market: A Cross-Country Study of India and South Africa.” *World Development* 109: 346-59.

Abstract:

This cross-country study estimates the effect of household electrification on labor market outcomes for rural individuals in India and South Africa, two developing countries that have implemented large-scale rural electrification schemes in recent decades. Two identification strategies are used: propensity score matching and panel fixed effects estimation. We focus on three indicators of labor market success: employment, earnings and hours worked. We find that electrification raises the annual incomes earned by those who work in paid employment, for both men and women in

both countries. For India, both genders work fewer hours, suggesting that electricity raises productivity. For South Africa, where the labor market has less absorptive capacity, there is no employment benefit of electrification. But women who work benefit the most from the productivity gains of electrification: they have greater increases in earnings than men. Our findings suggest that the benefits of electrification do not accrue universally, but rather depend on gender roles, supporting policies and the labor absorptive capacity of the economy. (*Abstract from original source*)

Keywords: rural electrification; labor market; gender; India; South Africa

Villamor, Grace B., Dawit Diriba Guta, Utkur Djanibekov, and Alisher Mirzabaev. 2018. “Gender Specific Perspectives among Smallholder Farm Households on Water-Energy-Food Security Nexus Issues in Ethiopia.” Working Paper. ZEF-Discussion Papers on Development Policy, No. 258. Zentrum für Entwicklungsforschung / Center for Development Research (ZEF), University of Bonn.

Abstract:

The water-energy-food security nexus concept is a widely recognized analytical approach to consider and achieve sustainable development goals. However, the water-energy-food security nexus concept has mostly been analyzed at higher scales in a top-down manner, while examples of bottom-up and local scale applications remain limited. Breaching this gap, the research presented in this paper describes and assesses the water-energy-food nexus from a smallholder farm household perspective in the context of rural Ethiopia through a gender-specific lens. We adopted the “Actors, Resources, Dynamics and Interactions” participatory approach to co-develop a mental model of this nexus concept. Using this approach, we were able to examine the key elements and interlinkages among major nexus related resources that affect management according to gender. The results indicate that there are four aspects that differentiate between male and female farm household management with respect to the water-energy-food nexus. These differences include gender specific productive roles, perceptions of target resources, access to external actors, and decision making with respect to target resource management and utilization, which may affect the dynamics and governance of important components of the water-energy-food nexus. (*Abstract from original source*)

Keywords: ARDI method; bottom-up approach; energy-food-land linkages; gender roles; intrahousehold heterogeneity; mental model

Wickramasinghe, Anoja. 2003. “Gender and Health Issues in the Biomass Energy Cycle: Impediments to Sustainable Development.” *Energy for Sustainable Development* 7 (3): 51–61.

No abstract available.

Summary:

Biomass-based energy generation is at the heart of rural life, food and nutrition in particular. Sri Lanka relies heavily on biomass for energy generation in the domestic sector, in which nearly 8 million tonnes (Mt) of biomass is consumed annually. The

household sector has been able to optimize its biomass use, without intervention by the state, through the involvement of women. The role of women has been taken for granted in relation to their traditional gender role, by which socially accepted and culturally sensitive imbalances have been established.

Health issues pervade the biomass cycle from the stage of biomass-gathering to its end-use. Women, who link the outdoor biomass resource environment with domestic consumption, initiate the cycle and traverse it repeatedly. This study focuses on the physical exhaustion, psychological deterioration, and ill-health generated by the cycle, as reported by participants in the study. The self-perceived problems are taken as testimonies of the multiple health implications of the biomass cycle. Women in the cycle enhance the consumption value of biomass by integrating it into human well-being, and food and nutritional security. Men's labour appears in the form of a helping hand on occasionally performed tasks. The gender differentiation of activities and their health repercussions gives rise to the need for a wider debate on social justice for women's health, their rights over resources, and also occupational and workplace security. The predominant imbalances in the biomass cycle are nurtured by the conceptualization of biomass as a 'free commodity', 'women's work', and the 'gender' ideology.

The health risks and the self-reported ailments are disproportionately distributed and the re-percussions suffered by women in their effort of ensuring household energy security are serious. Problems that women deal with in the outdoor sphere during procuring and transporting are specific to their occupations in this cycle and their gender. It is clear that these issues confront both the concepts of sustainability and social justice.

This paper is organized with the intention of discussing conceptual issues and disseminating the findings of research conducted in Sri Lanka. Data presented in this paper were gathered through a questionnaire-based survey administered to 720 households and through field discussions, observations and ethnographic records. Reference to the spatial location is omitted so as to avoid lengthy discussions on ecological aspects. (*Summary from original source*)

Wickramasinghe, Anoja. 2015. "Energy for Rural Women: Beyond Energy Access." In *International Energy and Poverty: The Emerging Contours*, edited by Lakshman Guruswamy and Elizabeth Neville. New York: Routledge.

No abstract available.

Winther, Tanja, Margaret N. Matinga, Kirsten Ulsrud, and Karina Standal. 2017. "Women's Empowerment through Electricity Access: Scoping Study and Proposal for a Framework of Analysis." *Journal of Development Effectiveness* 9 (3): 389–417.

Abstract:

This article reviews the empirical literature on women's empowerment through electricity access and the methodologies that have been used. Statistical studies have looked at areas with access to the grid and measured the impact on welfare indicators and employment. Qualitatively oriented studies have looked at various types of supply and studied how electricity access in a given context has influenced women and men in everyday life, sometimes focusing on the role of the design of the systems of supply and the process of electrification. The overall results show that electricity access benefits the welfare of women as well as men, but that the impact on gender relations remains largely unclear. With the ambition to better understand the gendered nature – and impacts – of various types of electricity access, we develop a framework for analysing women's empowerment through electricity and subsequently illustrate its applications by drawing on the reviewed empirical literature. (*Abstract from original source*)
Keywords: women's empowerment; gender relations; electricity access; review; framework of analysis

B. Non-Academic Resources

Alstone, Peter, Adriana Eftimie, Brendon Mendonça, and Carmen Niethammer. 2011.
Expanding Women's Role in Africa's Modern Off-Grid Lighting Market.
Washington, DC: Lighting Africa.

Abstract:

This report analyzes women's role as both consumers and entrepreneurs and identifies women-specific opportunities in the expanding market for modern off-grid lighting. Modern off-grid lighting products could be an immediate solution for African businesswomen who often run small retail businesses, exactly the type of businesses that benefit most from improved lighting and extended productive time. The report compiles the findings of extensive Lighting Africa consumer studies focused on Ethiopia, Ghana, Kenya, Tanzania, and Zambia. Lighting Africa, a joint IFC/World Bank program, partnered with IFC's Women in Business (WIN) program to author the report. Lighting is a basic human need and, along with cooking, is a fundamental driver of fuel demand for low-income households in the developing world. Women and men without access to electricity typically rely on expensive, inefficient and hazardous lighting devices like kerosene lamps and candles to bring light to their homes and businesses. The annual spending for fuel based lighting worldwide approaches \$40 billion, and a growing range of modern lighting products that incorporate innovative designs and business models are gaining market share. Modern off-grid lighting devices combine the latest advances in clean energy technology (for example, solar, LED, and advanced batteries) to provide a safe, efficient, affordable alternative to fuel based lighting. (*Abstract from The World Bank*)

Cecelski, Elizabeth. 2003. *Enabling Equitable Access to Rural Electrification: Current Thinking on Energy, Poverty, and Gender.* Washington, DC.: The World Bank.

No abstract available.

Summary:

“This briefing paper summarizes current thinking on energy, poverty, and gender. A particular focus is given on rural electrification with renewable energy, based on Asia Alternative Energy (ASTAE) program’s historical comparative advantage. Nonetheless, this is only a snapshot of the reality of rural energy poverty, which is noted where appropriate.

In the first section, energy, poverty, and gender relationships are explored. Sustainable energy development and poverty thinking is described, the energy-poverty- gender nexus is analyzed, and current efforts in energy and gender are reviewed. New thinking on poverty is described in the second section, together with some implications for the energy sector. Some promising approaches, based on recent studies, to widening access to rural electrification to the poor in general are summarized in section 3, and key empirical questions are identified concerning energy-poverty links.

Section 4 focuses on four key issues of rural electrification programs for poor rural women: gender-disaggregated data and analysis; wood energy, cooking, and their impact on health; gender-specific electricity needs; and equal access to credit and other resources for microenterprises” (Cecelski 2003, iv).

Clancy, Joy. 2003. “Gender and Household Energy Concerns: The Global Context.” Briefing Paper 2 for SPARKNET, Technology and Development Group, University of Twente, The Netherlands.

No abstract available.

Summary:

This is the second paper developed as part of the SPARKNET project. While the first paper looked at gender and household energy issues at the level of the household, the second paper looks at these issues in a global context.

The substantive issue of development is addressing poverty. Therefore, this paper examines what are the linkages between gender, household energy and moving people out poverty. The first section looks at the gender-energy-poverty nexus in general and then how household energy can contribute to reducing vulnerability and empowering women. Women are the specific focus since they generally have the responsibility for providing household energy. The section finishes with a review of how international development agencies address gender and household energy issues. The second section discusses in more detail the subject that is emerging high on development agencies agenda related to household: gender and health. Two issues within the energy sector that are driven at the international level are the privatisation of the energy sector and the impacts of fossil fuel combustion. Both of these issues are examined in relation to gender and household energy.

The paper is aimed at researchers and practitioners in the energy sector, as well as those involved in social development” (Clancy 2003, 1).

Clancy, Joy, Magi Matinga, Sheila Oparaocha, and Tanja Winther. 2012. “Social Influences on Gender Equity in Access to and Benefits from Energy.” Gender Equality and Development World Development Report Background Paper, The World Bank, Washington, DC.

Abstract:

This background paper has been commissioned as a contribution to the preparation of the World Development Report 2012 which will focus on development and gender equality. It is a companion paper to two other papers which examine gender issues in relation to common property resources and economic dimensions of gender and energy. Gender, as a concept, refers to the socially determined ideas and practices of what it is to be female or male. It contrasts with the concept of sex which uses biological attributes to categorise someone as male or female (Reeves and Baden, 2000). This paper focuses on the socio-cultural dimensions that influence and shape gender equity in terms of access to and benefits from access to modern energy and improved energy technologies. Gender equity recognises that women and men have different needs and interests, and that to achieve equality in life outcomes, a redistribution of power and resources is required (Reeves and Baden, 2000). (*Abstract from The World Bank*)

Clancy, Joy S., Margaret Skutsch, and Simon Batchelor. 2003. *The Gender-Energy-Poverty Nexus: Finding the Energy to Address Gender Concerns in Development*. Technical Report. DFID Project CNTR998521. London: UK Department for International Development (DfID).

No abstract available.

Summary:

“The links between gender and poverty have been explored in many papers on livelihood strategy and development ‘best practice’. However, few of them tackle an element of poverty that can occupy a quarter of the rural woman’s time, affects her health, and is a key to developing her gender-strategic interests: energy. Although the presence of links between gender, poverty and energy have been hinted at in many studies, for example in DFID’s publication ‘Energy for the Poor’ (2002), there are few that tackle it head on. This paper has been commissioned by DFID to explore current thinking on the gender-energy-poverty nexus, in particular to review the key issues and highlight areas that need to be addressed, and to suggest actions and further studies that need to be undertaken in order to ‘find the energy to address gender concerns’. It is hoped that this analysis and the recommendations that are drawn from it will be valuable to professionals working in the fields of gender and social development, not only within DFID and similar donor organisations, but also in other national institutions, NGOs and academic circles” (Clancy et al. 2002, 4).

Danielsen, Katrine. 2012. *Gender Equality, Women's Rights and Access to Energy Services: An Inspiration Paper in the Run-up to Rio+20*. Copenhagen: Ministry of Foreign Affairs of Denmark.

No abstract available.

Summary:

“This study aims to increase international attention on the gender equality dimensions of energy access in the run-up to Rio+20 and contribute to the Sustainable Energy for All (SE4ALL) initiative and its goal of ensuring universal access to modern energy services by 2030. It conceptualizes gender and energy in development from a gender and rights perspective and presents an analysis of energy system governance at household, national and global levels. The study primarily focuses on experience emerging from Sub-Saharan Africa and South Asia, given the severity of energy poverty in those regions” (Danielsen 2012, iv).

Dutta, Soma. 2005. “Energy as a Key Variable in Eradicating Extreme Poverty and Hunger: A Gender and Energy Perspective on Empirical Evidence on MDG #1.” Discussion Paper, Department for International Development (DfID)/ENERGIA, London.

Abstract:

The Millennium Development Goals (MDGs) were adopted in 2000 at a United Nations Assembly summit as a set of time-bound, measurable goals and targets to be achieved by 2015. Although there is no MDG on energy, it has been identified as a critical input for the achievement of all MDGs. While many assumptions have been made about the linkages between energy and the MDGs, few empirical studies are available that provide convincing evidence for advocacy and policymaking. The present study is aimed at presenting empirical evidence – preferably quantitative data – on linkages among gender, energy and MDG 1: eradication of extreme poverty and hunger.

As regards how energy access could decrease poverty and hunger, there is good evidence for time and effort savings of 1 to 4 hours daily in cooking, fuel collection and food processing, when energy is made available for these tasks. There also seems to be a positive correlation between electricity and time spent on fuelwood collection, though this may be ascribed to other factors, as electricity is not used for cooking. There is little quantitative data on how women's freed-up time is utilized. Most data is anecdotal, pointing towards the fact that having more time available provides women more flexibility in their work, but few use this for resting more. Several studies also indicate that some of this time may be used for alternative home-based occupations such as sewing, handicrafts etc, but there is no information on the quantum of income increase brought about.

Women use biomass energy in their micro-enterprises, and use electricity to extend the working day for home industries and agriculture, but there is no quantitative data

available on how much income improved fuels and lighting results in generating, and how much control women have in decisions on the use of increased incomes. Donor-supported projects have documented how energy enterprises can be successfully owned and operated by women, but typically, they have operated at small scale and their sustainability under market conditions is not known.

There is good evidence for reduction in household expenditures on energy of 20-50% with more efficient and lower cost cook stoves and lighting fuels; but it is not clear whether these savings are used to increase food consumption or are offset by increased energy use. (*Abstract from original source*)

Keywords: gender; poverty; energy; income; savings

Dutta, Soma, Annemarije Kooijman, and Elizabeth Cecelski. 2017. “Energy Access and Gender: Getting the Right Balance.” State of Electricity Access Report. Washington, DC: The World Bank.

Abstract:

More than 1.1 billion people globally lack access to electricity, and 2.9 billion lack access to clean cooking fuels. Why does gender matter in access to energy services? One focus of the gender, energy, and poverty narrative has been that since women play a significant role in energy systems as part of their subsistence and productive tasks, they are disproportionately affected by energy shortages. In recent years however, there is a growing awareness that energy, as a critical enabler to development, can also play a transformative role in the lives of men and women by enhancing their productivity and effectiveness at home and at work. Men and women differ in the purposes for which they need and use energy and in their levels of access. This paper explores the linkages between gender, energy, and poverty and the empirical evidence on these linkages - with an emphasis on electricity and cooking energy. It also reviews global experience on what strategies and approaches have been employed to integrate a gender perspective in energy, what results have been achieved, and good practices and lessons learned. (*Abstract from The World Bank*)

Fatema, Naureen. 2005. *The Impact of Structural Gender Differences and Its Consequences on Access to Energy in Rural Bangladesh*. Washington, DC: The World Bank.

No abstract available.

Summary:

It is well known that in Bangladesh, like in many developing nations, the socio-cultural and religious constitution imposes a number of constraints on women, thus hampering their access to various goods and services. Access to modern energy services is one such example. In light of these conditions, this report aims to study the impact these structural gender differences has on access to energy and the consequences of these impacts based on review of recent literature on the matter. This study will serve as a preliminary basis for building on the methodologies developed under the Asia

Sustainable and Alternative Energy (ASTAE) coordinated ENPOGEN project and addressing the issues identified in the study through concrete pilot projects in Bangladesh.

Households in rural Bangladesh rely primarily on biomass fuels - twigs, leaves and virtually all components of agricultural residues (e.g. cow dung, jute sticks, rice straw, rice husks) and natural resources (e.g. firewood) for energy, though seasonal and economic factors may determine the choice of fuel consumed. Women are the major collectors and users of fuel. However, structural gender differences within the society such as unequal access to land and property, expectation to fulfil all household chores including collection and use of fuel, restricted mobility outside the household and inaccessibility to economic, social and legal institutions all affect their access to modern energy services. Some of the most significant impacts that arise from these constraints include, among others, the difficulty of access to collateral for loans and energy services, inability to cope with increasing shortages in fuel supply, prolonged hours spent collecting fuel, cooking, working and spending hours within confined households while breathing in the air contaminated by burning fuel, difficulty in accessing the market and lower opportunity of being employed in influential positions in energy planning bodies.

The consequent implications of these barriers on the lives of women include adverse effects on their health, such as spinal column damage, eye diseases, acute respiratory infections (ARI) and lung diseases, including cancer. Other consequences are environmental degradation, which in turn can worsen poverty situations, small number of women representatives within energy institutions leading to inadequate gender need assessment in energy planning and possible economic consequences such as lower levels of education, employment and income for women.

“A final finding that has been pointed out in conclusion is the lack of sex disaggregated data in the existing literature on energy in Bangladesh, which leads to a methodological difficulty in establishing a quantitative relationship between energy, poverty and gender. Therefore, it is important to find and document gender disaggregated information on the needs, preferences, time use, income and expenditures, decision making, access to credit and information in market surveys, benefits and impacts in monitoring and evaluation studies, etc. in order to design projects that can address the gender issues in energy projects in Bangladesh. *(Summary from original source)*

Green Alternative. 2017. *Women and Energy: Uneasy Relations*. Policy Brief. Tbilisi, Georgia: Green Alternative.

No abstract available.

Summary:

“The relations between the energy and woman are not easy all around the world. In Georgia, it includes not only gender blind energy policy, but also

ongoing construction of hydropower or fuel plants, transmission lines, setting up of tariffs and etc. does not include any gender aspects.

“In Georgia, energy sector related impacts on gender are studied only in case of large infrastructural projects that may cause involuntary resettlement. But only in cases when those projects are funded by International Financial institutions. In all other cases, gender disbalance (women’s restricted participation, employment opportunities, health impacts and benefits) don’t considered as the problem and does not matter how significant that impacts may be. The issues of woman misrepresentation and mistreatment during decision making processes related to the energy infrastructure projects are substantial. As a result, projects are developed in a way that they do not address and mitigate particular gender impacts (health, employment, workload , poverty and etc.)

“The energy sector impacts on gender in Georgia still does not get enough attention both from the public as well as decision makers side” (Green Alternative 2017, 1).

Haves, Emily. 2012. *Does Energy Access Help Women? Beyond Anecdotes: A Review of the Evidence*. Ashden Report. London: Ashden.

No abstract available.

Summary:

“The first aim of this report is therefore to review the evidence on how access to modern energy services benefits women and girls. Our initial intention was to limit the review to peer-reviewed articles published in academic journals, but given the shortage of these we have also included studies from academic institutions and major multi-lateral organisations such as the World Bank and the Asian Development Bank. The review examines the impact of gaining access to electricity on women and girls, and also looks at the impact of switching from traditional cooking methods to cleaner cooking.

“The second aim of this paper is to consider the implications of these changes on the lives of women. For instance are they making life easier? Reducing poverty? Reducing gender inequality? The framework that is used to analyse the gendered impact of gaining access to modern energy services is in terms of different types of gender needs. This framework, conceived by Maxine Molyneux, differentiates between practical needs (those which arise out of existing gender roles) and strategic needs (those which challenge existing gender roles). Meeting practical needs is essential, but inequality will not be addressed without challenging existing gender roles, hence the importance of considering strategic needs” (Haves 2012, 2).

Karlsson, Gail, ed. 2007. *Where Energy Is Women’s Business? National and Regional Reports from Africa, Asia, Latin America and the Pacific*. Leusden, The Netherlands: ENERGIA.

No abstract available.

Summary:

In the introduction to this publication, ENERGIA policy advisor and editor of this publication Gail Karlsson writes, ‘In many developing countries, especially in the poorest areas, most energy currently comes from traditional biomass fuels such as wood, charcoal and agricultural wastes - and collection and managing these fuels is strictly “women’s business”.’ She calls on national energy and development policy-makers to acknowledge the links between women’s work, national economics and energy; as well as make more gender-focused investments and initiatives, with greater and more diverse involvement of women. In preparation for the 14th and 15th sessions of the UN Commission on Sustainable Development (CSD), ENERGIA commissioned a number of regional reports, as well as national consultations in countries where there are significant links between biomass dependency, women’s roles as energy suppliers, and poverty (especially in rural areas). Among other contents, this publication includes four regional reports: Africa, Asia, Latin American and the Caribbean (LAC), and the Pacific. Consultations were conducted in 19 countries in Africa (Botswana, Ghana, Lesotho, Mali, Nigeria, Senegal, South Africa, Swaziland, Uganda, Zambia and Zimbabwe) and Asia (Bangladesh, India, Indonesia, Lao PDR, Nepal, Pakistan, Sri Lanka, and Vietnam) with representatives from government ministries, academic and research institutes, non-governmental organisations (NGOs), women’s groups and energy experts. Among the common themes from the national papers contained in this publication, as described in the introduction, are the following:

- Dependence on biomass fuels is both an indicator of extreme poverty, and an obstacle to greater prosperity.
- One of the most important ways of reducing poverty and promoting national development is by involving women in productive economic activity rather than wasting so much of their time and effort securing basic fuels for survival.
- Investments are needed in improved fuels and equipment – as much as access to electricity.
- It is time to accept that women can, and already do, play an important role in the energy sector, and to engage them at a higher level in the dissemination of new energy technologies and more effective management of natural resources.

Finally, the editor recommends a gender-balanced energy paradigm. The Indian national paper is pointed out as an example of the paradigm shift required, which involves governments changing their thinking from a ‘subsidy mindset’ regarding women, and adopt one that promotes the development of new enterprises for women in the energy sector. Annexed documents: Priorities for Action for Women as a Major Group at CSD 15; Key Statements on Gender and Energy at CSD 14; International Affirmations on Gender, Sustainable Development and Energy; and Readings and Resources on Gender and Energy Issues. (*Summary from BRIDGE*)

Karlsson, Gail, and Salome Misana, eds. 2001. *Generating Opportunities: Case Studies on Energy and Women*. New York: United Nations Development Programme (UNDP).

No abstract available.

Summary:

Through eight case studies drawn from Africa and Asia on energy and women, the report provides concrete examples of how improving poor women's access to affordable and clean energy services can act as an entry point to achieving multiple development objectives, including income and employment generation, poverty reduction, the empowerment of women and local and global environmental objectives. (*Summary from UNDP*)

Table of Contents:

1. Introduction: Sustainable Energy and Women – Gail V. Karlsson and Susan E. McDade
2. Overview: Lessons from the Field – Salome Misana
3. Bangladesh: Battery Operated Lamps Produced by Rural Women – Hasna J. Khan
4. Ghana: Energy for Rural Women's Enterprises – Sabina Anokye Mensah
5. Kenya: Upesi Rural Stoves Project – Beatrice Khamati Njenga
6. Malawi: Ndirande Nkhuni Biomass Biquette Programme – Malla Mabona
7. Mali: Multifunctional Platform for Village Power – Nalini Burn and Laurent Coche
8. Nepal: Rural Micro Hydro Development Programme – Arzu Rana-Deuba
9. South Africa: Impact of Women's Energy Group on National Policy – Wendy Annecke
10. Uganda: Photovoltaic Project for Rural Electrification – May Christine Sengendo

Khamati-Njenga, Beatrice, and Joy Clancy. 2003. *Concepts and Issues in Gender and Energy*. Paper Prepared for ENERGIA. Leusden, The Netherlands: ENERGIA.

No abstract available.

Summary:

“This paper was commissioned by ENERGIA in response to a request by network members for a clearer understanding of the gender concepts and how these manifest themselves in the energy sector. The paper also identifies some key issues of how energy plays a role in transforming women's lives. The paper is divided into two sections: the first section defines gender concepts and places them in the context of the energy sector, while the second section describes issues of gender and energy” (Khamati-Njenga and Clancy 2003, 5).

Lallement, Dominique. 2008. “Energy Options for Livelihood Needs of the Poor and Women in an Era of High Fossil Fuel Prices.” Discussion paper for the High Level Regional Policy Meeting on Networking Towards Gender and Poverty Sensitive Energy Policies, United Nations Conference Centre, Bangkok, November 3–4.

No abstract available.

Summary:

“The paper includes three sections. The first section provides information on the context of high and volatile fuel prices and some economic impacts with the objective of establishing a common understanding and relevance of this context. It also reviews some of the government policy responses. The second section provides information on the poverty impact of high fuel prices, including the disparities between rural and urban areas, and options taken by the poor to respond to high and volatile fuel prices. It identifies women and children as the groups most at risk. The third section looks at sustainable options to meet livelihood needs through the lens of gender equality, from the perspective of three main groups of stakeholders: poor household stakeholders, utilities, and policy makers. While for households the options are more in terms of energy use diversification and consumption and income options derived from energy, for utilities options are more in terms of diversification of services and means of payment; finally, for policy makers, options are more in terms of policy and investment priorities, targeting, and choice of instruments” (Lallement 2008, 1-2).

Lucas, Henry, Hilary Standing, and Susan Jolly. 2003. “Energy, Poverty and Gender: A Review of the Evidence and Case Studies in Rural China.” Falmer: The Institute of Development Studies at the University of Sussex.

No abstract available.

Masse, Rene. 2003. *Energy, Poverty, and Gender Impacts of Rural Electrification on Poverty and Gender in Sri Lanka*. Washington, DC: The World Bank.

No abstract available.

Summary:

The First Beneficiaries of Electricity. When electricity arrives in a home, it makes possible changes that are directly related to the availability of this new form of domestic energy. Only household members are concerned by these direct effects. Electrical lighting is unquestionably the first direct effect of HHs electrification, independent of the type of service (grid connection, VHS, or SHS). More than 99 percent of connected families use electricity as the main energy for lighting. Thus, rural electrification (RE) programs live up to the expectations of unconnected households because, for 98 percent of them, the first electricity priority is lighting. The main impacts of electrical lighting are reported as follows: Improved well-being: The quality of lighting with electrical lamps is definitely better; electrical lighting is easier to use; one single lamp provides good lighting for all persons inside the same room; and because electric lighting is cheaper than kerosene, HHs can use it without restrictions. Improved security for people and property against theft: 98.7 percent of families feel secure because the house is well lit (in rural areas, 83 percent of HHs have their private wells and toilets outside).

Improved security against accidental fires and burns caused by kerosene use (93.5 percent of HHs). Money savings: Except with SHS, electrical lighting is cheaper for families than kerosene. Extended study time: 74.5 percent of electrified HHs feel that children use their half an hour extra time mainly for studying. Homestead crop protection against theft and wild animals: It is difficult to use kerosene lamps outside, especially during the rainy season and on windy days. Cleaner houses: Kerosene lamps emit soot, which makes the walls dirty. Increased reading time: Very few connected people, however, take advantage of electrical lighting to read at night; no more than 7.8 percent read sometimes and less than 1 percent read regularly. (*Summary from the World Library*)

Matinga, Margaret Njirambo. 2012. *A Socio-Cultural Perspective on Transformation of Gender Roles and Relations, and Non-Change in Energy-Health Perceptions Following Electrification in Rural South Africa: Case Study for Gender and Energy World Development Report Background Paper*. Leusden, The Netherlands: ETC/ENERGIA in association Nord/Sør-konsulentene.

Abstract:

This case study draws on a PhD which used an ethnographic approach in data collection and analysis. It is informed by extensive periods of observation and interviews by the researcher embedded in two villages, Cutwini and Tsilitwa in rural South Africa. Cutwini had no electricity or modern infrastructure such as a clinic and piped water while Tsilitwa had electricity, a clinic, piped water, and three modern schools. While this case study focuses on Tsilitwa, occasional references will be made to Cutwini to provide additional insights and to support findings. Both villages are largely inhabited by the Xhosa ethnic group allowing for a common cultural reference frame and therefore for comparison of some findings. The case study illustrates that gender relations are a significant factor in understanding whether and how technologies such as electricity and electrical appliances affect women and men's lives. (Xhosa) Culture, while always changing, continues to affect daily life and perspectives. Therefore, understanding emic practices and their meanings is key to understanding the expected and unexpected changes that occur due to the introduction of an energy intervention such as electricity. The emic approach also offers explanations for the responses to an energy intervention. The findings of this study show that activities such as collecting firewood and cooking are meaningful beyond their utility functions. As a result, what an etic observer might interpret as a harmful activity or behaviour -such as collecting firewood- might from the emic perspective be a necessary part of being a good woman according to the pervading culture, an opportunity to socialise or a way of accumulating symbolic capital³. This case study also pays attention to women's and men's agency⁴ in acquiring electrical appliances; the endowments that women and men use to optimise the benefits of electricity; the role of formal and informal institutions in shaping the interactions that women and men have with electricity and electrical appliances; and the transformatory changes in gender relations, awareness of indoor air pollution (IAP) and how perceptions of smoke by both firewood users and nurses in the area affect action related to IAP. (*Abstract from University of Twente*)

Matly, Michel, and MARGE France. 2003. *Energy, Poverty, and Gender - Rural Electrification in Indonesia and Sri Lanka: From Social Analysis to Reform of the Power Sector*. Washington, DC: The World Bank.

Abstract:

This report focuses on two determinant aspects of electrification with regard to poverty and gender: (a) the benefits realized by rural households and by communities as a whole, with special emphasis on the poor and women, and (b) the conditions of access to electrification for all, including the poorest of society. The chapter 2 analyzes the conditions of rural electrification in industrial countries. Chapter 3 gives a global scope on the situation of electrification, poverty, and gender in Indonesia and Sri Lanka. Chapter 4 describes the conclusions of this first qualitative phase and enhances what appears to be the key aspects for respondents. Chapter 5 describes the significant changes that are introduced into family routines due to the arrival of electricity. Chapter 6 deals with the benefits associated with the value of the home. Chapter 7 deals with the benefits of positivism and investments. Chapter 8 points out that in spite of their significant efforts, national utilities face misunderstanding and bad perception on the part of the population about the electrification process. Chapter 9 suggests that even fair application of theoretically equitable present rules result in inequity and poor exclusion. Chapter 10 cover knitting electricity. Chapter 11 discusses renewables. (*Abstract from The World Bank*)

Meikle, Sheilah, and Patrice North. 2005. *The Impact of Energy Use on Poor Urban Livelihoods in Arusha, Tanzania*. R8321. London: The Development Planning Unit, University College London.

No abstract available.

Summary:

“There are very few micro level studies on energy use and the impact of energy on the livelihoods of the urban poor, despite the fact that urban families may spend a third or more of their income on energy. Furthermore, existing studies tend to address technological/economic issues, rather than social aspects of energy use and are quantitative rather than qualitative in approach.

“This DFID funded study (R8321) was undertaken jointly by the Development Planning Unit, University College London (DPU), and the Community Development Training Institute (CDTI), Tengeru, and addresses this imbalance by examining the energy/poverty/gender relationships in two urban wards, Daraja Mbili and Kaloleni, in Arusha, Tanzania. The core team was supported by the staff of WODSTA (Women’s Development of Science and Technology Association), a local NGO; Arusha Municipality employees at the urban and ward level; a virtual steering committee; and, most importantly, the women, men and children living in the two study wards.

“The study perceives poverty as multi-dimensional and uses a sustainable livelihoods framework to structure poor men’s and women’s perceptions of their condition. It acknowledges that urban poverty is qualitatively different from rural poverty and the significance of gender roles within a household. It accepts that energy has a significant role in improving the lives of the urban poor and sets out to clarify the nature of the transforming process. In particular, it tests the assumptions underlying two of the Millennium Development Goals (MDG) 2 and 3.1” (Meikle and North 2005, v)

O’Dell, Kathleen, Sophia Peters, and Kate Wharton. 2014. *Women, Energy, and Economic Empowerment: Applying a Gender Lens to Amplify the Impact of Energy Access*. New York: Deloitte University Press.

No abstract available.

Summary:

“There are two well-accepted narratives related to economic growth. First, vast gender inequalities remain throughout the world and are closely linked to poverty and instability. Second, access to modern energy enables economic advancement. Until now, however, exploration into the relationship between these two narratives has been limited. What is missing, it seems, is the linkage between energy access and women’s economic empowerment. Under what context does gender equality rise with access to electricity; what are the channels through which this change occurs; and how significant are the economic benefits to women? Can donor institutions and governments reap more meaningful results by targeting energy development programs that enhance benefits for women, and if so, how? In this report, we explore these questions. We believe that while there are many areas critically important for women’s development, energy access programs are an underexplored lever for women’s economic empowerment” (O’Dell, Peters, and Wharton 2014, 2).

Parikh, Jyoti. 2005. “The Energy Poverty and Gender Nexus in Himachal Pradesh, India: The Impact of Clean Fuel Access Policy on Women’s Empowerment.” New Delhi: Integrated Research and Action for Development (IRADe).

Abstract:

This research project has focused on poverty, gender, energy and health issues in the state of Himachal Pradesh (HP) in India, a mountainous state, where the energy uses include space and water heating requirements. Moreover, there is effort involved in walking with headloads of fuelwood over hilly terrain, often at high altitudes. Does the policy to allocate additional quota of clean fuels (LPG, kerosene) in hilly areas, i.e. twenty litres per household as against five litres elsewhere in India, have an impact on gender indicators including literacy, health and income?

The study covered a sample of 9 districts, 84 villages, 792 households and 4296 individuals from HP. The results show that, in HP, biofuels still meet about 70% of fuel needs. In procuring biofuels, women walk typically 30kms each month, and each trip to

collect fuelwood takes on average 2.7 hours. The state has infrastructure to provide kerosene and 31% of the population use it. A “willingness-to-pay” survey shows that even at a price of Rs. 13 per litre, which is above the market price, there would be a demand for kerosene. Further, the LPG network is expanding.

The literacy level of women in HP is quite high at 60%, and almost 80% of the women are exposed to some form of media. A lower incidence of domestic violence was reported compared to India as a whole. Biofuel collection is primarily the responsibility of adult women and older men. This is a physically strenuous process, with almost two-thirds suffering from neck ache at least quarterly and half suffering from backache almost daily. Nearly 30% of women felt the time absorbed in collecting wood to be a problem. About 70% of adult women are household cooks and hence exposed to smoke and pollution. They would accept interventions to avoid smoke, and 73% of them would choose some form of ventilation over improved stoves.

Greater political attention and backing are required to give women access to modern fuels and to free them from daily drudgery. (*Abstract from original source*)

Keywords: gender; empowerment; biofuels; health and indoor air pollution; Himachal Pradesh, India

Ramakrishnan, R., and R. Perumal. 2009. “Resolving Poverty-Gender-Energy-Nexus by Stakeholder Engagement.” Paper presented at DSA Conference 2009, ‘Contemporary Crises and New Opportunities,’ University of Ulster, Coleraine Campus, September 2-4.

Abstract:

No development is real that does not address poverty, as it is one of the world’s most fundamental and urgent issues. Energy is a commodity that provides services and offers job opportunities. It is a basic necessity, for survival and a fundamental input to economic and social development. Poverty influences and determines energy choices of poor households. Secure and improved energy services are a necessary condition for development and poverty reduction, and yet energy security has not figured prominently in the development agenda.

Typically, a poor urban family spends 20% of its income on fuels (Barnes, 1995). Energy has an equity dimension: Poor households use less energy than wealthier ones in absolute terms. Further the energy-poverty nexus has distinct gender characteristics. Gender roles of men and women, with their accompanying responsibilities, constraints, opportunities, and needs, are defined by a particular society. These roles change over time and vary widely within and across cultures. Lack of energy services is directly correlated with the major elements of poverty, including inadequate healthcare, low education levels and limited employment opportunities. Gender issues have come to the forefront in many development sectors including agriculture, forestry and water but the energy sector has been slow to acknowledge the links between gender equality, energy and development.

In many developing countries women are particularly affected by lack of accessible and affordable energy services due to their traditional roles, household responsibilities, and low social and political status. Men and women have different energy needs and may have different ideas about sustainable livelihoods. Men are mainly responsible for technical decisions and investments while the women have the responsibility for energy conservation.

It is estimated that 70% of the 1.5 billion people living on less than a dollar a day are women. According to the World Bank (2001) women of all developing countries spend between 2-9 hours a day collecting fuel and fodder, and performing cooking chores.

The responsibility for household energy provision affects women's health disproportionately to men's. More than half of the world's households cook with wood, animal waste, crop residues and untreated coal. Biomass collection to meet a household's energy needs is the burden of women and girls. In rural areas, it can mean spending several hours a day collecting fuel wood loads of 20 kg or more. 'According to the World Health Organization, exposure to indoor air pollution is responsible for the nearly two million excess deaths, primarily women and children, from cancer, respiratory infections and lung diseases and for four percent of the global burden of disease'. Shifting from fuel wood to cleaner sources of energy, like kerosene or LPG, halves the mortality rate of children under five (World Bank, 2001).

In most developing countries, the majority of informal sector enterprises are owned and operated by women, with women making up the largest proportion of the work force. Women's survival tasks, based on their own metabolic energy inputs are, like biomass, invisible in energy statistics (Cecelski, 1999). Women have to be empowered to make choices about energy.

This vicious cycle of energy poverty needs to be broken. The invisibility of energy-poverty issues leads to decision-makers not being fully aware of their significance, and so policies and strategies fail to address the issues fully like the introduction of stoves in India in 2003.

This paper looks at these issues and options available for resolving this poverty-gender-energy-nexus by engaging the stakeholders and use of NGO's and Corporates as part of their CSR programme from the experience of a developing country - India. (*Abstract from original source*)

Ramani, K.V., and Enno Heijndermans. 2003. *Energy, Poverty, and Gender: A Synthesis*. Washington, DC: The World Bank.

Abstract:

The energy, poverty, and gender project addressed the following core issues: access to modern energy services, especially electricity, by the poor. The affordability of these services relative to the poor's capacity-to-pay. The extent of choice that the poor have in acquiring and making use of these services. The social and economic empowerment of

women through modern energy interventions. Because poverty in Asia is largely a rural phenomenon, these issues were examined in the context of rural development with a special focus on electricity, which has been the predominant focus of ASTAE's activities to date. (*Abstract from The World Bank*)

Rewald, Rebecca. 2017a. "Does Providing Energy Access Improve the Lives of Women and Girls? Sort Of." *The Politics of Poverty: Ideas and Analysis from Oxfam America's Policy Experts*, June 6.
<https://politicsofpoverty.oxfamamerica.org/2017/06/does-providing-energy-access-improve-the-lives-of-women-and-girls-sort-of/>

No abstract available.

Summary:

"Lessening the burdens of women and girls in energy poor communities takes much more than simply giving them access to improved energy sources" (Rewald 2017a).

Rewald, Rebecca. 2017b. "Energy and Women and Girls: Analyzing the Needs, Uses, and Impacts of Energy on Women and Girls in the Developing World." *Oxfam Research Backgrounder*. Washington DC: Oxfam.

No abstract available.

Summary:

Energy has undoubtedly become a significant part of the development agenda, a reality reflected in the many claims made by members of the development community about the importance of energy access for improving the lives of the poor, especially women and girls.

This discourse includes an implicit assumption that, because of the burdens of energy poverty, energy access itself automatically benefits women and girls. This paper tests that assumption and finds that ensuring that energy access provides benefits to women requires much more than simply providing energy. The paper comes to its conclusion by analyzing the existing literature to look at if and how access to improved energy sources does better the lives of poor women around the world. Additionally, this paper looks briefly at what information exists on the benefits of low-carbon energy access for women in poor, rural communities. In order to explore these topics adequately, the paper begins by asking some key prerequisite questions: What are women's traditional household roles, and what energy sources and services do they rely on to perform these roles? How does a lack of access to modern energy currently affect them? (*Summary from Oxfam America*)

Skutsch, Margaret. 1995. "Why Gender in Wood Energy Development." *Wood Energy News* 10 (2): 3–4.

No abstract available.

Summary:

“Women are heavily involved in wood energy, of that there can be no doubt. In most countries, at least in the rural areas, it is primarily women who are responsible for gathering firewood or crop residues for household fuel use, and certainly it is they who do the cooking. This fact is known to all in the business of wood energy planning. So why do we need special training on how to take gender into consideration in wood energy planning?

“The truth is that the majority of wood energy planners (and the overwhelming majority of them are men) rarely really sit down with the women for whom they are planning and discuss the problems from their angle. Too often, the assumption is made that, for example, a new type of stove that has been shown to use less firewood will readily be adopted by women because it saves them time in fuel gathering. In reality, women have many criteria in assessing the utility of stoves, of which fuel economy may be only one. These criteria are not universal and may need to be carefully investigated in the early stages of planning, if the stove project is to be a success” (Skutsch 1995, 3).

United Nations Development Programme (UNDP) and World Bank Energy Sector Management Assistance Programme (ESMAP). 2004. *The Impact of Energy on Rural Women's Lives in Rural India*. ESMAP Report. Washington, DC: The World Bank.

No abstract available.

Summary:

“1. Domestic energy concerns loom large for women in a country where 74 per cent of the population resides in rural areas with uneven access to infrastructure. Cooking for the family, processing grain, doing household chores, reading or watching television during leisure hours all become major challenges. In a majority of the households, a typical day begins at the break of dawn with women and sometimes children walking some distance to fetch water in pots or walking even longer distances to collect wood and other biofuels for firing their traditional stoves. Just cooking meals occupies a good part of a woman's day, because not only does she have to physically procure the water and the biofuel, but the grains and spices used in Indian cooking often have to be manually processed before they can be used.

“2. For households that have no access to electricity, household chores are often limited to daylight hours. In colder regions, firewood also has to be collected for keeping homes warm. This leaves little time for engaging in paid work or enjoying some degree of leisure. Moreover, reading for school or leisure is also often dependent on daylight hours as the commonly used kerosene lamps provide very poor quality lighting. Thus the opportunity costs of poor access to domestic energy have profound effects for all

members of the family, but even more for women who are the main managers of household biomass energy.

“3. This report highlights the tremendous difference that access to improved energy services in the form of biomass stoves, petroleum fuels, and household electrification makes for the life of rural women. Of course, the benefits of rural energy services can differ by region, class, caste, educations, and household occupation, but the overall pattern that emerges is that the benefits of improved rural energy services for rural women in India are substantial” (UNDP/World Bank ESMAP 2004, 1).

UN Women. 2013. *Gender and Energy in the Pacific*. Suva, Fiji: UN Women.

No abstract available.

Summary:

“Energy services underpin almost all aspects of human activity. They provide for basic needs such as cooking, heating, and lighting, fuel a range of industrial activities, and sustain today’s transportation, communication systems and even leisure activities. The energy sector therefore plays a prominent role in the national policies of all Pacific Island countries and territories (PICTs). In fact 10% of PICTs’ gross domestic product (GDP) goes towards importing petroleum products, the main source of energy for urban and rural areas.

“For PICTs, expanding and modernising their energy sector is vital since the limited availability of energy constrains human and economic development. Insufficient and unreliable power supplies can limit industrial production, while the lack of modern energy services can prevent the realisation of basic human needs, such as education, health, and communication. Furthermore, access to energy is not only a catalyst for development but it can also be a springboard for promoting gender equality and women’s empowerment. Without access to modern energy services, women and girls spend most of their day performing basic subsistence responsibilities including the time-consuming and physically draining tasks of collecting biomass fuels. However, with access to basic energy services, women are more likely to be able to earn a living, stay healthy and have time for education and fulfillment. Access^[1]_[SEP] to energy can therefore help realise gender equality and the achievement of future sustainable development goals” (UN Women 2013, 1).

World Bank. 2004. *The Impact of Energy on Women’s Lives in Rural India*. Energy Sector Management Assistance Program (ESMAP) Report, no. 276/04. Washington, DC: The World Bank.

Abstract:

This report highlights the tremendous difference that access to improved energy services in the form of biomass stoves, petroleum fuels, and household electrification makes for the life of rural women. Of course, the benefits of rural energy services can

differ by region, class, caste, education, and household occupation, but the overall pattern that emerges is that the benefits of improved rural energy services for rural women in India are substantial. The use of Liquefied petroleum gas (LPG) or kerosene stoves relieves women of much of the most arduous tasks involved in cooking for their families and permits them to lead a relatively comfortable and healthy life. Household electrification also has positive consequences for women in terms of their general quality of life, including an increased likelihood that they will read, watch television, and earn income. Having lights at night increases their ability to read in the evening after dark. However, the advantages of electrification could be exploited even more, as there still is a puzzling underinvestment in appliances such as mixers, grinders, blenders, and others that could help women with their daily household work. (*Abstract from the World Bank*)

II. Renewable Energy, Technological Solutions to Climate Change, and Gender

A. Academic Resources

Abdullahi, Adama A. 2017. “An Analysis of the Role of Women in Curbing Energy Poverty in Nigeria.” *Journal of Sustainable Development Studies* 10 (2): 45–60.

Abstract:

Despite Nigeria’s abundance of fossil and renewable energy resources, Nigerians still experience acute energy poverty; they either lack access to modern energy sources or have to cope with inadequate supply and poor quality. Close to 95 million people are fully reliant on traditional woodstoves for cooking. Poor access to energy is directly affecting livelihoods, lowering quality of life and hurting the economy. Poor Energy Access is the root of energy poverty, it leads to drudgery, greater health risks, severely undermines health, inhibits education, limits livelihood opportunities, and reduces the chances for the poor to rise out of poverty, ultimately diminishing the world’s chances to successfully achieve the SDGs by 2030. Even though global efforts are headed in the right direction to end energy poverty, the rate of interventions is far behind the population growth rate and calls for dramatic accelerations in mobilizing resources to increase access to renewable energy alternatives.

This study explores and emphasises that women are not only a special interest group in using renewable energy to alleviate energy poverty in Nigeria; they are the mainstream users and often producers of energy, it has become glaring that women are the fastest growing cohort of entrepreneurs and business owners in many developing countries especially Nigeria. Without their involvement, renewable energy projects risk being inappropriate and failing. Energy researchers who will leave women out of energy research and analysis will be failing to understand a large part of energy consumption and production all over the world. Women are a key resource in the energy service delivery process though underutilized. They are primarily viewed only as energy consumers even while it is the women that experience energy poverty much more severely than men. The result shows that there is great opportunity for collaboration with women on community energy projects that can contribute to ending energy poverty in Nigeria. Also there is opportunity in development that is yet to be harnessed in women’s entrepreneurship & potential impacts for the household and agricultural energy sector in Nigeria because evidently financial liberation of women has a greater impact on the community than any other demographic. (*Abstract from original source*)
Keywords: energy poverty; renewable energy; women and energy; gender sensitive energy practices; energy access

Adendorff, C. M., Harvey Keown, and Ric Amansure. 2020. “The Development of a Socio-Economic Model to Promote Women’s Empowerment Initiatives in the Renewable Energy Sector of South Africa.” *Journal of Energy in Southern Africa* 31 (2): 34-47.

Abstract:

This study investigates the main contributors that can positively influence the socio-economic empowerment of women in the renewable energy sector in the Republic of South Africa, and recommends new and innovative approaches to mainstream gender in the sector. Empirical evidence showed that ethical leadership positively influences good governance and successful women's empowerment. The results also indicated that social investment and broad-based black economic empowerment positively influence successful women's empowerment. Finally, the results indicated that sustainable programmes are a positive contributing factor to good governance. However, the respondents did not consider stakeholder engagement statistically significant to good governance or successful women's empowerment. This study also has the potential to contribute to the improvement of impoverished communities in South Africa and elsewhere. *(Abstract from original source)*

Keywords: socio-economic empowerment; empowerment of women; mainstream gender; renewable energy; local economic development

Allen, Elizabeth, Hannah Lyons, and Jennie C. Stephens. 2019. "Women's Leadership in Renewable Transformation, Energy Justice and Energy Democracy: Redistributing Power." *Energy Research & Social Science* 57 (November). doi: 10.1016/j.erss.2019.101233.

Abstract:

As women take on more leadership roles in the United States advancing social and political change, analysis of women's contributions to the transformation occurring within the energy sector is critically important. Grassroots movements focused on energy justice and energy democracy focus on: (1) resisting the power of large multinational fossil fuel energy companies that exacerbate inequities and disparities in energy, (2) reclaiming the energy sector with more community and public control to redistribute benefits and risks, and (3) restructuring the energy sector to prioritize equity and justice with community ownership and distributed governance. This research analyzes women's leadership by focusing on how two women-led, non-profit organizations are advancing the renewable energy transition, operationalizing the concept of energy democracy and contributing to the energy justice movement. The two organizations are Grid Alternatives, a solar installation and workforce training organization, and Mothers Out Front, an advocacy organization focused on addressing climate change by promoting a transition to renewable energy. These organizations differ in their mission and approaches, yet both intentionally link climate and energy action with other forms of social justice activism, by expanding community engagement, strengthening participation, and fundamentally redistributing power to promote a transition to more equitable, resilient and sustainable energy systems. This paper contributes to the theoretical understanding of gender in energy justice and energy democracy movements, and to the practical consideration of the role that women's leadership is playing in accelerating energy system change and advancing the principles of energy justice and energy democracy. *(Abstract from original source)*

Keywords: gender; energy; renewable energy; fossil fuels; energy justice; energy democracy; power

Anneck, Wendy. 2002b. “Get Renewables: The WSSD, Energy and Women, a Malevolent Perspective.” *Agenda: Empowering Women for Gender Equity*, no. 52, 8–16.

No abstract available.

Summary:

Wendy Annecke asks some pointed questions about sustainable development in the context of inequalities in energy use. (*Summary from original source*)

Arndt, Channing, Rui Benfica, and James Thurlow. 2011. “Gender Implications of Biofuels Expansion in Africa: The Case of Mozambique.” *World Development* 39 (9): 1649–62.

No abstract available.

Summary:

We use a gendered dynamic CGE model to assess the implications of biofuels expansion in a low-income, land-abundant setting. Mozambique is chosen as a representative case. We compare scenarios with different gender employment intensities in producing jatropha feedstock for biodiesel. Under all scenarios, biofuels investments accelerate GDP growth and reduce poverty. However, a stronger trade-off between biofuels and food availability emerges when female labor is used intensively, as women are drawn away from food production. A skills-shortage among female workers also limits poverty reduction. Policy simulations indicate that only modest improvements in women’s education and food crop yields are needed to address food security concerns and ensure broader-based benefits from biofuels investments.

(*Summary from original source*)

Keywords: biofuels; gender; growth; poverty; land abundance; Africa

Atif, Muhammad, Mohammed Hossain, Md Samsul Alam, and Marc Goergen. 2020. “Does Board Gender Diversity Affect Renewable Energy Consumption?” *Journal of Corporate Finance* (June). doi:10.1016/j.jcorpfin.2020.101665.

Abstract:

This paper examines the effect of board gender diversity on renewable energy consumption. Using a panel of 11,677 firm-year observations from the USA for 2008–2016, we find a positive relationship between board gender diversity and renewable energy consumption. Moreover, boards require two or more women for women to have a significant impact on renewable energy consumption, consistent with the critical mass theory. Further, we document that the positive impact of female directors on renewable energy consumption stems from female independent rather than female executive directors. Finally, we find a positive effect of the interaction between renewable energy

consumption and board gender diversity on firm financial performance. Our findings are robust to different identification strategies and estimation techniques. (*Abstract from original source*)

Keywords: corporate governance; renewable energy; board gender diversity; corporate social responsibility; environmental protection; global warming

Balakrishnan, Lalita. 1996. "Energy Conservation & Management – Role of Women." *Renewable Energy* 9 (1–4): 1165–70.

Abstract:

Mahatma Gandhi said about the Planet Earth that there was sufficient resource to meet everybody's need (in the planet), but not for anybody's greed - nothing could be more appropriate at present in the context of the Global Energy situation. Renewable Energy has now been recognised as the only solution to the problem of sustainable development. Among Asian countries, India would continue to remain one of the major consumers of fossil fuels, because of the fast growth in her economy, since the new economic policies were initiated around 1991. With demand far out-stripping supply, shortages of power in India are growing every year with more and more forest covers getting depleted and women everywhere are being affected, directly or indirectly.

Experts have projected that unless the present level of carbon dioxide emissions coming from fossil fuels is reduced to 60% of the present level, there would be a major climatic shift by the middle of 2000 A.D. The Government of India has realised that such a reduction in carbon-dioxide emissions would not be possible unless there is a shift from the present fossil-fuel based economy to a Renewable Energy based economy. The contribution of carbon dioxide emissions from the use of renewable energy is the least compared with those from other fuels, and is of the order of 0.001% per kwh, as against 1.2% per k. wh for coal and 0.6% per k. wh for oil. (*Abstract from Elsevier*)

Balakrishnan, Lalita. 1997. "Renewable Energy Sources and Women: A National Women's Organisation's Perspective on Domestic Device." In *Proceedings of the Thirty-Second Intersociety Energy Conversion Engineering Conference*, 3: 1767–72. Honolulu, Hawaii: IEEE.

No abstract available.

Summary:

Since its inception in 1927, the premier nongovernmental organisation (NGO) for women, the All India Women's Conference (AIWC), has been working for the upliftment and emancipation of women, and one important activity is centred on meeting the needs of women for energy, particularly for cooking and other household needs, especially where commercial energy cannot be made available to them or the price for the same is beyond their reach. For nearly two decades, AIWC has been implementing various schemes for meeting their daily energy needs both in rural and urban areas, by using renewable sources of energy, including solar power, biogas and

improved woodstoves. The results of these programmes conducted consistently all over India through their large network of branches have shown highly beneficial results for rural and urban women, minimising their drudgery and saving them from smoke related diseases. In addition, they also serve to empower women through the income generation component of the programmes along with an improvement in their overall quality of life. AIWC's experience has shown that more emphasis should be given on users' training and awareness and also to strengthen the capacity building of the NGO's implementing these programmes. (*Summary from IEEE*)

Keywords: renewable energy sources; urban areas; law; employee welfare; water heating; solar energy; diseases; educational programs; instruments; legislation

Balakrishnan, Lalita. 2000. "Renewable Energy as Income Generation for Women." *Renewable Energy* 19 (1): 319–24.

No abstract available.

Summary:

"The promotion of large scale use of renewable energy and the propagation of the concept of sustainable development have been recognised as necessary pre-requisites for improving the quality of life of developing countries, particularly in the Asia-Pacific region, and India has been a pioneer in this worthwhile effort. Energy problems in this region have almost always been linked with socio-economic realities that men and women living in rural areas have to encounter everyday in their lives. To improve the status of women, it has been acknowledged that they need to be helped in acquiring economic independence. Before they can undertake remunerative activities, which will help to improve their economic independence, and also enhance their prestige in the family and their social groups, the drudgery of household chores that they face always has to be reduced considerably, if not eliminated. Towards attaining this objective, the introduction of various renewable energy devices is seen as an important input, apart from its being a solution to problems like deforestation, health-hazards, smoke-related diseases and drudgery resulting from domestic work" (Balakrishnan 2000, 319).

Barron, Manuel, Rowan Philip Clarke, Amanda B. Elam, Rebecca A. Klege, Anita Shankar, and Martine Visser. 2020. "Gender and Entrepreneurship in the Renewable Energy Sector of Rwanda." *IDS Bulletin* 51 (1): 53-70.

Abstract:

Until recently, women have not been seen as having the potential for entrepreneurial success. Yet women's engagement in the energy sector could substantially improve energy access for those most underserved. This article examines the role of women as energy entrepreneurs from the perspective of gender inequality within the energy industry. Data from Nuru Energy, a social business focused on providing solar lighting to the ultra-poor, provide insights on how the inclusion of women sales agents can increase sales and how strategic modifications to the social business model can further support female-led businesses. Observational data from over 1,000 rural enterprises

show that women, on average, sold significantly more units than men. Women operating in solo firms and leading groupbased teams consistently outsold men-led solo and group-based enterprises. Findings further suggest that, when operating in groups, women tend to outperform men even more than when operating sole proprietorships. (*Abstract from original source*)

Keywords: entrepreneurship; women; business; performance; sales; energy

Baruah, Bipasha. 2015. “Creating Opportunities for Women in the Renewable Energy Sector: Findings from India.” *Feminist Economics* 21 (2): 53-76.

Abstract:

This paper identifies opportunities and constraints that low-income women face in accessing livelihoods in the renewable-energy sector in India through qualitative and quantitative research conducted in collaboration with The Energy Resources Institute (TERI) and the Self Employed Women’s Association (SEWA) in 2012–13. Whereas previous research has focused on women mostly as end users of solar and biomass technologies, this research attempts also to understand women’s potential as entrepreneurs, facilitators, designers, and innovators. Findings reveal that although access to technology and employment in the energy sector is limited by inadequate purchasing power and low social status, there is tremendous potential to create livelihoods for women at all levels of the energy supply chain. Broader findings indicate that women can gain optimal traction from employment in the energy sector only if there are wider socially progressive policies in place, including state intervention to create a robust social welfare infrastructure and accessible, high-quality, public services. (*Abstract from original source*)

Keywords: women’s labor force participation; employment; poverty; renewable energy; solar energy; biomass

Baruah, Bipasha. 2017. “Renewable Inequity? Women’s Employment in Clean Energy in Industrialized, Emerging and Developing Economies.” *Natural Resources Forum* 41 (1): 18–29.

Abstract:

Women are globally underrepresented in the energy industry. This paper reviews existing academic and practitioner literature on women's employment in renewable energy in industrialized nations, emerging economies and developing countries. It highlights similarities and differences in occupational patterns in women's employment in renewables in different parts of the world, and makes recommendations for optimizing women's participation. Findings reveal the need for broader socially-progressive policies and shifts in societal attitudes about gender roles, in order for women to benefit optimally from employment in renewables. In some industrialized countries, restructuring paid employment in innovative ways while unlinking social protection from employment status has been suggested as a way to balance gender equity with economic security and environmental protection. However, without more transformative social changes in gender relations, such strategies may simply reinforce

rather than subvert existing gender inequities both in paid employment and in unpaid domestic labor. Grounded interventions to promote gender equality in renewable energy employment – especially within the context of increasing access to energy services for underserved communities – are more prevalent and better-established in some non-OECD (Organisation for Economic Co-operation and Development) countries. OECD countries might be well-advised to try to implement certain programs and policies that are already in place in some emerging economies. (*Abstract from original source*)

Keywords: women; employment and labor; renewable energy; OECD countries; emerging economies; developing countries

Baruah, Bipasha, and Mini Govindan. 2015. “Engaging with Gender and Other Social Inequalities in Renewable Energy Projects.” In *Sustainable Access to Energy in the Global South: Essential Technologies and Implementation Approaches*, edited by Silvia Hostettler, Ashok Gadgil, and Eileen Hazboun, 189-92. Cham: Springer.

Abstract:

The scholarship and discourse on climate change has been dominated by natural scientists. Social scientists have only recently become involved in the debate, while natural scientists have been researching the topic for much longer. Consequently, the mainstream discourse on climate change continues to be about large-scale economic instruments and complex computer models. More recently, social scientists have pointed out the limitations of techno-centric approaches and put forward alternative frameworks such as sustainable development, climate justice, human rights, and environmental ethics for conceptualizing and operationalizing the sociocultural dimensions of climate change. They have also explored and documented some of the positive and negative consequences of adopting “green” technologies to respond to the climate crisis. However, issues related to gender equity have remained under-studied even in the work of social scientists. This chapter and the three chapters that follow (Chaps. 17– 19) are a modest contribution toward addressing this knowledge gap through empirical research conducted in Peru, South Sudan, and Nigeria to understand the gendered implications and outcomes of the development and expansion of renewable energy technologies. We hope that this research will highlight the need to engage more critically and proactively with gender and other social inequalities while designing and disseminating such technologies. (*Abstract from original source*)

Keywords: social inequality; gender equity; green economy; climate justice; gender inequity

Bhan, Mona. 2018. “Jinn, Floods, and Resistant Ecological Imaginaries in Kashmir.” *Economic and Political Weekly* 52 (47): 67-75.

No abstract available.

Summary:

How Kashmiri women experience and narrate questions of resource sovereignty and dispossession within the context of Kashmir's long-drawn-out military occupation, and India's investments in mega hydroelectric dams on Kashmir's rivers have been discussed. The devastating floods in 2014 led Kashmiris to increasingly challenge perceptions of nature or natural disasters as apolitical. Dams are an integral part of border-making processes, and gender, space, and borders are continually co-produced through militarised infrastructures. Women's resistant imaginaries, which combine political and ecological metaphors, and rely on conceptions of jinn and other non-human agency, offer a way to rethink Kashmir beyond its securitised geographies. *(Summary from original source)*

Buechler, Stephanie, Verónica Vázquez-García, Karina Guadalupe Martínez-Molina, and Dulce María Sosa-Capistrán. 2020. "Patriarchy and (Electric) Power? A Feminist Political Ecology of Solar Energy Use in Mexico and the United States." *Energy Research & Social Science* 70: 1-10.

Abstract:

This study combines the use of feminist political ecology and a water-energy-food nexus lens to analyze gender, age and social class in women's experiences with small-scale solar energy projects in urban and rural Arizona, USA and Zacatecas, Mexico. Unlike fossil fuels, renewable energy lends itself to more decentralized forms of production, offering an opportunity for individuals and communities (rather than corporations) to shape a more sustainable energy landscape. Understanding women's roles and needs related to small-scale solar energy projects is essential; women remain the most important decision-makers and laborers for household and small-scale livelihood-related energy use. The study focused on the roles of women community leaders and male self-taught innovators in small-scale solar energy technology training, uptake and dissemination. It also analyzed barriers for elderly and low-income women to access solar energy. Most of the solar energy was related to water use for household chores or for irrigation of urban or rural agriculture. Some projects assisted women in meeting their household and livelihood needs in multiple ways and were part of broader household and community-level sustainability initiatives. The policy and institutional context in which the small-scale projects were inserted shaped women's access to training and technologies. Some projects and programs missed the very populations they were intended to serve due to funding politicization. *(Abstract from original source)*

Keywords: feminist political ecology; WEF nexus; solar energy; women; Arizona; Zacatecas

Burke, Paul J., and Guy Dundas. 2015. "Female Labor Force Participation and Household Dependence on Biomass Energy: Evidence from National Longitudinal Data." *World Development* 67: 424–37.

No abstract available.

Summary:

Air pollution from household biomass combustion is an important cause of poor health in developing countries. This study employs national-level longitudinal data for up to 175 countries during 1990–2010 and finds that female labor force participation is associated with reductions in household biomass energy use. Consistent with the ‘fuel stacking’ model, higher incomes are linked to use of other types of energy by households, but not significantly associated with reductions in use of biomass energy. The results highlight the multifaceted nature of household energy transitions and suggest an avenue by which female empowerment can lead to improved health outcomes. (*Summary from original source*)

Keywords: biomass fuel; solid fuel; household; energy; gender; fuel stacking

Burney, Jennifer, Halimatou Alaofè, Rosamond Naylor, and Douglas Taren. 2017.
“Impact of a Rural Solar Electrification Project on the Level and Structure of Women's Empowerment.” *Environmental Research Letters* 12 (9).
doi:10.1088/1748-9326/aa7f38.

Abstract:

Although development organizations agree that reliable access to energy and energy services—one of the 17 Sustainable Development Goals—is likely to have profound and perhaps disproportionate impacts on women, few studies have directly empirically estimated the impact of energy access on women's empowerment. This is a result of both a relative dearth of energy access evaluations in general and a lack of clarity on how to quantify gender impacts of development projects. Here we present an evaluation of the impacts of the Solar Market Garden—a distributed photovoltaic irrigation project—on the level and structure of women's empowerment in Benin, West Africa. We use a quasi-experimental design (matched-pair villages) to estimate changes in empowerment for project beneficiaries after one year of Solar Market Garden production relative to non-beneficiaries in both treatment and comparison villages ($n = 771$). To create an empowerment metric, we constructed a set of general questions based on existing theories of empowerment, and then used latent variable analysis to understand the underlying structure of empowerment locally. We repeated this analysis at follow-up to understand whether the structure of empowerment had changed over time, and then measured changes in both the levels and likelihood of empowerment over time. We show that the Solar Market Garden significantly positively impacted women's empowerment, particularly through the domain of economic independence. In addition to providing rigorous evidence for the impact of a rural renewable energy project on women's empowerment, our work lays out a methodology that can be used in the future to benchmark the gender impacts of energy projects. (*Abstract from IOP Science*)

Castro-Diaz, Laura, Maria Claudia Lopez, and Emilio Moran. 2018. “Gender-Differentiated Impacts of the Belo Monte Hydroelectric Dam on Downstream Fishers in the Brazilian Amazon.” *Human Ecology* 46 (3): 411–22.

Abstract:

The Belo Monte Hydroelectric dam on the Xingu River in the Brazilian Amazon will be the third largest dam in the world in power generating capacity (11 GW). Its construction has brought negative socioeconomic and environmental impacts for local fishers that far outweigh the benefits. We used a qualitative case study approach to explore perceptions among fishers in a community downstream from the dam of the impact of Belo Monte on their livelihoods and their fisheries. We found that fishers, who, although they were not displaced were neither consulted nor compensated, have been severely impacted by the dam, and that fishermen and fisherwomen are differentially affected. More attention needs to be given to downstream communities and the impacts they experience. (*Abstract from original source*)

Keywords: hydroelectric dams; socio-ecological impacts; downstream communities; gender; Amazon fishers; Xingu River; Brazil

Chukuezi, Comfort Onyemaechi. 2009. "Gender and Renewable Energy in Rural Nigeria." *International NGO Journal* 4 (7): 333–6.

Abstract:

The paper examines ways in which increased attention to renewable energy and gender linkages can help promote development, as well as work towards meeting the target set out in the millennium development goals. It argues that poor women in rural areas generally rely on burning traditional biomass fuels which impact negatively on their well being. The paper explains that increased access to renewable energy sources can contribute to the achievement of the millennium development goals relating to eradication of extreme poverty, hunger, improvement in health, education and environmental sustainability as well as empowerment of women. (*Abstract from International NGO Journal*)

Keywords: gender; renewable; energy; rural; Nigeria; millennium; goals

Clancy, Joy S. 2001. "Gender and Energy: South-North Perspectives." Paper presented at the International Solar Energy Society (ISES) World Solar Congress, Adelaide, Australia, November 25–30.

Abstract:

In this presentation, I would like to explore some of the current thinking on development, what the implications are for the energy sector, and then to examine the gender implications of the energy-poverty nexus. Following on from this, I would like to look at the role Renewable Energy Technologies (RETs) have to play in this arena. I also intend to make a few remarks on gender and energy issues in the North, before concluding with suggestions on how to move forward. (*Abstract from original source*)

Clancy, Joy, Gül Özerol, Nthabiseng Mohlakoana, Mariëlle Feenstra, and Lillian Sol Cueva, eds. 2020. *Engendering the Energy Transition*. London: Palgrave Macmillan.

Summary:

This book brings together diverse contributions exploring the integration of gender equality in current national energy policies and international energy frameworks across the Global South and North. Taking a multi-disciplinary approach, this collection contributes to building a body of independent empirical evidence about the impacts of the energy transition on socio-economic outcomes, with a focus on gender differentiated choices of energy forms.

The book includes short reflections in each chapter allowing the reader to explore the content from an alternative perspective. The common thread enabling the book to actively contribute to engendering the energy transition is its approach to the topic from a primarily ‘gender’ driven perspective. The book draws many useful lessons from practice and shares gender mainstreaming tools for use across the Global South and the North. Such an approach brings novel insights from theoretical, methodological and practical perspectives, which further promotes cross-disciplinary learning and will be of interest to researchers and practitioners from across the Energy and Gender disciplines. *(Summary from Springer)*

Keywords: gender and energy; energy transition; gender and development; sustainable development; gender and energy poverty; gender equality; sustainable energy for all; climate change mitigation; ecofeminism; energy poverty; feminist political ecology; neoliberalism; post-carbon society

Table of Contents:

1. Engendering the Energy Transition: Setting the Scene - Joy Clancy, Gül Özerol, Nthabiseng Mohlakoana, Mariëlle Feenstra, Lillian Sol Cueva
2. Energy Transition and Gender in the Informal Street Food Sector in Africa - Maïmouna Diouf, Nthabiseng Mohlakoana, Secou Sarr, Bacary Seydi
3. Gender, Firewood and Health: The Potential of Ethnography to Inform Policy and Practice - Margaret Matinga, Joy Clancy
4. Gender-Sensitive Analysis of Water Governance: Insights for Engendering Energy Transitions – Gül Özerol, Leila M. Harris
5. Bargaining Climate Adaptation through a Gender Lens: An Inquiry into Decision-Making Processes in Tanzanian Farm Households - Katrien Van Aelst, Nathalie Holvoet
6. On the Possibility and Politics of Feminist Energy Analytics in University Campus Spaces – Ingrid L. Nelson
7. How Gender Equality Principles Are Integrated in National Energy Policies and Frameworks - Ana Rojas, María Prebble
8. A View from the North: Gender and Energy Poverty in the European Union - Mariëlle Feenstra, Joy Clancy
9. Climate Finance Allocation Practices to Support Gender Responsive Energy Transitions: GCF Case-Study – Svetlana Frenova
10. Reflection on “Energy Transition and Gender in the Informal Street Food Sector in Africa” – Henny A. Romijn
11. Reflection on “Gender, Firewood and Health” – María Cristina Osorio Vázquez

12. Reflection on “Gender-Sensitive Analysis of Water Governance: Insights for Engendering Energy Transitions” – Morag Goodwin
13. Reflection on “Bargaining Climate Adaptation through a Gender Lens: An Inquiry into Decision-Making Processes in Tanzanian Farm Households” – Charlotte Ray
14. Why a Feminist Political Ecology Approach Is Relevant for Assessing Energy Access in Developing Countries – Annemarije Kooijman
15. Reflection on “How Gender Equality Principles Are Integrated in National Energy Policies and Frameworks” – Maryse Helbert
16. Reflection on “A View from the North: Gender and Energy Poverty in the European Union” – Mariama Williams
17. Reflection on “Climate Finance Allocation Practices to Support Gender Responsive Energy Transitions: GCF Case-Study” – Andrea Rodriguez Osuna
18. Reflections on Kick-Starting Lasting Change: From Policy to Practice and Beyond – Charlotte Taylor
19. Reflections from a Feminist Political Ecology Perspective – Wendy Harcourt
20. Reflection on Gender Research Informing Development Policy on Energy and Climate – Frank van der Vleuten
21. Reflection on Engendering the Energy Transition – Joy Clancy

Denton, Fatma. 2002. “Gender, the Missing Link to Energy for Sustainable Development: Rethinking Gender Dynamics and Strategies through Sustainable Energy Services and Integrated Solutions.” Policy Paper for presentation at the World Summit on Sustainable Development (WSSD), Johannesburg, South Africa, August 26-September 4.

No abstract available.

Desbiens, Caroline. 2004. “‘Women with No Femininity’: Gender, Race and Nation-Building in the James Bay Project.” *Political Geography* 23 (3): 347–66.

Abstract:

This paper seeks to gender the nation-state through an analysis of the links between gender, colonial history and governmentality in Québec’s James Bay region. In the early 1970s, a new governmental framework was introduced in Northern Québec with the construction of a large-scale hydroelectric complex. The James Bay project coincided with an intensive period of nation-building by Francophones in the province, which led to the 1980 referendum on separation from Canada. Looking at the space of the labor camps, I explore the differential positioning of men and women in dominant narratives of the nation-state. While both men and women who worked in James Bay were cast as heroes of the nation, everyday geographies in the work camps reveal several axes of difference on the basis of gender, race and class. By looking at the production of these geographies and the dual positioning of women as both “outcasts” and “daughters” of the patriarchal state, I call for a broader understanding of difference in the elaboration of a feminist political geography. (*Abstract from original source*)
Keywords: gender; labor; colonial history; nation-building; political geography

Ding, Wenguang, Li He, Dinka Zewudie, Huilin Zhang, Tanjia Binte Zafar, and Xinde Liu. 2019. "Gender and Renewable Energy Study in Tibetan Pastoral Areas of China." *Renewable Energy* 133 (April): 901–13.

Abstract:

As interdisciplinary research, this Gender and Energy study innovatively revealed the crucial role of Tibetan women in using, saving and developing energy. We chose a typical Tibetan area named Gannan Prefecture in northwestern China, we chose three total grassland counties in Gannan; all three communities still have a nomadic lifestyle and do not have sufficient energy. After we concluded the close relationship between gender and energy in this area, we compared our research area with other Tibetan area those are located in Sichuan, Qinghai and Tibet. This comparison helped to figure out the relationship between Tibetan women and energy in China. The results showed a significant increase of total household energy consumption and the energy efficiency and the decrease of the disease rate because of using renewable energy and clean devices. It also improved women's empowerment in household energy management and promoted cultural change. However, a Tibetan woman's daily working time increased by 1 h from 15 h/day to 16 h/day. The reasons behind gender inequity include Religion influence, Social change and Industrial structure. This paper conclude the changes and attempts to analyze the internal factors, and tries to bring about some policy advice to benefit the Tibetan women. (*Abstract from original source*)

Keywords: gender equity; renewable energy; policy

Ding, Wenguang, Yinli Wei, Yunrang Xian, and Lijun Wang. 2011. "The Effect of Biogas Technology Adoption upon Women Living in Poverty Community." Paper presented at 2011 International Conference on Electrical and Control Engineering, Yichang, September 16–18.

Abstract:

Field research in Xiyang County, Gansu province revealed that: after adopting biogas technology, the consumption amount of traditional energy has been greatly reduced, women's livelihood and hygiene have been improved, the incidence of disease has been reduced. Women were relieved from 'time poverty' and 'energy poverty', and they devoted more time to generating income and entertainment. The essay has also provided policy recommendation for using biogas alleviating poverty, hoping promote this career. (*Abstract from IEEE*)

Keywords: Xiyang County, energy, biogas, poverty, women

Ding, Wenguang, Lijun Wang, Baoyu Chen, Luan Xu, and Haoxu Li. 2014. "Impacts of Renewable Energy on Gender in Rural Communities of North-West China." *Renewable Energy* 69: 180–9.

Abstract:

This investigation compares the traditional energy structure with improved energy structures, and evaluates the impact of renewable energy on gender relations in rural communities in north-west China. The traditional energy consumption structure in rural communities in north-west China was based on biomass and coal. However, the improved energy consumption structures consist of renewable energy based on solar energy cookers, biogas digesters and energy saving stoves. Compared with traditional biomass-based energy consumption, renewable energy could significantly improve energy use efficiency and alter women's labour intensity, health status, living standards and even men's share of some cooking tasks. The field investigation data revealed that: women are free from having to collect firewood after integration use of renewable energy including biogas digesters, energy saving biomass stoves and solar energy cookers; the frequency of firewood collection, firewood collection quantity, time spent in firewood collection and human energy consumption of women have greatly decreased when traditional energy consumption structures are improved; using biogas can daily save 50% of cooking time for women; 91% of women use surplus funds from energy saving to buy clothes and cosmetics products; 3.1% of them enjoy travelling; and also use of clean energy devices can further reduce the risk of women exposed to indoor smoke pollution, and hence prevent women from possibly getting respiratory diseases. Therefore, it can be concluded that: gender is an important aspect of energy, which has previously been ignored by many researchers; gender does matter in the area of access to, ways of use, opportunities and control over energy; energy and women are linked in many diverse ways; technology change can drive cultural change; appropriate policies are needed to encourage technology up-take. (*Abstract from original source*)
Keywords: energy structure; renewable energy; gender; rural community; China

Dockstader, Sue, and Shannon Elizabeth Bell. 2019. "Ecomodern Masculinity, Energy Security, and Green Consumerism: The Rise of Biofuels in the United States." *Critical Sociology* 46 (4-5): 643-60.

Abstract:

Through a case study of a major biofuel company in the United States, we seek to uncover how producers and consumers promote biofuels as a solution to climate change, despite considerable evidence demonstrating that biofuels are socially and environmentally destructive. Analysis of the company's marketing materials and interviews with the owner and customers reveals that a primary way the company puts a green spin on biofuels is the deployment of "ecomodern masculinity." This hybrid masculinity invokes a particular class-based environmentalism that positions biofuels as the ethical choice of good men concerned about the environment. This gendered ideology embraces a variant of Ecological Modernization that strategically adopts the appearance of environmental care while promoting the American values of energy security and green consumerism. We argue that this gendered repackaging of biofuels bolsters existing social inequalities, safeguards capital accumulation, and inhibits the systemic changes needed to address the climate crisis. (*Abstract from original source*)
Keywords: climate change; biofuels; masculinities; green consumerism; energy security; capitalism; Marxism; sociology

Farhar, Barbara C. 1998. “Gender and Renewable Energy: Policy, Analysis, and Market Implications.” *Renewable Energy* 15 (1-4): 230–9.

Abstract:

Women are the main producers of energy in developing countries and households are the main users of energy. Because gender roles and traditions have been largely ignored in energy, the global potential for renewable energy has been negatively affected. However, microcredit lending could fund sustainable development technology. This paper argues that renewable energy, gender roles, and microfinancing should be inherent parts of sustainable economic development programs. The relevant activities of pertinent development organizations and potential synergies are briefly described, the plans of the U.S. National Renewable Energy Laboratory to explore the gender issue are summarized, and the evolution of gender and energy as a field is addressed.

(Abstract from original source)

Keywords: gender roles; renewable energy; energy policy; analysis; marketing; microcredit; training; sustainable development

Farioli, Francesca, and Touria Dafrallah. 2012. “Gender Issues of Biomass Production and Use in Africa.” In *Bioenergy for Sustainable Development in Africa*, edited by Rainer Janssen and Dominik Rutz, 345–61. Dordrecht: Springer.

Abstract:

Energy is a basic necessity for survival and a key input to economic and social development. In Sub-Saharan Africa access to modern energy remains very low and the energy situation is still heavily dependent on traditional biomass that accounts for 80–90% of the countries energy balances. Lack of energy services is correlated with many elements of poverty, such a low education levels, inadequate health care, and limited employment and income generation possibilities. The energy-poverty nexus has distinct gender characteristics. Of the approximately 1–3 billion people living in poverty, it is estimated that 70% are women, many of who live in female-headed households in rural areas. In Sub-Saharan Africa, women have challenging roles on the energy scene as they are in charge of supplying their households with energy amongst other subsistence activities. This chapter looks into the impacts of biomass production and use on women health and livelihood. Literature and research studies by institutions involved in bioenergy and indoor air pollution are considered (World Health Organization, Partnership for Clean Indoor Air, Energia Network, COMPETE, etc.). Current energy policies in Africa seem to ignore the gender dimension of energy, although providing rural women with an affordable, reliable and clean energy source is a priority to effectively alleviate poverty. For any energy policy aiming at poverty reduction it is absolutely crucial not to neglect the fact that men and women have different energy needs due to their traditionally different roles and responsibilities within the households, and due to the unbalanced access to resources and decision-making. Nevertheless, the gender dimension of energy often remains invisible to most policy-makers. In many African countries biofuels production has recently gained significant interest. Private companies are investing in biofuels opportunities, as Africa seems to

offer a good environment (available land, cheap labour and favorable climate). Unfortunately, policy and regulatory frameworks are not established to monitor the emerging private initiatives on biofuels that seem to focus on exports. This might worsen gender issues as women are economically and socially vulnerable and might be the main group to get marginalized. This chapter identifies relevant policy options related to social aspects of biomass production and use, as well as a set of recommendations how to engender biofuels policies. (*Abstract from original source*)
Keywords: energy poverty; MDGs; bioenergy; health; livelihood; gender mainstreaming; engendering energy policies; land access; food security; income generation; policy recommendations

Fernández-Baldor, Álvaro, Pau Lillo, and Alejandra Boni. 2015. “Gender, Energy, and Inequalities: A Capabilities Approach Analysis of Renewable Electrification Projects in Peru.” In *Sustainable Access to Energy in the Global South: Essential Technologies and Implementation Approaches*, edited by Silvia Hostettler, Ashok Gadgil, and Eileen Hazboun, 193-204. Cham: Springer.

Abstract:

Technology, despite being very important, is not the only factor that ensures the success of an intervention. There are many different elements to take into account when planning projects, especially in complex environments such as the least-developed areas of the world. However, development aid interventions have generally been focused on supplying a technological goods or services instead of focusing on people, thus missing out on the project’s potential for social transformation. This paper analyzes four renewable energy-based electrification projects implemented by the nongovernmental organization Practical Action in the rural area of Cajamarca, Peru. Using the Capabilities Approach, the research examines the effect of the projects on the things people value. It confirms that projects provide different benefits to the communities (reducing air pollution caused by candles and kerosene, improving access to communication through television and radio, providing the possibility of night study under appropriate light, etc.), but also detects an expansion of the capabilities in other areas not considered by the nongovernmental organization such as those related to religion, leisure, or community participation. However, the expansion of capabilities is different for men and women. The study reveals the limitations of interventions designed to supply technology, electrification in this particular case, which do not take into account certain elements that can cause the use of technology to contribute unequally to the expansion of people’s capabilities. The research concludes that technological projects can generate inequalities and some recommendations are presented in order to address these issues when planning interventions. (*Abstract from original source*)
Keywords: real option; gender inequality; capability approach; supervisory board; practical action

Fraune, Cornelia. 2015. "Gender Matters: Women, Renewable Energy, and Citizen Participation in Germany." *Energy Research & Social Science* 7: 55–65.

Abstract:

This study investigates how the larger social, cultural, and political context fosters and constrains citizens' agency to take part in citizen participation schemes in renewable electricity production (RES-E). Based on a comprehensive review of research on gender and energy, hypotheses about gender differences in involvement in citizen participation schemes in RES-E are derived. These are tested statistically on the basis of data gathered in the context of a pilot study. The results reveal differences between women and men in the average ownership rate of citizen participation schemes, the average investment sum and decision-making bodies. In contrast, findings on gender differences in the amount of capital assets invested per capita are inconclusive. This study gives an indication that beyond individual preferences and investment attitudes, cultural, social and political factors also influence an individual's agency to participate in RES-E operated by citizens' associations. (*Abstract from original source*)

Keywords: energy transformation; citizen participation schemes; renewable energy production; gender; social context

Fraune, Cornelia. 2018. "A Gendered Perspective on Energy Transformation Processes." In *Handbook of the International Political Economy of Energy and Natural Resources*, edited by Andreas Goldthau, Michael F. Keating, and Caroline Kuzemko, 62–76. Cheltenham; Northampton: Edward Elgar Publishing.

Abstract:

According to the energy system perspective, energy supply is not only a matter of societal resource endowment and technological skills, but also expresses the nexus of mode of production and living in a society. Therefore, energy transformations also affect the social distribution of resources and power within a society. In referring to feminist approaches of international political economy, a framework will be developed in order to analyse how gender relations and energy transformations are intertwined. By examining gender relations in the realm of renewable energy production, private energy consumption, and sustainable energy policy-making interdependencies between the gender regime and energy transformation processes will be revealed. (*Abstract from Elgaronline*)

Gebregiorgis, Gebrecherkos. 2015. "Engendering Energy in Ethiopia: The Role of Solar Energy in Improving Rural Women's Socio-Economic Conditions in Tigray Region." *International Journal of Sociology and Anthropology* 7 (1): 8–20.

Abstract:

This study was conducted on the role of solar energy in improving the socio-economic conditions of women in Tigray region, Ethiopia. The specific objectives of the study were to assess the extent of solar energy use, to examine the role of solar energy in promoting women's income earning strategies and access to social services; to

document the perceptions and attitudes of women beneficiaries towards solar energy interventions and assess the challenges and prospects. The study employed both quantitative and qualitative research methods (mainly surveys and ethnography). Primary data were gathered from different sources including beneficiary women household heads, local residents and pertinent administrative bodies. The specific tools for primary data collection include household questionnaires, semi-structured interviews with key informants, focus group discussions, and in-depth interviewing. The study also made use of secondary data obtained from reports and various documents. Primary data were analyzed using descriptive statistics including tables, charts and percentages using appropriate software. Qualitative data were presented in narrative descriptions while the results of the case studies were presented in the form of illustrative boxes to substantiate and consolidate major quantitative findings. The findings of the study indicate a substantial shift from biomass use to photovoltaic(PV) electricity which has improved women's access to income and social services: shops and cinema houses flourished; radio and TV sets could be used to obtain information; schools and health posts gave better services and the time and energy women spent fulfilling their traditional roles such as cooking was reduced allowing them to actively participate in development activities like soil and water conservation. Major constraints and challenges identified were mainly related to sustainability: problems associated with maintenance, inaccessibility of spare parts, lack of technical skill to operate the systems, lack of follow-ups from concerned bodies as well as financial constraints.
(Abstract from original source)

Keywords: Solar energy; socio-economic impacts; women; Tigray; Ethiopia

Glemarec, Yannick, Fiona Bayat-Renoux, Oliver Weissbein, and 1 UN Women, New York, NY, USA. 2016. "Removing Barriers to Women Entrepreneurs' Engagement in Decentralized Sustainable Energy Solutions for the Poor." *AIMS Energy* 4 (1): 136–72.

Abstract:

Rapidly falling renewable technology costs and new business models mean that decentralized energy solutions hold great promise to accelerate universal sustainable energy access. Across developing countries, women are typically the primary household energy managers. Close to their customers, women entrepreneurs have the potential to lower customer acquisition and servicing costs and drive these new decentralized solutions. However, they remain under-represented in the industry.

This paper attempts to understand the root causes of this gender gap. It formulates the research hypothesis that market transformation policies intended to reduce investment risks to accelerate energy access may not benefit men and women entrepreneurs equally because of the existing structural barriers that women face. To test this hypothesis, the paper conducts a gender sensitive investment barrier and risk analysis, overlaid onto an existing gender neutral taxonomy of investment barriers and risks for decentralized sustainable energy solutions.

A key finding is that for women entrepreneurs, existing structural impediments to gender equality translate into additional investment barriers as well as increased likelihood of occurrence and severity of the financial impact of generic investment risks. The paper offers an illustrative theory of change to facilitate a dialogue on the specific interventions needed to address these gender differentiated risks locally. It concludes that market transformation efforts for universal sustainable energy access must include targeted policy measures to ensure equal benefits to men and women entrepreneurs, and optimize the use of public resources to catalyze private investment and reduce poverty. (*Abstract from original source*)

Keywords: decentralized renewable energy access; women entrepreneurs; investment barriers

Gray, Leslie, Alaina Boyle, Erika Francks, and Victoria Yu. 2019. “The Power of Small-Scale Solar: Gender, Energy Poverty, and Entrepreneurship in Tanzania.” *Development in Practice* 29 (1): 26–39.

Abstract:

Energy poverty is a major challenge in the developing world, with an estimated 1.2 billion people lacking household electricity. Although energy poverty affects both men and women, the burden of household energy supply disproportionately affects women in low-income countries in the developing world. This article examines the impact of a women-oriented solar lighting social enterprise, Solar Sister, in Tanzania for both solar entrepreneurs and customers, demonstrating that solar lanterns positively impact household savings, health, education and women’s economic productivity and empowerment. Our study argues that Solar Sister’s approach is successful because of its explicit gender lens. Providing energy access to women translates to a pro-woman, pro-child, and pro-family development intervention. (*Abstract from Taylor & Francis Online*)

Keywords: labour and livelihoods—poverty reduction; gender and diversity; Sub-Saharan Africa

Green, Maryann. 2002. “Solar Cookers: A Potential Mechanism for Challenging Gender Stereotypes.” *Agenda: Empowering Women for Gender Equity* 17 (52): 62–7.

No abstract available.

Summary:

“The approach to gender and energy discussed in this study stems from a number of renewable energy projects conducted in rural areas in KwaZulu-Natal. The observations are based on studies relating to rural households and community level projects that encompass: assessing traditional energy sources, in interaction with households and environments; assessing thermal solar and electricity impacts on women’s activity patterns; and investigating aspects such as financial capacities, feasibility, impacts on development, adoption of technology patterns; and consumer perceptions of energy

technologies. The information is obtained predominantly from de facto female heads of households, as they dominate in energy sourcing and usage” (Green 2002, 62).

Johnson, Oliver W., Jenny Yi-Chen Han, Anne-Louise Knight, Sofie Mortensen, May Thazin Aung, Michael Boyland, and Bernadette P. Resurrección. 2020. “Intersectionality and Energy Transitions: A Review of Gender, Social Equity and Low-Carbon Energy.” *Energy Research & Social Science* 70. doi: 10.1016/j.erss.2020.101774.

Abstract:

Transitions to low-carbon energy systems are essential to meeting global commitments to climate change mitigation. Yet “greening” energy systems may not make them any fairer, inclusive or just. In this paper, we review the academic literature to understand the state of knowledge on how diffusion of low-carbon technologies impacts gender and social equity in intersectional ways. Our findings indicate that renewable energy projects alone cannot achieve gender and social equity, as energy interventions do not automatically tackle the structural dynamics embedded within socio-cultural and socio-economic contexts. If existing power asymmetries related to access and resource distribution are not addressed early on, the same structural inequalities will simply be replicated and transferred over into new energy regimes. (*Abstract from original source*)

Keywords: energy transitions; low-carbon energy; climate change; renewable energy; gender equality; social equity

Klege, Rebecca A., and Martine Visser. 2020. “Competition and Gender in the Lab vs Field: Experiments from Off-Grid Renewable Energy Entrepreneurs in Rural Rwanda.” ERSA Working Paper 806, Economic Research Southern Africa, University of Cape Town.

Abstract:

Applications of lab experiments to real-world phenomenon are limited. We fill the gap by examining how gender attitudes and performance under competitive situations in the lab, reflects microenterprise outcomes in the renewable energy sector of Rwanda. — a country with progressive gender policies despite its traditional patriarchal set-up. We use the standard Niederle and Vesterlund (2007) experimental design in addition to a unique dataset from off-grid microenterprises, managed by entrepreneurs who have been working in mixed and single-sex teams since 2016. Our findings show that the gender composition of teams does not affect decisions to compete in the lab. Instead returns to education and risk-taking are more valuable to single-sex teams than for mixed gender teams. We also show that under competitive situations, women perform as well as men. Findings from the field strongly support findings in the lab that female-owned enterprises do not underperform in competitive settings, which corroborates the external validity of our lab results. Given that lab and field findings suggest no significant differentials in terms of competitiveness or performance of females, there

exist ample scope to increase women involvement in the renewable energy sector of Rwanda. (*Abstract from original source*)

Keywords: competition; gender differences; entrepreneurs; performance; renewable energy

LaBiche, M., and S. Munyana. 2017. “Social and Economic Development of Rural Women in Uganda Using Solar Energy for Productive Use.” In *2017 IEEE Global Humanitarian Technology Conference (GHTC)*, 1–6. New York: IEEE

Abstract:

Agriculture is the backbone of African economies, especially in rural areas where over 70% of people rely on subsistence farming for their livelihood. In Rwanda and Uganda, where Africa Development Promise (ADP) works, 90% of economically active women work in the agricultural sector. Overall women work more and longer hours compared to men because of additional household responsibilities such as preparing food, collecting fuelwood and water. This time deficit leaves no time for education or productive endeavors. The paper argues that access to new technologies that save time, especially tedious and laborious work, can have a significant positive impact on women’s efficiency, productivity and income-generating potential. It shares ADP’s shift from a single-entry economic development approach to a holistic approach that incorporates access to solar energy to support women’s economic endeavors. The paper is shared with organizations addressing similar challenges, but more importantly to seek feedback from development practitioners. (*Abstract from original source*)

Laxmi, Vijay, Jyoti Parikh, Shyam Karmakar, and Pramod Dabrase. 2003. “Household Energy, Women’s Hardship and Health Impacts in Rural Rajasthan, India: Need for Sustainable Energy Solutions.” *Energy for Sustainable Development* 7 (1): 50–68.

No abstract available.

Summary:

The use of unprocessed bio-fuels for cooking is interlinked with many other factors such as socio- economic conditions, availability of alternative fuels, cooking practices, health impacts, gender equality, and housing characteristics. To examine these factors and their linkages, we collected data through a large and comprehensive survey covering perhaps the largest sample of 58,768 individuals in 10,265 rural households from three states in northern India, viz., Uttar Pradesh, Rajasthan and Himachal Pradesh. We included socio-economic variables, smoking habits, fuels used, characteristics of the kitchen, cooking practices, 19 types of health symptoms, etc.

In this paper, we report on analysis of the data collected only from the rural areas of Rajasthan, covering 6,403 females and 5,552 males from 1,989 households in 13 villages. The results reveal that women undergo a lot of drudgery due to the use of bio-fuels. They walk approximately 2.5 km to collect fuel-wood. About 50 hours per month

per household are expended in fuel-wood collection and transportation. The use of kerosene for cooking is negligible in the area, because of unavailability more than non-affordability. The people in the rural areas of Rajasthan are willing to pay for kerosene, the next fuel on the energy ladder above bio-fuels. It is estimated that even at a price of Rs. 13 per litre, which is higher than the market price, about 34 % of households are willing to buy additional quantities of kerosene for cooking. Therefore there is a need to meet this unmet demand by addressing market failures.

The health impacts of the use of bio-fuels are quite high for adult women. The linkages between many socio-economic variables and respiratory symptoms in adult women show that health impacts can be reduced by increasing female literacy, reducing the use of bio-fuels, and changing the housing design by, for example, introducing ventilation or separating the kitchen from the living area.

The losses incurred because of cooking fuels, including work days spent, expenditure on illness and lost working days due to illness are Rs. 29 billion per year in the rural areas of Rajasthan. By minimizing these losses even by some fraction, one can give a boost to the rural economy and improve women's welfare. For this we need coordinated, consistent and focused cooperation of all the stakeholders at the grassroots, policy-making and implementation levels. Action-oriented programmes should include a treatment strategy at public health centres to help suffering women. (*Summary from original source*)

Lebel, Louis, Phimphakan Lebel, Kanokwan Manorom, and Zhou Yishu. 2019. "Gender in Development Discourses of Civil Society Organisations and Mekong Hydropower Dams." *Water Alternatives* 12 (1): 192–220.

Abstract:

'Gender in development' discourses are used to justify interventions into, or opposition to, projects and policies; they may also influence perceptions, practices, or key decisions. Four discursive threads are globally prominent: livelihoods and poverty; natural resources and the environment; rights-based; and managerial. Civil society organisations (CSOs) have been vocal in raising awareness about the adverse impacts of large-scale hydropower developments on the environment, on local livelihoods, and on vulnerable groups including women. This discourse analysis first examines how CSOs engaging in hydropower processes in the Mekong Region frame and use gender in development discourses, and then evaluates the potential of these discourses to empower both women and men. Documents authored by CSOs are examined in detail for how gender is represented, as are media reports on CSO activities, interview transcripts, and images. The findings underline how CSOs depend on discursive legitimacy for influence. Their discursive strategies depend on three factors: the organizations' goals with respect to development, gender, and the environment; whether the situation is pre- or post-construction; and, on their relationships with the state, project developers and dam-affected communities. The implications of these strategies for empowerment are often not straightforward; inadvertent and indirect effects, positive and negative, are common. The findings of this study are of practical value to

CSOs wishing to be more reflexive in their work and more responsive to how it is talked about, as it shows the ways that language and images may enhance or inadvertently work against efforts to empower women. (*Abstract from original source*)
Keywords: civil society organisations; gender in development; discourse; representation; hydropower

Lebel, Phimpakan, Louis Lebel, Darunee Singphonphrai, Chatta Duangsuwan, and Yishu Zhou. 2019. "Making Space for Women: Civil Society Organizations, Gender and Hydropower Development in the Mekong Region." *International Journal of Water Resources Development* 35 (2): 305-25.

Abstract:

Large-scale hydropower development disrupts local livelihoods and resource access. Adverse impacts are often greater for women than men, but also large for children, the elderly, poorer households and ethnic minorities. Burdens of resettlement often fall disproportionately on already disadvantaged individuals. The purpose of this study was to evaluate how international, national and local civil society organizations (CSOs) have addressed gender in hydropower development in the Mekong Region. Four CSO orientations are distinguished: communitarian, environmentalist, knowledge-based and feminist. Common activities of CSOs were to share information, to expand participation and to mobilize development. The extent to which these activities were promoted and appear to be making space for women depended on the types of CSOs and women and men targeted or otherwise involved. (*Abstract from original source*)
Keywords: civil society organizations; gender; hydropower; Mekong

Lieu, Jenny, Alevgul H. Sorman, Oliver W. Johnson, Luis D. Virla, and Bernadette P. Resurrección. 2020. "Three Sides to Every Story: Gender Perspectives in Energy Transition Pathways in Canada, Kenya and Spain." *Energy Research & Social Science* 68 (October). doi:10.1016/j.erss.2020.101550.

Abstract:

Transitions toward a low-carbon future are not only technical and economical, but also deeply social and gendered. The gendered nature of energy transitions is often implicit and unexplored. As a corrective, this paper explores energy pathways by applying concepts from innovations and gender studies. We examine gender perspectives and niche energy innovations which could disrupt the regime. The regime represents the *mainstream pathway* that includes the dominant gender perspective and energy system. We explore different gender perspectives of energy transition pathways by applying an Alternative Pathways framework that includes: (1) *on-stream pathways* that exist within the mainstream pathway to promote equal opportunities for women and men, as well as niches for energy innovations without challenging the high-carbon energy regime; (2) *off-stream pathways* that depart from the mainstream and promote differences across different genders while creating niches outside the energy regime; and (3) *transformative pathways* that are fundamentally different from the previous mainstream and includes all gender perspectives in a new energy regime.

Applying this framing, in Canada, we explored Indigenous perspectives in the oil sands sector; in Kenya, we studied largescale renewable energy impacting Indigneous communities; in Spain, we evaluate the movement away from fossil fuels and towards renewable technologies. The framework helped to identify that mainstream pathways represented the dominant male perspective while woman's perspective were largely left out. Such absence generate energy pathways that are disconnected from local realities, lack public buy-in and slow-down a sustainable energy transition. (*Abstract from original source*)

Keywords: energy transition pathways; renewable energy; gender; women; intersectionality; indigenous peoples

Maduekwe, Monica, Ellen Morris, Jennye Greene, and Victoria Healey. 2019. “Gender Equity and Mainstreaming in Renewable Energy Policies—Empowering Women in the Energy Value Chain in the Economic Community of West African States (ECOWAS).” *Current Sustainable/Renewable Energy Reports* 6 (1): 13–21.

Abstract:

Purpose of Review: Using practice theories as the analytical framework, this paper assesses the potential of the Economic Community of West African States’ (ECOWAS) first ever regional policy on Gender Mainstreaming in Energy Access to produce the desired behavioral changes envisioned.

Recent Findings: The policy came to fruition after a multi-year, multi-stakeholder effort of research, advocacy, and consensus building; all spearheaded by an institution of the community, the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE). The success of the ECOWAS policy has led to the development of a related regional level legal instrument, monitoring protocols, institutional evolutions, as well as replication efforts in other African regions.

Summary: The policy’s provisions were aimed at changing the mind-sets and, eventually, behaviors of people concerned and were designed in order to increase its chances of successful implementation; however, the onus lies on the constituent governments of the community to provide incentives for its full and effective implementation in order to guarantee its success. (*Abstract from original source*)

Keywords: gender-responsive energy policies; women’s empowerment; ECOWAS; energy access; gender equality

Marshall, Mipsie, David Ockwell, and Rob Byrne. 2017. “Sustainable Energy for All or Sustainable Energy for Men? Gender and the Construction of Identity Within Climate Technology Entrepreneurship in Kenya.” *Progress in Development Studies* 17 (2): 148–72.

Abstract:

As international climate and development policy and funding efforts accelerate, this article articulates an urgent new research agenda aimed at redressing the existing failure

of policy and research to attend to gender in relation to climate mitigation (as opposed to adaptation). Focusing on the transfer and uptake of low carbon energy technologies, including a review of the literature on women and entrepreneurship and critical discourse analysis of the treatment of climate technology entrepreneurs by infoDev (World Bank) in Kenya, the prevalence of private sector entrepreneurial approaches to climate and development policy and practice in this field is demonstrated to be reinforcing gendered power imbalances. (*Abstract from original source*)

Keywords: gender identity; entrepreneurship; climate technology; climate mitigation; Kenya; discourse analysis

Matinga, Margaret Njirambo, Harold J. Annegarn, and Joy S. Clancy. 2013. “Healthcare Provider Views on the Health Effects of Biomass Fuel Collection and Use in Rural Eastern Cape, South Africa: An Ethnographic Study.” *Social Science & Medicine* 97: 192–200.

Abstract:

Policymakers at global level recognise that household biomass use in developing countries has significant health consequences. However, it is unclear how local-level health professionals perceive and respond to such health effects. This paper which is derived from the findings of a larger study on perceptions and responses to the harmful health effects of carrying heavy firewood loads and to smoke from cooking fires is based on a study conducted in South Africa among managers of health programmes and community nurses of Qaukeni and Mhlontlo municipalities in rural Eastern Cape. Interviews and participant observations were conducted in 2009 using ethnographic grounded theory approaches. In addition to a 10-month period of ethnographic fieldwork, ten programme managers and nurses in two villages were interviewed about health patterns in the villages that they serve, their perceptions of, and responses to the health effects of carrying heavy firewood loads, and inhalation of smoke from wood and dung cooking fires, their professional qualifications and experience, their own household energy use; and observations made as they served clinic clients. Results show that these programme managers and nurses perceive the health effects of carrying heavy loads of firewood and of cooking smoke as minor. Sometimes, nurses give women symptomatic relief for musculoskeletal pain resulting from carrying heavy loads. We posit that their perceptions are derived from customary neglect of work-related health and non-communicable diseases, cultural interpretations of womanhood, limited access to relevant information, and limited interactions between health and energy sector professionals. We conclude that culturally and gender-sensitive awareness programmes are needed for local-level health professionals to effectively address health effects of biomass collection and use. This paper provides new insights into overlooked differences between globally-driven initiatives to address health effects of biomass use and local perceptions. (*Abstract from original source*)

Keywords: household energy; health effects; firewood; health professionals; perceptions; women’s health; South Africa; Rural Eastern Cape

Mazorra, Javier, Eduardo Sánchez-Jacob, Candela de la Sota, Luz Fernández, and Julio

Lumbreras. 2020. “A Comprehensive Analysis of Cooking Solutions Co-Benefits at Household Level: Healthy Lives and Well-Being, Gender and Climate Change.” *Science of The Total Environment* 707 (March).
doi:10.1016/j.scitotenv.2019.135968.

Abstract:

Three billion people (>40% of the world's population) lack access to clean cooking solutions, including 2.5 billion people that still rely on the traditional use of biomass for cooking. In urban contexts, the rate of access to clean cooking solutions is normally higher than in rural contexts due to greater availability of these solutions. The relevance of providing access to clean cooking solutions (SDG 7) is linked to several associated co-benefits that contribute to a wide range of Sustainable Development Goals (SDGs). Therefore, this paper shows a comprehensive analysis of multiple co-benefits of a clean cooking solution intervention. Health (SDG 3), gender (SDG 5) and climate change (SDG 13) co-benefits were analysed and compared through a cost-benefit analysis using a comprehensive approach in a case study in the Casamance Natural Subregion, located in Western Africa. The most important co-benefits were related to gender (SDG 5), representing 60–97% of the total economic benefits. Climate change co-benefits (SDG 13) were also relevant, representing 3–40% of the total economic benefits. Health co-benefits (SDG 3) were very limited for this case study, representing <1% of the total economic benefits. Considering these results, implications for urban settings were discussed in the light of the “making the available clean” or “making the clean available” strategies. (*Abstract from original source*)

Keywords: cooking solutions; biomass stoves; co-benefits; sustainable development goals; urban; Sub-saharan Africa

McAllister, Lucy, Amanda Magee, and Benjamin Hale. 2014. “Women, E-Waste, and Technological Solutions to Climate Change.” *Health and Human Rights Journal* 16 (1): 166–78.

Abstract:

In this paper, we argue that a crossover class of climate change solutions (which we term “technological solutions”) may disproportionately and adversely impact some populations over others. We begin by situating our discussion in the wider climate discourse, particularly with regard to the Millennium Development Goals (MDGs) and the Basel Convention. We then suggest that many of the most attractive technological solutions to climate change, such as solar energy and electric car batteries, will likely add to the rapidly growing stream of electronic waste (“e-waste”). This e-waste may have negative downstream effects on otherwise disenfranchised populations. We argue that e-waste burdens women unfairly and disproportionately, affecting their mortality/morbidity and fertility, as well as the development of their children. Building on this, we claim that these injustices are more accurately captured as problems of recognition rather than distribution, since women are often institutionally under-acknowledged both in the workplace and in the home. Without institutional support and representation, women and children are deprived of adequate safety equipment, health precautions, and health insurance. Finally, we return to the question of climate justice in

the context of the human right to health and argue for greater inclusion and recognition of women waste workers and other disenfranchised groups in forging future climate agreements. (*Abstract from original source*)

Mohideen, Reihana. 2013. “Clean, Renewable Energy: Improving Womens’ Lives in South Asia.” *IEEE Technology and Society Magazine* 32 (3): 48–55.

Abstract:

As feminist scholars have long argued, there are no purely technological solutions to achieving progress on gender equity and women’s empowerment. Nevertheless, in rural South Asia, where many women’s lives are marked by gender inequalities, access to clean and renewable energy technology and services can make a difference if those resources are also targeted at improving women’s access and welfare. This, however, compels us to go beyond the meter. Special social and technical interventions that simultaneously target energy access and gender equity are necessary. (*Abstract from IEEE Xplore*)

Keywords: renewable energy sources; Asia; gender issues; Africa; electricity; government policies; gender equity; social factors

Mohideen, Reihana. 2018. “Energy Technology Innovation in South Asia: Implications for Gender Equality and Social Inclusion.” Working paper, Asian Development Bank, Manila.

Abstract:

This working paper addresses how energy systems and services in South Asia can improve women’s economic empowerment and well-being. It focuses on integrating gender equity considerations into technology design and on drawing women into this process for equal employment opportunities. South Asia’s low-carbon energy transition has significant implications for gender equality and social inclusion. The rising energy demand and the commitment to mitigate climate change are the driving force in energy technology innovation. This paper is the beginning of an ongoing research project that will also include a pilot program to field test a gender equality and social inclusion reference energy system. (*Abstract from original source*)

Mohideen, Reihana. 2019. *Women and the Energy Revolution in Asia*. Singapore: Palgrave Pivot.

No abstract available.

Summary:

This book examines the low-carbon energy transition taking place in developing Asia, in the context of persisting social and gender inequalities, the threat of climate change which has necessitated the decarbonisation of industry, and examines how developing Asia can ‘leap-frog’ the carbon-emitting stages that more developed economies have

passed through, while simultaneously ‘leap-frogging’ social and gender equity gaps. The book uses the concept of ‘disruptive technologies’, an area of study that assesses the potential of certain technologies to disrupt the status quo and the concept of socio-technical frameworks, where social considerations are factored in to engineering systems and models. Using case studies and methodologies drawn from interdisciplinary approaches to engineering, and from development studies, science and technology studies and feminist approaches, it assesses how the low-carbon energy transition potentially provides poor women in developing Asia the opportunity to get on board at the early phase of these changes and influence and even transform their societies and lives. (*Summary from Springer Link*)

Mohideen, Reihana. 2020a. “Gender-Inclusive Energy: The Nepal Case.” In *Women and the Energy Revolution in Asia*, edited by Reihana Mohideen, 39–58. Singapore: Springer. doi:10.1007/978-981-15-0230-9_4.

Abstract:

The Alternative Energy Promotion Centre (AEPC), Nepal, provides an important real-world example that illustrates the role that governments can and do play in spawning technological development for socio-economic benefits, including addressing social and gender equity issues related to differential access to energy-based technologies. The AEPC is a special case as an institution in the energy sector, because it attempts to address social and gender equity considerations in the development of the renewable energy sector in Nepal and in the delivery of renewable energy technologies and services to rural communities. (*Abstract from original source*)

Mohideen, Reihana. 2020b. “Gender-Powered Approaches.” In *Women and the Energy Revolution in Asia*, edited by Reihana Mohideen, 9–26. Singapore: Springer. doi:10.1007/978-981-15-0230-9_2.

Abstract:

A basic engineering approach is to find an optimal solution in the face of the complexity of the overall problem, that is, finding an approximation of the reality, or the optimality, in order to pose the problem neatly and then solve it. Social systems and societal impacts, however, are complex and non-linear. Interdisciplinary approaches are needed to evaluate impacts on gender equity, such as the impact of energy systems on women’s health, livelihoods, employment and other societal impacts.

Multiple pathways to address gender equity through energy have been identified. Evidence suggests that small-scale infrastructure projects, such as mini-grids, are more conducive than large-scale conventional energy projects to improving access to services by the poor, providing greater opportunities for participation by women and other marginalized groups. (*Abstract from original source*)

Mohideen, Reihana, Pankaj Batra, and Prabhjot Khan. 2020. "Low-Carbon Energy Transition in India: Implications for Gender Equality and Social Inclusion." *IEEE Technology and Society Magazine* 39 (1): 76–84.

Abstract:

The Government of India has undertaken the ambitious target of 175-GW installed capacity of renewable power by 2022 as part of its climate treaty commitments. This will amount to 37% of projected installed capacity, second to coal and lignite (45%) and more than hydropower (11%). It has also undertaken a program of universal electricity access to all through the scheme called "Pradhan Mantri Sahaj Bijli Har Ghar Yojana" or "Saubhagya". (*Abstract from original source*)

Muza, O., and R. Debnath. 2020. "Socially Inclusive Renewable Energy Transition in Sub-Saharan Africa: A Social Shaping of Technology Analysis of Appliance Uptake in Rwanda." *Cambridge Working Papers in Economics*, University of Cambridge, London.

Abstract:

Rural off-grid renewable energy solutions often fail due to uncertainties in household energy demand, insufficient community engagement, inappropriate financial models, policy inconsistency and lack of political will. Social shaping of technology (SST) of specific household electric appliances provides a critical lens of understanding the involved sociotechnical drivers behind these constraints. This study employs an SST lens to investigate appliance uptake drivers in Rwanda using the EICV5 micro dataset, such that these drivers can aid in policy design of a socially inclusive renewable energy transition. The methodology includes a systemic and epistemological review of current literature on the drivers of appliance uptake in the Global South. These drivers were then analysed using binary logistic regression on 14,580 households. Results show that appliance uptake is highly gendered and urban-centric in Rwanda. The type of appliance determines its diffusion across the welfare categories, commonly referred as to Ubudehe categories. Regression results show that mobile phones, radios and TV-sets have a higher likelihood of ownership than welfare appliances (refrigerator and laundry machine) by low-income households. There is also a high likelihood of uptake of power stabilisers in urban-higher income households, indicating poor power quality and distributive injustices. Policy implications were drawn using the lens of disruptive innovation. (*Abstract from original source*)

Keywords: energy transition; off-grid system; Sub-Saharan Africa; social shaping of technology; gender; disruptive innovation

Nelson, Valerie, and Yianna Lambrou. 2011. "Scoping the Gender Issues in Liquid Biofuel Value Chains." *NRI Working Paper Series: Climate Change, Agriculture and Natural Resources No. 3*, Natural Resources Institute, University of Greenwich, London.

No abstract available.

Summary:

“The gender dimensions of biofuel development have been relatively neglected. Yet to achieve equitable and socially sustainable development requires an understanding of how women, men and social groups may be affected differently by biofuel innovations. Whole communities will be affected by biofuel developments, but the opportunities available and the significant risks and impacts involved are not experienced equally by women and men. This is because of the gender inequalities that prevail throughout the world. In fact, women and female-headed households will be disproportionately affected, because they usually have less decision-making power, and lack control over key livelihood resources and their situations could be made worse by gender-blind biofuel developments.

“Field-based evidence is scarce for identifying best practice in biofuel gender mainstreaming, and this is perhaps unsurprising given the recent nature of the commercial biofuels boom and the catch-up that is required of development practitioners and policy-makers to understand and respond to the risks, impacts and opportunities involved. More in-depth field studies in Asia, Latin America and Africa are needed to provide evidence that will enable the formulation of detailed guidance on specific feedstocks in different contexts.

“A huge range of journal articles and grey literature has been reviewed to produce this study and in the search for information on the gender dimensions of biofuels. This scoping study seeks to inform policy-makers and practitioners about the key issues of gender in biofuels schemes and value chains and to provide recommendations about what can be done by building on women’s capabilities, to support their agency and collective action and thus to promote their empowerment for more equitable rural pathways” (Nelson and Lambrou 2011, 1).

Ogola, Pacifica F. Achieng. 2010. “Geothermal Energy, Climate Change and Gender in Kenya.” In *Proceedings World Geothermal Congress 2010*. Bonn, Germany: International Geothermal Association.

Abstract:

Geothermal energy plays a vital role in the context of climate change as a mitigation and adaptation technology. However, the full potential role of geothermal in this regard has not been realized in Kenya, especially in responding to the impacts of climate change at the micro-level where it occurs, meeting gender specific needs and ultimately the UN Millennium Development Goals (MDGs). While geothermal energy is considered the most feasible option for capacity expansion, very little has been done to assess its role in climate change beyond Clean Development Mechanism (CDM) projects. Most unexploited geothermal prospect areas in Kenya experience adverse climate impacts. The development of the resource in these areas could enhance adaptive capacity and resilience of the local people. The paper aims to discuss in general the role geothermal energy should play in mitigation and adaptation to climate change in Kenya

and how its utilization can meet different gender economic requirements at the micro-level. Barriers to achieving this with possible recommendations are also discussed.

(Abstract from original source)

Keywords: geothermal energy; climate change; gender

Pearl-Martinez, Rebecca, and Jennie C. Stephens. 2016. "Toward a Gender Diverse Workforce in the Renewable Energy Transition." *Sustainability: Science, Practice, & Policy* 12 (1): 1–8.

Abstract:

We explore gender diversity in the energy workforce and highlight the value of systematic assessment of women's participation in the move toward sustainable renewable-energy systems. A gender imbalance in the energy sector workforce is apparent in countries throughout the world, yet women's participation in, and contributions to, the energy industry have not been systematically characterized. As the energy sector transitions from fossil-fuel dominated systems toward more efficient, sustainable renewable-based systems, new opportunities for a more inclusive energy workforce are emerging. We are concerned, however, that if the energy industry does not prioritize gender diversity now, the renewable energy transition could perpetuate and deepen, rather than reduce, gender inequality. Although research demonstrates that diversity enhances innovation and creativity, there is minimal attention to considering and promoting diversity within the energy workforce. In this Community Essay we explore how greater consideration of the role of gender and the value of diversity in energy could provide multiple social benefits, including promoting more sustainable practices, accelerating innovation, enhancing women's opportunities, and empowering communities to engage in energy-system change. *(Abstract from original source)*

Keywords: women; gender; energy; renewables; sustainability; transitions; fossil fuels

Prietl, Bianca. 2017. "Technology Change = Gender Change? Androcentric Construction of Engineering as Symbolic Resource in the German-Speaking Area of Renewable Energies." *Engineering Studies* 9 (1): 3–23.

Abstract:

This paper is concerned with how engineers working in renewable energies in Germany and Austria position themselves and their professional activity within this relatively new field of engineering occupation by mobilizing a specific androcentric construction of engineering as a symbolic resource. Drawing on qualitative interviews, the argument unfolds in three steps: First, the paper reconstructs how engineers draft an image of their professional activity by symbolically aligning it with established understandings of engineering in traditional areas of engineering occupation and by simultaneously distancing it from allegedly 'other' notions of engineering practice that are framed as 'alternative'. The discursive distinction between professional engineering and its alleged 'alternative' counterpart constitutes the former as hard, sincere, structured, and reliable activity based on an instrumental rationality. Second, it is shown how the professional/alternative distinction is gendered with 'the alternative' being devaluated

and feminized. Consequently, it is argued that there is an implicit association between the discursively constituted idea of professional engineering and masculinity. Third, this discursive construction of engineering is interpreted as a symbolic resource in the engineers' claim to be recognized as professional actors within renewable energies and, thus, in their struggle for favourable positions within this social field of power.

(Abstract from original source)

Keywords: engineering; renewable energies; discursive struggle for power; implicit masculinity construction

Salas, Maria Angelica O. 2015. "Gender Map of the Solar Energy Sector in Northern Philippines." Conference Paper presented at the Commons Amidst Complexity and Change, the Fifteenth Biennial Conference of the International Association for the Study of the Commons, Edmonton, Alberta, May 25.

Abstract:

In the face of increasing energy prices and the challenges presented by climate change, renewable energies have now become one of the most important topics on the political stage. Long before the Renewable Energy Bill was passed in 2008, the Philippines' Department of Energy (DOE), through its Rural Electrification Program, had already installed solar home systems (SHS) and solar battery charging stations (SBCS) in upland communities in the provinces of Abra and Ilocos Sur in Northern Philippines.

The operation and maintenance of solar technology lies on how the men and women in those communities handle this renewable energy, hence a gender map is deemed important.

Utilizing the Gender Analysis Framework of the Asian Development Bank (2002) and guided by the Actor-Based Model of Human Ecology by Orlove (1977) and the 'Structure of Constraint' concept by Folbre (1997), the research involved 337 respondents to determine who, between the men and women, are more involved in the various activities affecting their lives as well as who can access and control the resources necessary for their survival.

Social factors, namely: demographic, economic, cultural, and institutional factors were considered in the study.

Reproductive activities such as housekeeping and taking care of children are done by the mothers while community and leisure activities involve both men and women. For the productive activities, men dominate in the pre-operation, operation and maintenance of the solar energy systems.

Resources, such as materials, and labor are mostly availed of and controlled by men while capital and credit are mostly controlled by women. There was no training conducted regarding solar technology. Respondents find the materials available but unaffordable. Technical assistance is non-existent but the system is simple and its process is comprehensible. Social factors are related to the men and women's

involvement in reproductive, community, leisure, and productive activities as well in their access and control of resources namely capital, materials, labor, and credit.
(Abstract from original source)

Shabdin, N. H., and R. Padfield. 2017. “Sustainable Energy Transition, Gender and Modernisation in Rural Sarawak.” *Chemical Engineering Transactions* 56: 259-64.

Abstract:

In the past two decades policy-makers have highlighted the need for societies to use energy in a more sustainable way. In support of a general trend towards evidence based, policy-making academic research in sustainable energy related fields has gathered pace. In particular, research has concentrated largely on technologies, energy economics and broad concepts of smart energy system. Research focusing on the social sciences of sustainable energy, including topics such as human behaviour change, gender impacts, household scale studies etc. – have tended to receive limited attention from research sponsors and until recently assumed to have limited impact on a transition to a sustainable energy future. Yet recent research in these topics has shown to have great potential in achieving positive social and environmental impact. In line with increasing interest in the social science of sustainable energy transitions, this study examines social behaviour and energy practices of rural communities without access to twenty-four hour electricity in Sarawak, East Malaysia. The research aims to understand the impact of modernity in influencing rural communities’ energy transition with a particular focus on the role women play in energy behaviour at the household level. Five case studies was undertaken in the villages of Kampung Sibu Laut, Mersan, Telaga Air, Boyan and Gersik. Through purposive sampling 25 households in total were selected from these five villages. Consistent with triangulation methodological approaches the fieldwork involved a number of research methods such as a household energy survey, semi-structured interviews, focus groups and ethnographic style methods (i.e. participant observation). Investigating multiple data sources allows a deeper understanding and increased reliability of findings. Initial findings reveals women across the village play a key role in managing the household’s energy needs, and specifically, energy efficiency and energy conservation aspects. Household income also influenced the behaviour of householders with regards to energy saving. For instance, wealthier families owned more electric goods and gadgets as compared with poorer families; thus, energy demand is assumed higher in the former households. Meanwhile, villages without twenty-four hour access to affordable electricity have less energy demand while it is also noted that many of the younger generation have migrated to the town. The research also reveals that besides geographical challenges in rural Sarawak, villages close to protected ecosystems, such as Ramsar sites, have limited development. In this way, electrical appliances were far fewer as compared with villages where there is more consistent electricity supply. (Abstract from original source)

Shailaja, R. 2000. “Women, Energy and Sustainable Development.” *Energy for Sustainable Development* 4 (1): 45–64.

Abstract:

Sustainable development is an equitable, empowering, environmentally sound, economically viable process of growth. Energy is the key indicator of sustainable development. About 74% of the population of India live in rural areas. 80% of their energy needs are derived from biomass. About 92% of this energy is consumed in cooking activity. Women play a major role in biofuel management. Rural women's perspective in sustainable development is therefore critical.

Declining biofuel resources, poor quality of the available biofuels and inefficient devices have pushed women into greater hardships. This paper examines the role of rural women in biomass management. The energy resources that rural women use, the strategy that the government and other organisations have adopted to alleviate rural energy problems and how these strategies have benefited women and improved their quality of life, the importance of incorporating the concept of 'gender and development' in alternative energy strategies to achieve the objectives of sustainable development are discussed in this paper. (*Abstract from original source*)

Smith, Kirk R., and Ambuj Sagar. 2014. "Making the Clean Available: Escaping India's Chulha Trap." *Energy Policy* 75 (December): 410–4.

Abstract:

Solid cookfuel pollution is the largest energy-related health risk globally and most important cause of ill-health for Indian women and girls. At 700 million cooking with open biomass chulhas, the Indian population exposed has not changed in several decades, in spite of hundreds of programs to make the "available clean", i.e. to burn biomass cleanly in advanced stoves. While such efforts continue, there is need to open up another front to attack this health hazard. Gas and electric cooking, which are clean at the household, are already the choice for one-third of Indians. Needed is a new agenda to make the "clean available", i.e., to vigorously extend these clean fuels into populations that are caught in the Chulha Trap. This will require engaging new actors including the power and petroleum ministries as well as the ministry of health, which have not to date been directly engaged in addressing this problem. It will have implications for LPG imports, distribution networks, and electric and gas user technologies, as well as setting new priorities for electrification and biofuels, but at heart needs to be addressed as a health problem, not one of energy access, if it is to be solved effectively. (*Abstract from original source*)

Keywords: household energy ladder; cooking fuel; household air pollution; energy access; LPG; biomass stoves

Standal, Karina, Marta Talevi, and Hege Westskog. 2020. "Engaging Men and Women in Energy Production in Norway and the United Kingdom: The Significance of Social Practices and Gender Relations." *Energy Research & Social Science* 60 (February). doi:10.1016/j.erss.2019.101338.

Abstract:

To achieve an energy transition favouring renewable energy in the face of climate change, several countries in the EU region have pursued different economic incentives to encourage citizens to invest in household solar systems. This enables citizens to become ‘prosumers’ who produce electricity for their own consumption and sell excess produced electricity to the central grid supply. Influencing people's energy consumption in this way can potentially reach EU's renewable energy targets, as prosumers add to the stock of renewable energy nationally. Through in-depth interviews with men and women from 28 households in Norway and the United Kingdom, this article explores the process of becoming a prosumer and the energy practices in prosuming households. Drawing on theories of social practice and domestication, the article pays particular attention to how the phases of appropriation, objectification, incorporation and conversion of household solar systems are gendered in the sense that women and men have different economic, social and cultural capital, and to how this influences their interaction with technology in the transition from consumers to prosumers. Viewing prosuming through the gender lens reveals how policies need to be designed to promote new practices that are attractive for a more diverse group than today's standard subsidies and feed-in tariffs if the aim is to increase the number of residential prosumers and transition to a more sustainable and equitable low-carbon energy system. (*Abstract from original source*)

Keywords: prosumers; household solar PV systems; gender relations; energy transition; social practice theory; domestication theory

Stephens, Jennie C. 2020. *Diversifying Power: Why We Need Antiracist, Feminist Leadership on Climate and Energy*. Washington, DC.: Island Press.

Summary:

The climate crisis is a crisis of leadership. For too long too many leaders have prioritized corporate profits over the public good, exacerbating climate vulnerabilities while reinforcing economic and racial injustice. Transformation to a just, sustainable renewable-based society requires leaders who connect social justice to climate and energy.

During the Trump era, connections among white supremacy; environmental destruction; and fossil fuel dependence have become more conspicuous. Many of the same leadership deficiencies that shaped the inadequate response in the United States to the coronavirus pandemic have also thwarted the US response to the climate crisis. The inadequate and ineffective framing of climate change as a narrow, isolated, discrete problem to be “solved” by technical solutions is failing. The dominance of technocratic, white, male perspectives on climate and energy has inhibited investments in social change and social innovations. With new leadership and diverse voices, we can strengthen climate resilience, reduce racial and economic inequities, and promote social justice.

In *Diversifying Power*, energy expert Jennie Stephens argues that the key to effectively addressing the climate crisis is diversifying leadership so that antiracist, feminist

priorities are central. All politics is now climate politics, so all policies, from housing to health, now have to integrate climate resilience and renewable energy.

Stephens takes a closer look at climate and energy leadership related to job creation and economic justice, health and nutrition, housing and transportation. She looks at why we need to resist by investing in bold diverse leadership to curb the “the polluter elite.” We need to reclaim and restructure climate and energy systems so policies are explicitly linked to social, economic, and racial justice.

Inspirational stories of diverse leaders who integrate antiracist, feminist values to build momentum for structural transformative change are woven throughout the book, along with Stephens’ experience as a woman working on climate and energy. The shift from a divided, unequal, extractive, and oppressive society to a just, sustainable, regenerative, and healthy future has already begun.

But structural change needs more bold and ambitious leaders at all levels, like Alexandria Ocasio-Cortez with the Green New Deal, or the Secwepemc women of the Tiny House Warriors resisting the Trans Mountain pipeline.

Diversifying Power offers hope and optimism. Stephens shows how the biggest challenges facing society are linked and anyone can get involved to leverage the power of collective action. By highlighting the creative individuals and organizations making change happen, she provides inspiration and encourages transformative action on climate and energy justice. (*Summary from Island Press*)

Stock, Ryan. 2021. “Bright as Night: Illuminating the Antinomies of ‘Gender Positive’ Solar Development.” *World Development* 138. doi:10.1016/j.worlddev.2020.105196.

Abstract:

India is undergoing a rapid transition to renewable energy; the Gujarat Solar Park typifies this transition. In addition to mitigating climate change, the Gujarat Solar Park boasts female empowerment through social development schemes. This manuscript is inspired by the following research question: To what extent are ‘gender positive’ processes and projects associated with solar development in India realized on the ground? Utilizing mixed methods fieldwork and drawing on literature from feminist political ecology, this paper demonstrates how the modalities of solar park development represent an antinomy of a nature-society relation. New configurations of labor under the political economy of solar have produced a gendered surplus population of landless peasants who are not absorbed into wage-labor employment in the solar park. Further, associated social development schemes actually disempower women, despite mandates of ‘gender positive’ outcomes by UN-based climate treaties to which this project is beholden. The opportunity to participate in one such scheme for female empowerment was reserved for only women of middle-to-high class status and those of dominant castes, thereby reproducing class and caste-based social power asymmetries. Female (dis)empowerment eclipses ‘gender positive’ guarantees of the solar park. This study highlights some unintended consequences of sustainable energy transitions in the

Global South at the local scale. Designing development interventions related to climate change mitigation that boast ‘gender positive’ outcomes must be careful not to exacerbate gender disparities and economic exclusion in rural areas. (*Abstract from original source*)

Keywords: energy transition; solar park; antinomy; feminist political ecology; gender; intersectionality

Stock, Ryan, and Trevor Birkenholtz. 2020. “Photons vs. Firewood: Female (Dis)Empowerment by Solar Power in India.” *Gender, Place and Culture* (September). doi:10.1080/0966369X.2020.1811208.

Abstract:

Renewable energy transitions are accelerating in the Global South. Yet many large-scale renewable energy infrastructures are developed on public lands with unknown impacts on commons access and usage. A prime example of this is the Gujarat Solar Park (GSP) in India, which is one of the world’s largest solar photovoltaic facilities. The GSP is situated on 2,669 acres of previously common property, which has historically been used by female pastoralists for firewood collection. In this paper, we examine the following research questions: *How do gender and caste power shape natural resource access in this region?; Does the Gujarat Solar Park exacerbate already gendered social-economic-political asymmetries?* Our study utilizes a *feminist political ecology* framework to analyze the social dimensions of the GSP, drawing on recent work in this vein that uses a postcolonial and intersectional approach to examine the production of social difference through the spatial processes and political economy of solar energy generation. We find that the enclosure of public ‘wastelands’ to develop the Gujarat Solar Park has dispossessed resource-dependent women of access to firewood and grazing lands. This spatial dislocation is reinforcing asymmetrical social power relations at the village scale. Intersectional subject-positions are (re)produced vis-à-vis the exclusion of access to firewood in the land enclosed for the solar park. Affected women embody this dispossession through inter- and intra-village emotional geographies that cut across caste, class and gender boundaries. (*Abstract from original source*)

Wiese, Katharina. 2020. “Energy 4 All? Investigating Gendered Energy Justice Implications of Community-Based Micro-Hydropower Cooperatives in Ethiopia.” *Innovation: The European Journal of Social Science Research* 33 (2): 194–217.

Abstract:

More than 70% of the population in Ethiopia lack access to electricity and thus rely on conventional sources of energy such as biomass that is associated with negative consequences on health and the environment. Decentralized community-based micro-hydropower plants (MHPs) are being utilized as effective means to transition to modern low-carbon energy systems providing access to electricity to communities in remote areas. However, there exist a knowledge gap regarding energy justice dimensions and gendered impacts related to sustainable energy transitions in the Global South. This

research investigates the gendered justice implications of low-carbon energy projects in the case of four community-based micro-hydropower projects in Ethiopia implemented by the German Development Cooperation (GIZ). Although the projects generally achieved positive outcomes for the lives of the villager's socio-economic impacts on income; productive use, health and education affected men and women differently. The particular energy needs, uses and challenges that women face were insufficiently addressed and hence are limiting the opportunities for women to benefit equally from access to electricity. Generally, procedural justice aspects such as access to information, consultation and participation seemed to be insufficient to create a sense of ownership which in turn can jeopardize the long-term sustainability of the hydropower plants.

(Abstract from original source)

Keywords: energy justice; gender; community-based; micro-grid; hydropower; Ethiopia

Yaka, Özge. 2019. "Gender and Framing: Gender as a Main Determinant of Frame Variation in Turkey's Anti-Hydropower Movement." *Women's Studies International Forum* 74 (May): 154–61.

Abstract:

Framing literature has so far failed to construct gender as an analytical category that shapes the ways in which we perceive, identify and act upon grievances. This article builds on the insights of feminist theory and employs the conceptual vocabulary of the social movement framing perspective in maintaining gender as a main parameter of framing processes. Drawing on ethnographic research on local community struggles against hydropower plants in the Eastern Black Sea Region of Turkey, this article maintains the centrality of gender to framing processes. It analyzes the gendered difference between men's macro-framings and women's cultural and socioecological framings, which is rooted in their differing relationships with their immediate environment, as well as with the state and its institutions. The article maintains that the framings of women, which represent the immediacy of the environment, are more effective in gaining public support and shaping movement outcomes. In this sense, constructing gender as an important determinant of "frame variation" is essential not only to reveal women's frames that are largely silenced through and within the mechanisms of social movement organization, but also to stress their centrality in shaping repertoires of contention, public reception and movement outcomes. *(Abstract from original source)*

Keywords: gender; social movements; framing; Turkey; hydropower

Żuk, Piotr, and Anna Paczeński. 2020. "Sustainable Development, Energy Transition, and Climate Challenges in the Context of Gender: The Framework of Gender Determinants of Environmental Orientation in Poland." *Sustainability* 12 (21). doi:10.3390/su12219214.

Abstract:

How does gender affect attitudes towards ecology? This question is of particular interest in a society where conservative and populist power elites perceive the concepts of “gender” and “ecology” as manifestations of “foreign” cultural influences. In turn, the dependence of the Polish energy system on coal forces us to look for various social factors that may support energy transition and the principles of sustainable development. The article outlines the results of computer-assisted telephone interviewing (CATI) research on a representative sample of Polish society composed of 1.001 people and analyses the gender differentiation of attitudes towards the policy of sustainable development in Poland. The results presented in this article clearly show that women in Poland constitute an important support for ecological activities and energy transition. This is also the case with the entire progressive vision of politics: Women have become its main driver and an opportunity for change. (*Abstract from original source*)

Keywords: climate change; development; ecology; energy transition; gender

B. Non-Academic Resources

Alternative Energy Promotion Centre. 2014. *Gender Equality and Social Inclusion Toolbox: Promotion for Renewable Energy Technologies*. Nepal: Government of Nepal, Ministry of Science, Technology & Environment, Alternative Energy Centre.

No abstract available.

Summary:

“The purpose of developing this tool box is to help AEPC and its partners consider and adequately address GESI issues throughout the programme or project’s life cycle. The tool box can be used on an on- going basis during programme or project design, implementation and M&E irrespective of whether the project is new initiative or one that is on-going. It can also be used for a more formal assessment at the end of a programme or project.

“The use of this tool box does not incur or should not be seen as an additional task and should form part of the regular programme/project management process as it will help to add quality to the process. For each of these key stages (analysis and planning, implementation and monitoring, evaluation) of a programme or project, a set of tools offer a set of guiding questions and a number of useful tips. The use of the tools call for reflecting on and being able to answer the key questions for programme/project managers to ensure effective mainstreaming of GESI approach” (Alternative Energy Promotion Centre 2014, 4-5).

Aung, May Thazin, Jessica Koski, Yonariza, Bernadette P. Resurrección, Sivan Kartha, Mahdi, and Yuerlita. 2020. *Low-Carbon Transitions in West Sumatra, Indonesia: Gender and Equity Dimensions*. Stockholm: Stockholm Environment Institute.

No abstract available.

Summary:

“Deep reductions in greenhouse gas (GHG) emissions are critically needed to address climate change (IPCC 2018). Transitions away from fossil-fuel towards low-carbon energy systems, such as those relying on renewable-energy technologies, provide opportunities for reducing GHGs. These transitions can further address some of the environmental effects of fossil-fuel extraction, processing, and use, such as declines in water and air quality (UCS 2016).

However, energy planners also need to prioritize gender equality and social equity considerations to achieve sustainable transitions. Inequalities embedded in fossil-fuel production systems can persist in their replacements, if women and other marginalized groups are still excluded from decision-making and from the benefits of an energy transition (ENERGIA 2019). The design and deployment of renewable energy systems occur in contexts defined by social inequities. Literature on gender and low-carbon energy transitions affirms that these transitions may at times shift inequities from one system to another rather than eliminate them (Lawhon and Murphy 2012; Ahlborg 2017). In some cases, socio-technical changes brought on by renewable energy electrification can even destabilize social order (Ahlborg 2017).

To explore how gender equality and social equity issues evolve in an energy-transition reality, we conducted case studies in West Sumatra, Indonesia. Like many developing and middle-income countries, Indonesia is grappling with questions of energy security and electrification for its own citizens in an economy reliant on an uncertain coal market (Atteridge et al. 2018). But in the context of addressing climate change, Indonesia distinguishes itself as one of the world’s greatest carbon emitters, ranking 4th globally in 2015 (Dunne 2019). It is also the world’s 5th largest producer of coal, and it relies heavily on its coal export market (BP 2019). Interventions to promote energy-system transitions and equity in Indonesia could have dramatic consequences globally, due to the scale of Indonesia’s contribution to climate change. There are some signs that Indonesia is on the path to an energy transition evinced by Indonesia’s Nationally Determined Contributions (NDC) commitment to reduce 29% of its emissions by 2030 (Government of Indonesia 2016) and the establishment of a Low Carbon Development Initiative to promote sustainable and low-carbon development (Indonesian Ministry of Development Planning 2019).

We selected West Sumatra, a province on the Indonesian island of Sumatra, as a subnational case for a number of reasons. These include the high renewable-energy generation potential, the diversity of possible renewable-energy sources, an established partnership with Andalas University allowing greater access to local stakeholders, and the presence of the Minangkabau matrilineal ethnic group. The aim of this brief is to draw lessons using real-world examples from West Sumatra that highlight gender and social equity concerns of low-carbon transitions. This brief is informed by an unpublished literature review on wider issues of energy development in Indonesia.

The findings are based on focus group discussions and key informant interviews with community members, provincial energy authorities, non-government organizations, and the private sector to understand perceptions around renewable-energy projects. We selected four renewable-energy development sites in West Sumatra as transition examples: two geothermal projects, coded as SEML and HDE to maintain their anonymity; one micro hydro project¹ (World Bank 2009); and an oil palm company for biofuel that also uses waste as biomass for its own energy production, coded as BSS. We conducted 20 key informant interviews with 25 informants and 6 focus group discussions involving 26 men and 27 women” (Aung et al 2020, 4).

Bock, Sabine, Regina Drexel, Sascha Gabizon, and Anna Samwel. 2015. *Access to Affordable Low-Cost Solar Water Heating Solutions as a Basis for the First Gender-Sensitive Nationally Appropriate Mitigation Action (NAMA) in Georgia. Case Study. Women in Europe for a Common Future (WECF).*

No abstract available.

Summary:

“The purpose of this case study is to present the findings of the practical implementation of solar warm water heaters as a new and specifically adapted technology to rural Georgian communities, and its gender implications. The Case Study will conclude with recommendations of how the successful spreading of solar heating can be scaled up through the rural areas of Georgia, creating increased wellbeing, gender equality and climate mitigation, whilst reducing poverty and environmental damage. The recommendations stand at the basis of the proposed “gender-equitable National Appropriate Mitigation Action” which has been developed by WECF and its Georgian NGO partners, in cooperation with the Georgian Ministry of Environment. The gender-sensitive NAMA plans the installation of solar water heaters and energy efficient stoves for at least 10-20.000 rural households in Georgia. What does gender-equitable finance mean? It takes into account the needs of women and men and by financing women priorities as well as men’s. Solar collectors are one technology which benefits both men and women equally and is implemented in a gender-responsive way, which means it acts in regard to the gender roles” (Sabine et al. 2015, 8-9).

Cecelski, Elizabeth. 2000. *The Role of Women in Sustainable Energy Development. Subcontractor Report NREL/SR-550-26889. Golden, CO: National Renewable Energy Laboratory.*

No abstract available.

Summary:

“Renewable energy will play an increasingly important role in both developing and developed countries in the future. The different implications of the wider use of renewable energy sources for women and men have hardly been examined, even though women’s roles and interests in energy use and production have been well-documented.

Experience in other sectors, and anecdotal evidence from the energy sector, suggest that women indeed have an important role to play in sustainable energy development. This paper, originally prepared to address the concerns of renewable energy technical experts at the World Renewable Energy Congress, reviews the literature on women's involvement in renewable energy and presents some examples of the results of including or excluding women in renewable energy development.

"It addresses four questions: Why do women need renewable energy? Are women really interested in renewable energy technologies (RETs)? Will women automatically benefit from RETs? Why is a gender perspective relevant in the energy sector?" (Cecelski 2000, iv).

Clancy, Joy S. 2004. "Empowering Women in Africa, Editorial." *ADB FINESSE Africa Newsletter* 6 (1).

No abstract available.

Summary:

"Renewable Energy has been talked about for more than thirty years while fossil fuels have increased in use and declined in supply. At the World Summit on Sustainable Development (WSSD), held in Johannesburg in 2002, energy was one of the most contentious issues. Setting targets for new renewable energy as well as reducing perverse and harmful energy subsidies were hotly debated. Despite the considerable efforts in different parts of the world to promote renewable energy sources we are still awaiting a major breakthrough in use in Africa" (Clancy 2004, 2).

Clancy, Joy S. 2016. "In the Light of What We Know: Gender and Energy Transformations." Inaugural Lecture presented at the Commencement of the Position as Professor of Gender and Energy in the Faculty of Behavioural, Management and Social Sciences, The University of Twente, Enschede, November 24.

No abstract available.

Summary:

"In this lecture I will explain the linkages between the transformations taking place in, what at first sight may appear to be separate issues, the energy system and gender roles and relations. All good stories have a beginning, a middle and an end. My story has a beginning in which I briefly describe the context that shaped my own research in respect of developing renewable energy technologies that is the response to an 'energy crisis' of the 1970s – the need for a change in the energy system towards a reduced dependency on fossil fuels and increased use of renewable energy, such as the sun, wind and plant material (known as biomass). However, it began to become clear to me that having an energy technology which ticked a number of boxes from an engineering perspective was not being enthusiastically adopted by large numbers of the intended

beneficiaries. Other factors are at play. Understanding these has been and continues to be the focus of my research” (Clancy 2016, 3).

Clancy, Joy S., Sheila Oparaocha, and Ulrike Roehr. 2004. “Gender Equity and Renewable Energies.” Thematic Background Paper prepared for the International Conference for Renewable Energies, Bonn, Germany, February.

No abstract available.

Summary:

The aim of this paper is to review existing evidence on the role of renewable energies in bringing gender equity. The paper first explores the evolution of thinking on gender and energy, in particular that practitioners no longer specifically focus on women and stoves (often referred to as “household energy”). Next, the reasons why gender analysis can help those people trying to increase the dissemination of renewable energy technologies are presented. There is a brief description of the gender aspects of household energy, and how different renewable energy technologies can contribute to drudgery reduction and time saving, particularly for women. The role of women in renewable energy is analysed. The paper concludes with an analysis of lessons learnt and recommendations. However, the point has to be stressed that there is now only beginning to emerge information about gender and energy in the South, and there is very little information about the situation in the North. The data that are available are primarily in the form of case studies, mainly related to stoves programmes and rural electricity grid extension. The systematic collection of gender-disaggregated statistical data by energy ministries does not occur and it is very rare to find energy project evaluations that use gender analysis. This means that much of the analysis should be seen as only as indicative, although this does not invalidate the recommendations since many of these are linked to the general situation of women having fewer assets than men. (*Summary from original source*)

ENERGIA. 2016a. *Improving Gender Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka: An ADB-Supported Project to Achieve Gender Equality Results in the Energy Sector*. Mandaluyong: The Asian Development Bank.

No abstract available.

Summary:

“Between 2012 and 2015, the Asian Development Bank (ADB) supported a multicountry grant assistance project entitled, “Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka,” funded under the Japan Fund for Poverty Reduction (JFPR) and coded in the ADB database as JFPR 9158. The project was designed to gear three ADB-financed energy projects in the three covered developing member countries (DMCs) towards contributing to women’s empowerment and gender equality in the energy sector. These three energy projects were the: (i)

Bhutan: Rural Renewable Energy Development Project (Grant 0228); (ii) Nepal: Electricity Transmission Expansion and Supply Improvement Project (Loan 2808); and (iii) Sri Lanka: Sustainable Power Sector II Project (Loan 2733). JFPR 9158 was implemented by ENERGIA, the International Network on Gender and Sustainable Energy, in collaboration with the Royal Society for Protection of Nature, Bhutan (RSPN), Centre for Rural Technology Nepal (CRT/N), and Practical Action Sri Lanka. The project results have provided the ADB South Asia Department (SARD) with models for pursuing gender inclusive operations of its supported energy projects and optimizing the energy resources provided by these projects for women's empowerment and gender equality. This paper presents an overview of JFPR 9158, including its background, key strategies, results, and lessons" (ENERGIA 2016a, iv).

ENERGIA. 2016b. *Sri Lanka Women Come Together in Producer Groups to Assemble LED Bulbs*. Case Study. Mandaluyong: Asian Development Bank.

No abstract available.

Summary:

"Traditionally, women in the rural areas of Sri Lanka are engaged in a range of income generating activities like food processing, sweet making, dairy, dress making, and agriculture. Most of these activities are home-based and provide them with supplementary income for their families.

"An ADB-supported project financed under the Japan Fund for Poverty Reduction (JFPR) — entitled Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka and coded as JFPR 9158 – built on and expanded these traditional activities to include energy-based livelihoods.

"Through the JFPR 9158, Practical Action, together with ENERGIA, the International Network on Gender and Sustainable Energy, worked with women entrepreneurs of Ampara district in Sri Lanka to enhance the productivity and incomes of their enterprises. JFPR 9158 aimed at assisting people, especially women, in Ampara District who were affected by natural and human-induced disasters – such as tsunami, prolonged droughts, periodic floods, and internal war – and who could hardly recover from the disasters due to lack of capability and financial resources" (ENERGIA 2016b, 1).

ENERGIA. 2016c. *A Regional Gender Assessment of Energy Policies and Programmes in South: Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal, and Sri Lanka*. Mandaluyong: Asian Development Bank.

No abstract available.

Summary:

“The project objective is to increase rural poor women’s access to affordable and reliable clean and renewable energy sources and technologies in selected project sites in three SARD (South Asia Department) Developing Member Countries (DMCs): Bhutan, Nepal and Sri Lanka. Three interrelated activity clusters were implemented:

- Component A: Gender review of the energy sector, documenting good practices in incorporating pro-poor and gender-related aspects in energy sector policies, laws and regulations identified in SARD DMCs
- Component B: Direct interventions supporting gender-inclusive access to renewable energy and energy-based livelihoods will be implemented in the three countries
- Component C: A Project Performance and Monitoring System (PPMS) designed and used for tracking and documenting social and gender-related processes and impacts of interventions

“This report presents the findings of review of national energy policies for the region. This report is structured in five sections, as follows:

- A summary of key gender and development issues in the region, in chapter 2
 - Gender issues as they relate to the energy sector in the region, in chapter 3
 - A comparative assessment of national level energy sector policies in the three participating SARD DMCs, for their gender responsiveness, in chapter 4
 - Documentation and analysis of good practices in gender-inclusive energy and development policies and programmes implemented by national governments, the ADB, and development partners, in chapter 4
 - Proposed recommendations to strengthen gender mainstreaming in national policies as well as in the ADB energy sector portfolios, in chapter 5”
- (ENERGIA 2016c, 1).

Energy Sector Management Assistance Program (ESMAP). 2019. *Gender Equality in the Geothermal Energy Sector: Road to Sustainability*. 028/19. Energy Sector Management Assistance Program (ESMAP) Knowledge Series. Washington DC: The World Bank.

No abstract available.

Summary:

Although geothermal energy is globally recognized as a clean and reliable source of heat and electric power its development can inadvertently lead to adverse outcomes that disproportionately disadvantage women. Based on good practices and lessons learned, this report introduces ways that geothermal projects can mitigate risks and pursue opportunities to address gender gaps within the project cycle. It outlines the risks and opportunities associated with (i) changes in land and natural resource use, (ii) changes to employment and economic patterns, and (iii) changes to environment and health. Beyond mapping risks and opportunities, the report makes the case for focusing on the gaps between men and women from the project outset. Once gaps, key stakeholder risks, and additional development opportunities have been identified, project teams

have an opportunity to address them through actions. The report provides guidance on how to include specific monitoring and evaluation indicators in the results framework for geothermal projects that measure progress toward closing gaps between men and women. In addition, the report contains an overview of guidance and toolkits developed, selected global case studies, and other resources so that project teams, governments, and geothermal developers have additional guidance on hand to prepare more equitable projects. (*Summary from World Bank Open Knowledge Repository*)

Farhar, Barbara C. 2000. *Progress on Linking Gender and Sustainable Energy*. Technical Report. Golden, CO: National Renewable Energy Laboratory.

Abstract:

The field of gender and energy has been identified as critical in global sustainable energy development and is increasingly important to decision makers. The theme of women and energy was of significance at the 1998 World Renewable Energy Congress in Florence, Italy. This paper traces further developments in this field by summarizing selected programmatic initiatives, meetings, and publications over the past 18 months. (*Abstract from original source*)

Keywords: gender roles; renewable energy; energy policy; analysis; marketing; sustainable development

Fundación Solar, ENERGIA, and the International Union for the Conservation of Nature (IUCN). 2015. *Creating Conditions for Gender Equity in Rural Energy Projects: Experience in Productive Uses of Renewable Energy in Guatemala*. Leusden, The Netherlands; Gland, Switzerland: ENERGIA and IUCN.

No abstract available.

Summary:

The Productive Uses of Renewable Energy (PURE) project in Guatemala promotes the adoption of renewable energy by removing obstacles and reducing implementation costs. PURE encourages the adoption of renewable energy technologies, particularly micro and small scale hydroelectric production, as well as demonstration initiatives with photovoltaic systems, biodigestors, and efficient cook stoves.

The objectives of the PURE project are focused on community development processes. In its implementation phase, the project recognized the participation gap for women, and moved to include a social approach, affirmative actions, participation quotas, and technical training to help create conditions for women's empowerment.

PURE was implemented in rural areas in the Departments of Alta Verapaz, Baja Verapaz, Quiché, Huehuetenango, and San Marcos, in Guatemala. The project was coordinated by Fundación Solar, a private development organization established in Guatemala in 1993. (*Summary from IUCN Global Gender Office*)

Green Alternative. 2016b. *Case Study – Gender Impacts of Nenskra Hydro Power Plant*. Tbilisi, Georgia: Green Alternative.

No abstract available.

Summary:

“The World Commission of Dam (WCD) reveals that construction of reservoirs and associated infrastructure may impact woman and man disproportionately. ‘Given the gender-blindness of the planning process, large dam projects typically build on the imbalance in existing gender relations. For affected communities dams have widened gender disparities either by imposing a disproportionate share of social costs on women or through an inequitable allocation of the benefits generated’[1]. The wider impacts may include the domestic violence and sexually transmitted diseases, including HIV and AIDS, problems during the land compensation when the planning is poor and gender-blind. Gender and power imbalance leads towards higher marginalisation of women and traditional land ownership. Government plans construction of more than 114 hydro including the large dams that may lead towards involuntary resettlement increasing the gender risks, inequality between men and women, risks related to safety and etc. which is already present in Georgia.

“The present case study is based on desktop research, numerous trips to a affected communities, and meetings with different decision makers in Georgia and internationally, as well as the findings of fact finding mission implemented by CEE Bankwatch Network and Green Alternative to study social and gender impacts of forthcoming construction.

“The aim of the study is to reveal the potential gender impacts of Nenskra Hydro construction and to provide recommendations to Georgian Government and International Financial Institutions how to address the existing gender gaps in hydro projects planning and make it part of the decision making processes” (Green Alternative 2016b, 1).

International Center for Research on Women (ICRW). 2017. *Solar Sister: Empowering Women through Clean Energy Entrepreneurship*. Washington, DC: ICRW

No abstract available.

Summary:

Solar Sister is a social enterprise that combines the life changing power of clean energy access and women’s enterprise. Solar Sister is building a network of women entrepreneurs who sell and deliver clean energy to their communities in rural Africa. In 2015, the International Center for Research on Women (ICRW), a global research institute that seeks to empower women, advance gender equality, and fight poverty in the developing world, conducted a qualitative assessment in Tanzania to better understand whether and how being a Solar Sister clean energy entrepreneur impacts

women's and men's lives at the individual, family, and community levels. A secondary focus of the study was to reveal initial insights about the benefits experienced by customers as a result of using Solar Sister's clean energy products. ICRW's data collection took place in four regions of Tanzania: Mara, Mwanza, Manyara, and Arusha. Sites for data collection were selected based on the large number of entrepreneurs in these regions and the socio-economic diversity among the four regions. This report presents a summary of ICRW's research findings. (*Summary from IUCN Global Gender Office*)

International Energy Agency (IEA), and the World Bank. 2015. *Sustainable Energy for All 2015: Progress Toward Sustainable Energy*. Global Tracking Framework Report. Washington DC: The World Bank.

Abstract:

Sustainable Energy for All seeks to improve the lives of billions of people across the world and ensure a more sustainable future by working to achieve its three global objectives: universal access to energy; doubling of the rate of improvement in energy efficiency; and doubling of the share of renewable energy in the global energy mix. Accountability and transparency are essential for tracking Sustainable Energy for All's global progress. Doing so will clarify where the initiative stands, how various actions are contributing to the three objectives, how much remains to be accomplished, and where more action is needed to achieve Sustainable Energy For All. This second edition of the SE4ALL Global Tracking Framework provides an update of how the world has been moving towards the three objectives over the period 2010-2012. The report also explores a number of complementary themes. First, it provides further analysis of the financial cost of meeting the SE4ALL objectives as well as the geographical and technological distribution of the investments that need to be made. Second, it explores the extent to which countries around the world have access to the technology needed to make progress towards the three goals. Third, it identifies the improvements in data collection methodologies and capacity building that will be needed to provide a more nuanced and accurate picture of progress over time. Finally, this new edition of the Global Tracking Framework explores and introduces nexus concepts focusing on the links between energy and four priority areas of development: food, water, human health, and gender. Links between most of these areas and energy are well established, but often presented in isolation of each other. (*Abstract from World Bank Group Open Knowledge Repository*)

International Union for Conservation of Nature (IUCN) and United States Agency for International Development (USAID). 2015. *GECCO Energy Factsheet*. Washington, DC: IUCN and USAID.

No abstract available.

Summary:

While efforts at integrating gender considerations into climate change and energy have progressed over several years, there is a significant knowledge gap on gender and large-scale renewable energy, as well as the gender implications of clean investment policy tools. AGENT's (GECCO*) energy work is designed to support the energy sector to be gender responsive by filling knowledge gaps for integrating gender into the energy sector through sharing existing practices and encouraging documentation of experiences and new knowledge creation.

*The former Gender Equality for Climate Change Opportunities (GECCO) initiative is now part of a broader program, Advancing Gender in the Environment (AGENT), which aims to improve development outcomes by strengthening environmental programming through gender integration and achieving gender equality outcomes. *(Summary from IUCN Global Gender Office)*

Keywords: renewable energy; energy; USAID; GECCO; NAMAs; LEDs

Johnson, Oliver W., Jenny Yi-Chen Han, Anne-Louise Knight, Sofie Mortensen, May Thazin Aung, Michael Boyland, and Bernadette P. Resurrección. 2020. *Assessing the Gender and Social Equity Dimensions of Energy Transitions*. Stockholm: Stockholm Environment Institute.

Abstract:

Transitions to low-carbon energy systems are essential to meeting global commitments to climate change mitigation. Yet “greening” energy systems may not make them any more fair, inclusive or just. In this paper, we review the academic literature to understand the state of knowledge on how diffusion of low-carbon technologies impacts gender and social equity. Our findings indicate that renewable energy projects alone cannot achieve gender and social equity, as energy interventions do not automatically tackle the structural dynamics embedded within socio-cultural and socio-economic contexts. If existing power asymmetries related to access and resource distribution are not addressed early on, the same structural inequalities will simply be replicated and transferred over into new energy regimes. *(Abstract from original source)*

Karlsson, Gail. 2012. *Empowering Women in Developing Countries through Energy for Entrepreneurship*. Leusden, The Netherlands: ENERGIA.

Abstract:

Renewable energy technologies offer great possibilities for increased access to electricity and motorized power in rural areas, and can support improved agricultural production, food processing, water pumping, communications and business activities.

The possibilities are especially important for women, who play critical roles in supplying energy in developing countries, especially where people still collect firewood and other biomass fuels. Women can gain significantly from modern, renewable energy sources for their traditional household and income-generating activities, as well as new

business enterprises, including building, selling, and maintaining energy-related products.

However, there are major challenges, including limitations on women's access to information, business skills, technical training, financing, and markets.

This paper looks at several energy initiatives working to engage women in productive business activities, and describes some of the measures ENERGIA experts have recommended to promote women's entrepreneurship. (*Abstract from original source*)

Karlsson, Gail, and Khamarunga Banda, eds. 2009. *Biofuels for Sustainable Rural Development and Empowerment of Women: Case Studies from Africa and Asia*. Leusden, The Netherlands: ENERGIA.

No abstract available.

Summary:

"This book of case studies represents a collaborative effort to explore the potential of biofuels to provide sustainable livelihoods and local sources of energy for people in rural areas of developing countries, with a special emphasis on women. Although there are many forms of bio-energy that can be useful in this regard, our focus in this book is on plant products, mostly seeds, used to produce oil - which is then either utilized directly in engines or equipment, or processed into biodiesel" (Karlsson and Banda 2009, iv).

Kelkar, Govind, and Dev Nathan. 2005. *Gender Relations and the Energy Transition in Rural Asia*. Case Study Report. New Delhi: United Kingdom Department for International Development (DFID).

Abstract:

This study, drawn from research conducted in China and other parts of rural Asia, links women's and men's labour force participation and status to the adoption of new fuels and appliances in a number of countries. Low opportunity cost of women's labour limits the adoption of improved stoves and women's entry into income-earning activities would promote a fuel transition. While the severely negative health impacts of biomass fuels make public subsidy of alternatives desirable, this will not necessarily result in fuel switching by households so long as the value of women's labour remains low. This is shown in fieldwork from Yunnan, China and a number of other Asian countries. The critical area of intervention is likely to be in providing commercial fuels for women's income-earning activities. (*Abstract from original source*)

Keywords: gender relations; energy; opportunity cost of labour; fuel transition

Kochladze, Manana. 2017. "Women and Hydropower: Exacerbating Vulnerability without Resettlement." *Green Alternative*, June 19.

<http://greenalt.org/women-and-hydropower-exacerbating-vulnerability-without-resettlement/>.

No abstract available.

Summary:

The disproportionate impacts that the Nenskra hydropower project in Georgia will have on women are not being assessed by the project company, in spite of its financiers' standards. (*Summary from CEE Bankwatch Network*)

Lumampao, Feri G., Victoria Lopez, and Lisa Go. 2012. *Gender and Renewable Energy in The Philippines: A Community-Based Microhydro Project in Kalinga and a PV-Battery Charging Station in Southern Leyte*. Manila: APPROTECH ASIA (The Asian Alliance of Appropriate Technology Practitioners, Inc.).

Abstract:

Community-based renewable energy (RE) projects have been shown to provide greater accessibility to community members in remote areas. Through two case studies, this report aims to document the role of women in community projects and the impacts of RE projects on women in the areas of production, reproduction and community participation.

The two projects covered are of a community-based microhydro project (MHP) in Tulgao, Tinglayan, Kalinga and a photovoltaic battery charging station (PV-BCS) in Malitbog, Southern Leyte. The two Tulgao villages (East and West) in Kalinga are populated by indigenous peoples belonging to the Tulgao tribe of the CAR. New Katipunan and Cadaruhan Sur in Malitbog, Leyte are populated by native Visayans.

Qualitative methods such as semi-structured, in-depth household interviews with husband and wife, key informant interviews with selected key people involved in the project and results of focus group discussions (FGDs) were used to gather data in the MHP case study in Tulgao. FGDs were conducted with women participants, with men participants and with mixed groups from the two communities.

In the PV-BCS charging station study, the assessment tools used were focused on uncovering the attitudes of project beneficiaries towards their solar lighting system in relation to livelihood activities and other aspects. Purposive cluster sampling was used to determine participants. FGDs and key informant interviews were also conducted to gather information. Rapid rural appraisal (RRA) results that were gathered before the installation of the projects were incorporated with the data later collected.

Both case study sites were excluded from the rural electrification programmes of the local electric cooperatives and the local public/private power distributors either because of the distances involved or the rugged terrain that separate them from the existing power grid. Given this situation, microhydro power as an alternative source was tapped in 2000 in Tulgao through community mobilisation led by three NGOs: KEEP, SIBAT

and ENDP. Since installation, the MHP has provided electricity for lighting and small appliances to over 300 households and community buildings such as the church, the school and the health clinic.

In New Katipunan and Cadaruhan Sur, a three-channel PV-BCS plus residential lighting systems were installed in 2001 through a grant from the country's DOE and counterpart funding from the Municipality of Malitbog. The introduction of the solar energy projects to residents of the two barangays has brought convenience to their lives.

The findings of the two case studies confirmed that the installation of the MHP and the PV-BCS have contributed to improving the lives of the residents through increased economic resources, environmental protection, improved health and wellbeing and better socio-cultural and political activities.

Both projects also involved considerable contributions by women in mobilisation and task completion, thus enhancing community participation.

Of the significant benefits brought by the introduction of these RE projects, some were specific to the reproductive work and practical needs of women. In Tulgao, for example, the introduction of an electricity-powered rice mill freed women from the daily labour of pounding rice. This had a tremendous impact on women's time allocation, and on reducing drudgery, and opened up opportunities for substantive roles in production. The example of Estela Agalao described later in the paper shows how the MHP contributed to improving the productive role of indigenous women.

The study recommends the following:

- In terms of community projects, women should be involved in needs assessment and planning so that their concerns can be incorporated in project development processes.
- Service providers, such as NGOs, need to develop methodologies that consciously address the participation, access, availability and benefits of women in community-based systems so that economic gains address gender diversity.
- Development plans should broaden the stereotypical roles of women by increasing their knowledge, skills and participation in technical tasks and in the operation of community projects.

In terms of gender mainstreaming in policies on renewable energy:

- To highlight the gains from renewable energy in general, and particularly in empowering women, there should also be more contact and documentation of similar studies on women and renewable energy.
- Further, since this study has shown the successes and opportunities created by RE, up-scaling community-based renewable energy projects will ensure development and empowerment of all stakeholders in the community, especially women. (*Abstract from original source*)

Maduka, Olu, Joy Clancy, and Gladys Fayomi. 2004. "Gender and Renewable Energy in Africa." *ADB FINESSSE Africa Newsletter* 1.6 (October): 2-4.

No abstract available.

Summary:

"Renewable Energy has been talked about for more than thirty years while fossil fuels have increased in use and declined in supply. At the World Summit on Sustainable Development (WSSD), held in Johannesburg in 2002, energy was one of the most contentious issues. Setting targets for new renewable energy as well as reducing perverse and harmful energy subsidies were hotly debated. Despite the considerable efforts in different parts of the world to promote renewable energy sources we are still awaiting a major breakthrough in use in Africa" (Maduka et al. 2004, 2).

Marcos, Paloma, Anne-Marie Urban, and Lucía Fort. 2014. *Gender and Renewable Energy: Wind, Solar, Geothermal and Hydroelectric Energy*. Washington, DC: Inter-American Development Bank (IADB).

No abstract available.

Summary:

This document focuses on how to incorporate a gender perspective in operations that support the construction, operation and maintenance of medium- and large-scale renewable wind, solar, geothermal and hydroelectric energy installations connected to the grid for purposes of power generation. It includes a section on rural energy that is applicable to small installations and mini-grids, or to exceptional cases where medium- and large-scale facilities provide electricity to a community. (*Summary from World Bank Group Public-Private-Partnership Legal Resource Center*)

Mary Robinson Foundation – Climate Justice. 2013a. *Access to Sustainable Energy - The Gender Dimensions (Second Edition)*. Policy Brief. Dublin: Mary Robinson Foundation – Climate Justice.

No abstract available.

Summary:

The findings of this policy brief result from a field visit to organisations working on energy projects at the grassroots level in Malawi. The purpose of this paper is to provide a field-based perspective to policy makers on gender, climate change and access to energy. (*Summary from original source*)

Mary Robinson Foundation – Climate Justice. 2013b. *Enabling Women's Development and Empowerment Through Access to Clean, Affordable, Sustainable Energy*. Policy Brief. Dublin: Mary Robinson Foundation – Climate Justice.

No abstract available.

Summary:

“There is a growing focus on access to clean, affordable, sustainable energy as a key development issue.

“2012 marks the 20th anniversary of the 1992 UN Conference on Environment and Development and the Rio+20 Conference, which takes place this June, will review progress and determine future commitments. The Rio+20 Conference provides an opportunity to highlight the importance of improved access to clean, affordable, sustainable energy for all, in particular women. It is well understood that universal access to energy is essential for the achievement of the Millennium Development Goals (MDGs) and sustainable development...

“This brief sets out why it is vital to ensure that processes such as the Sustainable Energy for All initiative and Rio+20 have gender dimensions at their heart.

“This brief focuses on the opportunities energy access provides for promoting gender equality and women’s empowerment, especially in rural communities. It is also important to note that addressing the challenge of access to clean, affordable, sustainable energy is an opportunity to progress climate justice principles such as the right to development and sharing the benefits and burdens equitably” (Mary Robinson Foundation 2013b, 1).

Mortenson, Sofie, and Michael Boyland. 2019. *Integrating Gender in Transitions to Renewable Energy in the Lower Mekong Region*. Bangkok: Stockholm Environment Institute.

No abstract available.

Summary:

As the world increasingly prepares for renewable energy transitions, the Lower Mekong Region (LMR) governments¹ are formulating long-term renewable energy targets. However, achieving an energy transition in a region so dependent on fossil fuels is a monumental technical, economic, social and political challenge. The interests of global, regional and national elites often do not match the energy needs and environmental vulnerabilities of the poorest people, and there is no guarantee that the transition will transpire in a gender-sensitive and socially inclusive manner. Most renewable energy jobs are expected to be in manufacturing, construction and engineering: fields where women are significantly under-represented.

Male economists and engineers continue to dominate the energy sector, and while many of them may accept or even support the concept of gender equality, the relevance of gender to their work is poorly understood. Transitions to renewable energy may thus

unintentionally exclude women and reinforce existing inequalities. Yet women – on equal footing with men – have the potential to realize a clean energy future.

To ensure that transitions to renewable energy are for all, it is crucial to identify how opportunities and benefits are distributed, and why they are distributed in those ways. This includes understanding how experiences of energy transitions are widely dependent on contingent identities including gender, class, age and ethnicity. Yet, gender disaggregated data and case-studies on gender and power dimensions in both the fossil fuel and renewable energy sector in the LMR are sparse. Based on detailed desk reviews and key informant interviews, recent Stockholm Environment Institute work aims to close some of these research gaps (Resurrección and Boyland 2017). (*Summary from original source*)

Muchiri, Lydia. 2008. *Gender and Equity in Bioenergy Access and Delivery in Kenya. Study for the PISCES RPC. Nairobi: Practical Action East Africa.*

No abstract available.

Summary:

“In analyzing energy and poverty in rural areas, the most important element is biomass energy, which accounts for the largest share of energy consumption by the rural households in Kenya. As fuelwood scarcity intensifies in many rural areas, the local women are finding their domestic chores increasingly difficult. They are compelled to walk longer distances. In desperation, women are turning to potentially toxic options like cow dung, agricultural wastes, old plastic containers, which are injurious to their health and could accentuate respiratory illnesses due to persistent exposure to smoke. In short, lack of energy plays a major role in perpetuating poverty among the local population groups, who have to depend heavily on firewood to satisfy their domestic energy needs. The solution to this lies in the development of renewable energy, which has the potential to address the spatial and varied nature of rural energy demand” (Muchiri 2008, 7).

Mueller, Anke Maria, and Dishna Schwarz. 2012. “Making Micro Hydropower Projects Contribute to Gender Equality.” *Appropriate Technology* 39 (3): 50–2.

Abstract:

In development, it is crucial that men and women are treated equally. Gender equality must be included in the overall policy of any new project and these aims must be carried out in practice with the cooperation of all concerned. Focusing on the energy needs of women can help promote other goals relating to poverty eradication, health, employment and education. This approach of using gender in energy planning, analysis and project design is still not widely understood or accepted. Gender equality is often viewed predominantly as a political issue, unrelated to technical concerns about energy production and supply. An example of one micro hydropower scheme of 350kW in a village in the northern areas of Pakistan shows how promoting gender equality can

create a win-win situation; both for the well-being of women and men as well as for the sustainability of the project. (*Abstract from ProQuest*)

Nelson, Sibyl, and Anne T. Kuriakose. 2017. “Gender and Renewable Energy: Entry Points for Women’s Livelihoods and Employment.” Washington, DC: Climate Investment Funds (CIF).

No abstract available.

Summary:

Shifting the energy sector mix can lead to new economic opportunities and strengthened livelihoods for women and men, as well as improved health, safety, and quality of life. (*Summary from CIF*)

Parikh, Jyoti, Konsam Sangeeta, Chandrashekhar Singh, and Aysecan Oztop. 2009. *Gender Analysis of Renewable Energy in India: Present Status, Issues, Approaches and New Initiatives*. New Delhi: Integrated Research and Action for Development (IRADe).

No abstract available.

Summary:

“A gender analysis of national energy policies has been completed as an exercise to draw attention to the lack of gender concerns in national energy policies in India. In India, the demand for energy is increasing to fuel a rapidly expanding economy, and large investments are being made in exploration, fuel production, the generation, transmission and distribution of power and in setting up grid infrastructure. These massive efforts in energy development do not consider the needs of women, their access to and control over energy resources or support a gender- based empowerment process. The 11th five-year plan (2007-2012) expects to invest more than \$100 billion in the energy sector, including coal, oil, hydropower and other renewables and nuclear - but less than 2% of this may go towards alleviating the drudgery suffered by women and children. Together, women and children collect close to 28% of all primary energy. However, no inputs in terms of investment, management or technology are provided to them- something that all other energy sectors take for granted.

“This is partly due to a lack of gender mainstreaming in the energy sector and a lack of understanding of how to incorporate gender concerns in a sector that has primarily been technology-driven. Against this backdrop, a gender analysis exercise has been carried out to promote an approach that would lead to national energy policies becoming more gender- responsive in terms of content and process. A sound gender-responsive energy policy and, more importantly, its coordinated implementation are the keys to successful economic development” (Parikh et al. 2009, x).

Paul, Stella. 2017. “Barefoot Solar Warriors Take on Gender Injustice and Climate Change.” *Inter Press Service (IPS)*, March 7.
<http://www.ipsnews.net/2017/03/barefoot-solar-warriors-take-on-gender-injustice-and-climate-change/>.

No abstract available.

Summary:

“The Barefoot College of Tilonia was established four decades ago by Bunker Roy, a visionary educationist and environmentalist who envisioned a place where women with little or no formal education could learn livelihood skills and play a leadership role in their communities.

The skills taught here are many, including sewing, welding and carpentry, among others, but the flagship programme of the college is a six-month biannual course in solar technology.

The course accepts women of 35 years and older, mostly from economically or socially underprivileged communities living in areas that have no electricity. There are two separate learning centres for Indian and international trainees who are called ‘Solar Mamas.’

Each of the Solar Mamas is selected by her own community and sent to the college by their respective governments where they are provided a fellowship by the government of India. It covers their cost of their stay at the college campus, including food and accommodation” (Paul 2017, 1).

Pearl-Martinez, Rebecca. 2014. “Women at the Forefront of the Clean Energy Future.” A White Paper of the USAID/IUCN Initiative Gender Equality for Climate Change Opportunities (GECCO). International Union for Conservation of Nature (IUCN) and United States Agency for International Development (USAID), September.

No abstract available.

Summary:

Developed through a literature review and individual consultations with experts and validated through an experts’ workshop, this white paper considers the most recent work on the intersection of gender and energy. It intends to demonstrate that gender equality can be a driver for more effective clean energy investments, and that this gender lens can be applied at every level of the energy value chain. The findings identify and address knowledge gaps, raise awareness, and provide recommendations for actions and further research to implement gender-responsive clean energy and climate change mitigation initiatives. (*Summary from International Union for Conservation of Nature*)

Practical Action, South Asia. 2011. *Gender Mainstreaming in the Enhancing Renewable Energy Options Project*. Leusden, The Netherlands: ENERGIA.

No abstract available.

Summary:

The case study provides an overall view of the activities and impacts of gender mainstreaming in the EREO project. It highlights the energy & gender policies and institutional make up of Sri Lanka while providing an overview of EREO and gender mainstreaming of the EREO project. Gender and energy situation of the main beneficiaries of biofuel and pico hydro initiatives and impacts of the projects are also provided. The document also provides details on the resources and timelines for activities and the gender mainstreaming methodology used. The implementation status of activities as planned within the Gender Action Plan, challenges and limitations of the project are further described here. The report highlights recommendations for further improvement of gender mainstreaming methodology and suggestions for additional dissemination of project lessons and replication of efforts. *(Summary from IUCN Global Gender Office)*

Röhr, Ulrike, Joy S. Clancy, and Sheila Oparaocha. 2004. “Gender Is Not Something to Ignore! Why Gender Issues Need to be More Strongly Integrated into Renewable Energy Policies, Planning, and Projects, to Increase Sustainable Energy Access for Women.” *Sustainable Energy News: Newsletter for INFORSE (International Network for Sustainable Energy)*, no. 45 (December): 4-5.

No abstract available.

Rojas, Ana Victoria, Florian Marc Schmitt, and Lorena Aguilar. 2012. *Guidelines on Renewable Energy Technologies for Women in Rural and Informal Urban Areas*. Leusden, The Netherlands; Gland, Switzerland: International Union for Conservation of Nature (IUCN) and ENERGIA.

No abstract available.

Summary:

The guidelines on renewable energy technologies for women in rural and informal urban areas seek to inform women as key actors about the different potential uses of renewable energies in many areas of their daily lives. Along with hands-on guidance on how to assess available renewable energy technologies, these guidelines are intended to support women in their effort to choose renewable energy technologies appropriate to their particular situations. *(Summary from IUCN Global Gender Office)*

Rojas, Ana V., Jackelline Siles, and Maggie Roth. 2016. *LEDS in Practice: Promote Gender Equality to Realize the Benefits of Low Emission Development*. Policy Brief. Low Emission Development Strategies Global Partnership (LEDS GP).

No abstract available.

Summary:

Gender equality is fundamental to achieving sustainable development, as recognized by the Sustainable Development Goals (SDGs)—explicitly in SDG 5 on gender equality, and as a prerequisite to achieving other SDGs, from improved education to health to addressing climate change. By actively engaging both women and men in all segments of society, countries can tap into hidden potential and make their transition to low carbon societies truly sustainable. For example, women often play a central role in sectors where emissions can be substantially reduced in tandem with development benefits, such as efficient household energy use, support to income generation activities, and shaping consumption patterns towards low emission products. In addition, identification of women as active members of society and promoting their participation in new/nontraditional climate related job opportunities, for example as renewable energy technicians and entrepreneurs, will contribute to poverty reduction and economic growth. Studies show that gender diversity in high level decision making has a positive impact on business performance and investment in general, as evidenced by the better performance of companies with more women on their board with regard to returns on investment, sales, and equity. *(Summary from the IUCN Global Gender Office)*

Rossi, Andrea, and Yianna Lambrou. 2008. *Gender and Equity Issues in Liquid Biofuels Production: Minimizing the Risks to Maximize the Opportunities*. Rome: Food and Agriculture Organization of the United Nations (FAO).

Abstract:

The production of liquid biofuels such as bioethanol and biodiesel is rapidly increasing in developing countries, due mainly to the establishment of large-scale biofuel feedstock plantations. This results in potential socio-economic benefits, particularly in terms of agricultural employment, as well as risks, which tend to be context-specific. The objective of this paper is to discuss the potential gender-differentiated risks of liquid biofuels production and identify research and policy strategies to better understand and address them. The potential environmental and socio-economic risks that may arise from the establishment and operation of large-scale plantations for the production of biofuels are considered. In addition, some potential risks for food security resulting from an increase in food prices due to the growing use of agricultural crops for biofuels production are discussed. The paper provides some specific recommendations for future research, such as conducting field-assessments to generate sex-disaggregated data for testing the hypotheses discussed in this paper. It also offers a number of alternative policy options for reducing the risks and maximizing the opportunities of biofuels production, such as establishing international rules to ensure that this production is environmentally sustainable and pro-poor. *(Abstract from FAO)*

Sengendo, May Christine. 2005. *Institutional and Gender Dimensions of Energy Service Provision for Empowerment of the Rural Poor in Uganda*. Kampala: East African Energy Technology Development Network (EAETDN).

Abstract:

This case study examines how renewable energy service interventions at two sites in Uganda have contributed to the process of empowering women as well as addressing the different needs of women and men. The projects at the two sites sought to involve solar companies as private sector providers of energy services and aimed at addressing the differentiated needs of women and men at the household and small-scale enterprise levels. Various institutional arrangements for the provision of energy services were used in combination with a deliberate gender strategy. A government and private sector partnership was established by the Ministry of Energy and Mineral Development through the Uganda Photovoltaic Pilot Project for Rural Electrification (UPPPRE). Village banks were provided with a guarantee fund to support credit provision to the rural poor. This enabled solar companies to sell panels to solar users who expressed their need through demanding solar credit. The gender strategy enabled the project to target women for credit and sales, and through their involvement as the key users of solar energy and as technicians in the solar companies as well as owners of small enterprises. Replication of this gender strategy was then attempted but without government support through a partnership of a private sector solar company, the community and an NGO in a solar-wind project on Bufumira Island in Lake Victoria. A solar company sensitised communities so that they understood the importance of solar energy services to the needs of women and men in households and small enterprises. The NGO, the East African Energy Technology Development Network (EAETDN-Uganda), dealt with training on gender needs and power relationships between women and men. Then individuals purchased solar panels either through seeking funds from various rural and commercial banks or by using their own savings from the sale of fish.

The key finding is that a deliberate use of gender analysis with a specific gender strategy in energy interventions by governments, solar companies and village banks can result in significant benefits for both women and men. It can further support women's empowerment, especially if combined with support and encouragement for income-generating activities. The benefits for women as well as men included gains from their involvement in income-generating activities, the ability of spouses to pool resources and cooperate in repayment of solar loans and the increase in joint businesses between women and men. Training in maintenance, battery charging and usage for both men and women helped to ensure sustainability of both projects. Girls' education performance improved because they were able to study later at night after completing their domestic chores. The school also considerably reduced its expenditure on lighting. (*Abstract from original source*)

Keywords: Gender analysis; feminist political ecology; solar photovoltaic; solar energy services; institutional arrangements; private-public partnerships; private sector

Sibol ng Agham at Teknolohiya (SIBAT, Inc.) 2011. *Gender Mainstreaming to Strengthen Community Based Renewable Energy Systems in the Philippines*. Leusden, The Netherlands: ENERGIA.

No abstract available.

Summary:

The SIBAT organisation (Sibol ng Agham at Teknolohiya or ‘Wellspring of Science and Technology’) develops Community Based Renewable Energy System (CBRES) projects as part of its work in promoting appropriate technology in the Philippines. The projects provide small, decentralised power supply systems in poor, rural communities to meet energy needs such as household and community lighting, food and crop processing, pumping for potable water and irrigation, and other livelihood-related requirements. The renewable energy systems used in CBRES projects include: micro hydropower systems for electricity generation, milling and water pumping; solar photovoltaic water pumps; and small wind turbines and pumps. The projects are mainly implemented by NGOs and local people’s organisations.

CBRES projects are based on principles of social equity, community participation and environmental justice. SIBAT’s framework for developing CBRES projects includes the empowerment of rural women as a main indicator of relevance and success, but during the first phase of the programme (1998-2007) the projects failed to integrate women’s empowerment processes adequately, focussing primarily on community organisation and technical viability issues. During Phase 2 implementation, SIBAT sought to incorporate gender mainstreaming into the programme and system processes, recognising that women and men are developers and users of energy technologies and that they are affected by technology development in different ways, for example, in the roles they play and benefits they may derive. (*Summary from IUCN Global Gender Office*)

Smith, Julie A. 2000. *Solar-Based Rural Electrification and Microenterprise Development in Latin America: A Gender Analysis*. Golden, CO: National Renewable Energy Laboratory.

Abstract:

Worldwide, an estimated 1.5 to 2 billion people do not have access to electricity, including 100 million in the Latin America region. Depending on the country, 30 to 90 % of this unelectrified Latin American population lives in rural areas where geographic remoteness and low energy consumption patterns may preclude the extension of the conventional electricity grid. Women are heavily impacted by the energy scarcity given their role as primary energy procurers and users for the household, agricultural and small industrial subsectors in developing countries. As a result, women spend disproportionately more time engaged in energy-related activities like carrying water and searching for cooking fuel.

This paper describes the use of decentralized renewable energy systems as one approach to meet the energy needs of rural areas in Latin America. It outlines the advantages of a decentralized energy paradigm to achieve international development goals, especially as they relate to women. The paper studies Enersol Associates, Inc.'s Solar-Based Rural Electrification model as an example of a decentralized energy program that has merged energy and development needs through the local involvement of energy entrepreneurs, non-governmental organizations and community members. *(Abstract from original source)*

Solar Sister. 2012. *Solar Sister's Energy Consignment Model: Women Micro-Retailers Drive Solar Product Adoption in East Africa. Case Study. Affordability Mechanisms and Energy Access: Changing Lives Through Access to Finance for Clean Energy and Water.* USA: Arc Finance.

No abstract available.

Summary:

Founded in 2010, Solar Sister brings affordable solar lamps and small solar systems to communities in East Africa. Using an Avon-style distribution system, Solar Sister creates vital access to clean energy technology by building and extending the supply chain through women's rural networks. *(Summary from IUCN Global Gender Office)*

United Nations Industrial Development Organization (UNIDO) and UN Women. 2013. *Sustainable Energy for All: The Gender Dimensions. Guidance Note.* Vienna: UNIDO.

No abstract available.

Summary:

"This Guidance Note provides a brief overview of issues related to gender equality, women's empowerment and sustainable energy.

"Prepared specifically for the regional and country offices of UN Women and UNIDO, the Note aims to provide guidance for UN programming and work with policy makers around sustainable energy that integrates the gender dimensions. The Note can help strengthen collaboration with national and regional partners, as well as members of UN Country Teams, and promote South-South exchange of experiences in generating and supplying sustainable energy for all women and men, girls and boys. It seeks to create a momentum for targeting gender equality as one of the critical pathways for a successful transition to sustainable energy for all by 2030 and for reaching the objectives of the Future We Want.

"As such, it will serve as a starting point in working with policy makers and other stakeholders in developing programmatic and policy activities that seek to redefine the

gender-energy-development paradigm and expand the role of women in developing and implementing clean sustainable energy solutions.

“The Note first presents the international energy situation and the enabling power of energy for economic and social development, as well as the importance of providing communities with access to sustainable energy solutions.

“Next, the nexus between women’s empowerment, sustainable energy and sustainable development is elaborated. Finally, policy recommendations for UN Women and UNIDO staff are outlined” (UNIDO and UN Women 2013, 2).

Winrock International. 2004a. *Supporting Gender and Sustainable Energy Initiatives in Central America, Volume I. Energy Sector Management Assistance Program (ESMAP) Report*. Washington, DC: World Bank.

No abstract available.

Summary:

This report presents findings on the ESMAP-funded Central America Gender and Sustainable Energy project. The project has provided support to the Mesoamerican Gender in Sustainable Energy (GENES) Network, which seeks to enable the equitable access of women and men to sustainable energy services. Between April and July, a series of two bi-national and one tri-national workshop on gender and sustainable energy was conducted for members of GENES. Specific objectives were: become familiar with various types of renewable energy technologies, their applications and trends in their use; understand the principle concepts of gender equity; reflect on the relationship between gender equity, sustainable development, and renewable energy, and identify how key concepts of gender equity can be applied in the workplace and in the field; familiarize with recent advances in the gender and energy nexus; become familiar with gender methodologies, their uses and limitations. To ground the concepts presented, each workshop incorporated a technology demonstration and / or a field visit to a project site where participants could see one or more applications of sustainable energy technologies. These trips included exchanges on solar coffee drying and solar cooking; solar lighting and water pumping and brief field visits to projects involving photovoltaic pumping and electrification; solar fruit and wood drying; and the use of improved cook stoves. (*Summary from World Bank Open Knowledge Repository*)

Winrock International. 2004b. *Supporting Gender in Sustainable Energy Initiatives in Central America, Volume II. Energy Sector Management Assistance Program (ESMAP) Report*. Washington, DC: The World Bank.

No abstract available.

Summary:

This report presents findings on the ESMAP-funded Central America Gender and Sustainable Energy project. The project has provided support to the Mesoamerican Gender in Sustainable Energy (GENES) Network, which seeks to enable the equitable access of women and men to sustainable energy services. Between April and July, 2002, a series of two bi-national and one tri-national workshop on gender and sustainable energy was conducted for members of GENES. Specific objectives were : become familiar with various types of renewable energy technologies, their applications and trends in their use; understand the principle concepts of gender equity; reflect on the relationship between gender equity, sustainable development, and renewable energy, and identify how key concepts of gender equity can be applied in the workplace and in the field; familiarize with recent advances in the gender and energy nexus; become familiar with gender methodologies, their uses and limitations. To ground the concepts presented, each workshop incorporated a technology demonstration and / or a field visit to a project site where participants could see one or more applications of sustainable energy technologies. These trips included exchanges on solar coffee drying and solar cooking; solar lighting and water pumping and brief field visits to projects involving photovoltaic pumping and electrification; solar fruit and wood drying; and the use of improved cook stoves. (*Summary from World Bank Open Knowledge Repository*)

III. Indigenous Communities, Gender, and Energy

A. Academic Resources

Deshar, Rashila, and Madan Koirala. 2020. “Indigenous Practice in Agro-Pastoralism and Carbon Management from a Gender Perspective: A Case from Nepal.” In *Carbon Management for Promoting Local Livelihood in the Hindu Kush Himalayan (HKH) Region*, edited by Zhanhuan Shang, A. Allan Degen, Muhammad Khalid Rafiq, and Victor R. Squires, 267–80. Cham: Springer International Publishing.

Abstract:

Indigenous knowledge is the means making the practice possible in livelihood activity of HKH region. Pasturelands management and agropastoral activities carried out by indigenous people produce enough carbon and sequester large quantities of aboveground and belowground carbon. Such activities by indigenous people in Nepal Himalaya may have widespread effects on regional climate and global carbon cycles. This chapter showed the evaluating of indigenous gender perspective in the carbon management in Gatlang VDC of Rasuwa District, Nepal. The findings revealed that most of the labor related to agropastoral activities carried out by women contributed to carbon input and output, but their role was hardly recognized and valued. In the major decision-making process, women had either no or little say. Women contributed more than men to carbon input and output activities and. Therefore, their role in carbon management should be given proper attention. (*Abstract from original source*)

Kelkar, Govind, Dev Nathan, Patricia Mukhim, and Rosemary Dzuvichu. 2017. “Energy, Gender and Social Norms in Indigenous Rural Societies.” *Economic and Political Weekly* 52 (1): 7–8.

No abstract available.

Summary:

Studying women’s work and energy use through field studies in Khasi communities in Meghalaya and Angami communities in Nagaland, the links between energy use and women’s work and leisure are explored. It is found that the choice of energy source is closely linked with women’s participation in the management of energy resources, their opportunities to earn incomes, and their ability to negotiate the cultural and social norms of their communities. Energy planning cannot stop with the provision of household access to electricity or liquefied petroleum gas. A new deal for women in the energy sector is delineated, which relates to overcoming sociocultural limits and increasing the opportunity cost of women’s labour and their right to assets. (*Summary from original source*)

López-González, A., B. Domenech, and L. Ferrer-Martí. 2020. “The Gendered Politics of Rural Electrification: Education, Indigenous Communities, and Impacts for the

**Venezuelan Guajira.” *Energy Research & Social Science* 70.
doi:10.1016/j.erss.2020.101776.**

Abstract:

Rural electrification has often been promoted to improve women's access to education. However, no studies have been conducted to measure the actual impact of electrification on equitable access to education, qualitatively and quantitatively. This is particularly true when studying rural and indigenous communities in developing countries. The objective of this study is to comprehensively evaluate the impact of electrification on schooling for men and women in La Guajira (Venezuela). Their traditional indigenous rural communities were recently electrified with Renewable Energy Technologies (RET). The study focuses on eight communities that have never had electricity and whose location far from urban settlements limits other social relationships. During a week of total immersion in the fieldwork, the impact on 285 men and 273 women was analyzed through 43 household surveys. The results show that access to primary, secondary, and higher education has increased significantly thanks to coordinated education and electricity policies. School offers similar opportunities for both genders, but a higher percentage of indigenous women take advantage of the opportunity to study beyond the primary level. (*Abstract from original source*)
Keywords: rural electrification; gender; education; Venezuela; Indigenous communities

Osnes, Beth, Adrian Manygoats, and Lindsay Weitkamp. 2015. “A Framework for Engaging Navajo Women in Clean Energy Development through Applied Theatre.” *Research in Drama Education: The Journal of Applied Theatre and Performance* 20 (2): 242–57.

Abstract:

Through applied theatre, Navajo women can participate in authoring a new story for how energy is mined, produced, developed, disseminated and used in the Navajo Nation. This article is an analysis of a creative process that was utilised with primarily Navajo women to create a Navajo Women's Energy Project (NWEP). The framework for this creative process guided women in deeply considering energy issues from their own perspective and value base, facilitated them in articulating their values around energy, assessing the current energy situation not authored by women and invited them to imagine what kind of energy future they want. Finally, it facilitated women in identifying and rehearsing actions to move from the current story to the new story. This process is designed to include the participation of women who have rich life experience that is often in intimate and direct relationship with the environment, who hold knowledge in their bodies from lived experience and value traditional views and beliefs. The framework for applied theatre in this article helped to lay the groundwork for the NWEP in a relatively short amount of time in a manner that was inclusive, efficient, aesthetically stirring and fun. This framework has the potential to expedite and support the participation of women in authoring a new story for a wide variety of social issues. (*Abstract from original source*)

Keywords: clean energy; gender equity; Navajo women; participatory development; applied theatre

B. Non-Academic Resources

Semilla de Sol, ENERGIA, and the International Union for the Conservation of Nature (IUCN). 2015. *Experience in Gender Inclusion in the Implementation of the Batzchocolá Community Micro Hydroelectric Plant in Nebaj, Quiché, Guatemala. Case Study.* Leusden, The Netherlands; Gland, Switzerland: ENERGIA and IUCN.

No abstract available.

Summary:

As part of its work, Semilla de Sol has built participatory management models to develop community-level renewable energy projects. These models include a strategy to foster gender equity in the implementation of their projects in the Ixil and Zona Reina regions in the Department of Quiché, in Guatemala.

The Batzchocolá Community Micro Hydroelectric Plant, located in the community of Batzchocolá, is part of the community renewable energy micro-enterprise model that Semilla de Sol promotes and advises in poor, rural, and indigenous communities in Guatemala. The objective of the project is to provide electric energy service to the population in the villages of Batzchocolá and Laguna Batzchocolá in the Municipality of Santa María Nebaj, and Visiquichum, in the Municipality of San Gaspar Chajul, Department of Quiché, taking advantage of the local availability and potential of the water resources, to help improve living conditions, create job opportunities, and increase household income. (*Summary from IUCN Global Gender Office*)

IV. Feminist Perspectives on Gender in Energy Infrastructure

A. Academic Resources

Bell, Shannon Elizabeth, Cara Daggett, and Christine Labuski. 2020. “Toward Feminist Energy Systems: Why Adding Women and Solar Panels Is Not Enough☆.” *Energy Research & Social Science* 68 (October). doi:10.1016/j.erss.2020.101557.

Abstract:

Growth in renewable energy does not displace fossil fuel use on a one-to-one basis, but rather increases the total amount of energy that is produced. As numerous scholars have argued, an energy transition away from – rather than in addition to – fossil fuels will require more than technology and financial capital. Here we argue that a feminist perspective on energy provides an important framework for understanding what keeps us stuck in unsustainable energy cultures, as well as a paradigm for designing truly just energy systems. Feminist approaches have been widely taken up in environmental and ecofeminist work, as well as in climate change research. In energy studies, however, gender-related research has tended to focus more narrowly on women's issues. Although this is crucial work, the focus on women represents just one dimension of what feminism can bring to the study of energy. Feminist theory also offers *expertise in the study of power* more broadly, which is widely applicable to the full spectrum of energy research. This article outlines a feminist energy research agenda that addresses many aspects of energy system design, planning, exchange, and use. We analyze energy along four intersecting coordinates: the political (democratic, decentralized and pluralist); economic (prioritizing human well-being and biodiversity over profit and unlimited growth); socio-ecological (preferring relationality over individualism); and technological (privileging distributed and decentralized fuel power and people power). In doing so, we show that feminism is well-suited for navigating the tangled web of power, profit, and technological innovation that comprises human fuel use. (*Abstract from original source*)

Chalifour, Nathalie J. 2010. “A Feminist Perspective on Carbon Taxes.” *Canadian Journal of Women and the Law* 22 (1): 169–212.

Abstract:

Effective domestic policies are urgently needed to address climate change. A great deal of energy is devoted to selecting and designing the optimal policy instruments, with questions of environmental effectiveness and economic efficiency dominating the debate. However, it is equally important to consider how those policies will impact upon different segments of society and to ensure that they are designed in a way that is fair and does not further entrench systemic inequalities. This article approaches this social justice issue by examining carbon taxes from a feminist perspective, specifically considering how carbon taxes impact upon women. The article proposes the gender analysis of environmental taxes framework, which goes beyond the evaluation of distributional impacts to consider non-income impacts, implications of related

mitigation, and revenue-use policies as well as the outcome of the measure. Applying the framework to British Columbia's carbon tax and Québec's *redevance annuelle* reveals that women may bear a disproportionate burden of the increased prices created by carbon taxes. The article also demonstrates that policies designed to mitigate the impact of carbon taxes on low-income households do not address income disparities between women and men, nor do they take into account the socio-economic status of women. The author concludes with recommendations for developing carbon pricing policies that avoid perpetuating existing systemic inequalities between women and men and that might even help to overcome these inequalities. (*Abstract from original source*)

Listo, Romy. 2018. "Gender Myths in Energy Poverty Literature: A Critical Discourse Analysis." *Energy Research & Social Science* 38 (April): 9–18.

Abstract:

There is increasing sensitivity to the importance of gender in energy poverty literature, although there remains relatively scant analysis of energy and gender from feminist development scholars. The purpose of this article is to contribute to addressing this gap. Its aims are two-fold; firstly, it provides a brief introduction to feminist development literature, and its relevance to the field of energy poverty. Secondly, the article presents the findings of a gendered or feminist Critical Discourse Analysis (CDA) of energy poverty scholarship. It is argued that, at present, energy poverty discourse in academic literature constructs problematic 'gender myths' of women, gender equality and its relationship with energy. In doing so, the discourse instrumentalises women and gender for particular energy interventions, and does so at the expense of gender equality outcomes. As such, it highlights the need for greater attention by energy scholars, policy-makers and practitioners to feminist literature and concepts in both research and practice, and the continued inclusion of feminist scholars in interdisciplinary energy research teams. (*Abstract from original source*)

Keywords: energy; gender; poverty; women; discourse analysis; feminist

Ryan, Sarah E. 2014. "Rethinking Gender and Identity in Energy Studies." *Energy Research & Social Science* 1: 96–105.

Abstract:

Gender and identity should be core concerns for energy researchers and policymakers, because they mediate access to resources, exposure to pollutants, and opportunities to participate in energy resource management, policy, and science. Accordingly, this article suggests four research agendas ripe for further development: eliminating indoor air pollution, strengthening community resource management, developing feminist energy jurisprudence, and increasing women's representation in science, technology, engineering, and mathematics (STEM) and energy fields. This article is a call to action to publish gender and identity research of great consequence in this new journal. (*Abstract from original source*)

Keywords: gender; identity; feminist theory; energy

Shrestha, Gitta, Deepa Joshi, and Floriane Clément. 2019. “Masculinities and Hydropower in India: A Feminist Political Ecology Perspective.” *International Journal of the Commons* 13 (1): 130-52.

Abstract:

Mainstreaming gender in water governance through “how to do gender” toolkits has long been a development focus. It has been widely argued that such toolkits simplify the complex, nuanced realities of inequalities by gender in relation to water and fail to pay attention to the fact that the proposed users of such gender-water toolkits, i.e. mostly male water sector professionals, lack the skills, motivation and/or incentives to apply these toolkits in their everyday work. We adopt a feminist political ecology lens to analyse some of the barriers to reduce social inequalities in the management of global commons such as international rivers. Our findings highlight the leap of faith made in the belief that gender toolkits, as they exist, will filter through layers of a predominantly masculine institutional culture to enable change in ground realities of complex inequalities by gender. Analysing the everyday workings of two hydropower development organisations in India, we show how organisational structures demonstrate a blatant culture of masculinity. These two organisations, like many others, are sites where hierarchies and inequalities based on gender are produced, performed and reproduced. This performance of masculinity promotes and rewards a culture of technical pride in re-shaping nature, abiding by and maintaining hierarchy and demonstrating physical strength and emotional hardiness. In such a setting, paying attention to vulnerabilities, inequalities and disparities are incompatible objectives. *(Abstract from original source)*

Keywords: feminist political ecology; gender; global commons; hydropower; India; masculinities

V. Gender in Energy Policy, Programming, and Research

A. Academic Resources

Amin, Sakib Bin, and Saanjaana Rahman. 2019. “Linkages between Women and Energy Sector in Bangladesh.” In *Energy Resources in Bangladesh: Trends and Contemporary Issues*, 89–92. Cham: Springer.

Abstract:

Energy and women can be interrelated in many ways. The nature of the energy resource base, the features of the household, the effectiveness of energy policy and the position of women in the households can affect the relationship between energy and women. Women are usually deprived in Bangladesh regarding ownership and access to land, natural resources, credit, information and decision-making, at all levels. The energy industry is one of the most gender imbalanced sectors across the world. This hinders the development process of the developing and transition countries. Since the goal of Bangladesh government is to ensure everyone has access to sustainable energy, it is important for policymakers to understand the crucial and vital connection between gender and sustainable energy. To bridge the gender knowledge gap of macro energy projects, an initiative needs to be taken to unite mitigation practitioners to share optimum practices and insights into mainstreaming gender in the renewable energy sector. Incorporating gender perspectives into energy projects, policy and planning are essential to ensuring their effectiveness. (*Abstract from original source*)

Keywords: gender; women; rural; energy; Bangladesh; development; cooking; renewable; policy

Carlsson-Kanyama, Annika, and Anna-Lisa Lindén. 2007. “Energy Efficiency in Residences—Challenges for Women and Men in the North.” *Energy Policy* 35 (4): 2163–72.

Abstract:

In a Northern country such as Sweden, energy use in the home may be reduced by 20% through changes in behaviour. However, little is known about how households respond to policy instruments encouraging such change or to what degree this in turn may affect the workload of women and men in such communities. The current study presents findings from interviews with 30 households in Sweden that participated in intervention measures aimed at reducing energy use in the home and explores how the sexes divided the new household chores and their opinions regarding these. The empirical findings are analysed against a theoretical framework of behavioural change. Results from the interviews indicate that lower indoor temperature and fewer hot baths had a greater impact on women than on men. When electricity charges varied, the workload of women increased as they washed clothes and dishes at night and at weekends when electricity was cheaper. Women also refrained from using clothes’ driers resulting in more time spent completing this chore. Based on these results we argue that a gender perspective in future intervention programmes in Northern communities may be useful as residential energy conservation in its present form affects the timing and types of

household chores with resulting increased workload for women. How energy policy should change requires further analysis. (*Abstract from original source*)

Keywords: gender; energy efficiency; housing

Carlsson-Kanyama, Annika, Isabel Ripa Juliá, and Ulrike Röhr. 2010. “Unequal Representation of Women and Men in Energy Company Boards and Management Groups: Are There Implications for Mitigation?” *Energy Policy* 38 (8): 4737–40.

Abstract:

This survey shows that female representation in boards and management groups of large energy companies in Germany, Spain and Sweden is far from being gender-equal. Of the 464 companies surveyed, 295 (64%) had no women at all in boards or management groups and only 5% could be considered gender-equal by having 40% or more women in such positions. Interviews with energy companies confirmed current trends that gender equality efforts within decision-making in business are weak or non-existent. The findings are discussed against the background of differences in risk perceptions among women and men, evidence of women’s impact on boards and companies’ performance and the substantial risks related to unabated climate change. Research is suggested for exploring potential impacts on energy companies’ performance with more women in the boards when it comes to mitigation activities.

(*Abstract from original source*)

Keywords: energy company; gender equity; mitigation

Cecelski, Elizabeth W. 1995. “From Rio to Beijing: Engendering the Energy Debate.” *Energy Policy* 23 (6): 561–75.

Abstract:

New perspectives in the energy sector and new approaches to gender issues are especially conducive to reopening the debate on the role of women in energy policy and research. This article suggests that mutual concerns in energy fora and gender circles, jointly addressed, could further both the Rio energy programme goal of sustainable development, and the Beijing women’s agenda of development, equality and peace. While not exhaustive, specific neglected issues for gender research are pointed out here in areas of current and future energy policy concern: promoting the energy transition, energy efficiency, renewable energy, and sustainable transport systems. (*Abstract from original source*)

Keywords: women; energy policy; environment

Clancy, Joy S. 2000. “Policies, Projects and the Market Empowering Women? Some Initial Reactions to Developments in the Energy Sector.” Working Paper 105, University of Twente, Enschede.

Abstract:

The 1990s were a period of transition for the way in which development is stimulated. There has been a reduction in donor assistance directly to governments in the South and more emphasis has been placed on the market delivering services. This policy shift has been particularly pronounced in the energy sector. There has been a strong focus on electricity with renewable energy systems being promoted for use in areas where grid extension will be difficult.

During the same period there was increasing recognition within international fora of the linkages between women and sustainable development. An aspect of sustainable development includes access to sustainable energy resources and, in many areas of the world, women are responsible for providing the energy to meet their households' needs. As a consequence there are increasing number of energy projects which target and involve women. It is therefore an opportune moment to analyse what the effects of the changes in development strategies as they relate to the energy sector have had on meeting women's energy needs in a sustainable way.

This paper analyses situation at the policy level and at the implementation level. The policy level has an international dimension and a national dimension, although they are not developed in isolation. Despite the increasing interest in women and energy, it would appear that the issues that concern women have not been incorporated into policies. At the international level there have been some notable successes. UNDP and, to a lesser extent, ESMAP have been trying to incorporate women and energy into their programmes. At the national level, women's energy needs do not seem to be specifically addressed. Electricity is the hot issue but fuelwood and stoves seem to be largely forgotten. Actions to reduce women's drudgery are not high on the agenda.

At the implementation level, donor financed projects are being replaced by market driven initiatives. Have projects really failed women? By what criteria should the success of projects be evaluated? Participation is being increasingly seen as the solution to more successful projects in the energy sector. However, experiences in the water sector suggest that participation is not a simple process, women may not be equipped to make effective contributions or they may even actively opt not to participate in projects, particularly when they fear that their workload will increase. Projects are still popular for micro-credit and income generation. However, it is not clear whether the levels of funding really allow women to move out of poverty.

Can the market be expected to address all women's interests? The prospects do not look promising. In the energy sector, commercial interests are focused on electricity. This does not provide a low cost solution to women's major energy burden – cooking. From another perspective the market might be more gender sensitive since targeting is part of good marketing. Also if women participate in the market as entrepreneurs, this may contribute to their empowerment. (*Abstract from original source*)

Clancy, Joy S. 2002. "Gender as a Factor in Delivering Sustainable Energy." In *Proceedings of the International Conference of Renewable Energy for Rural*

***Development*, edited by A.K.M.S. Islam and D.G. Infield, 345–50. Dhaka: Bangladesh University of Engineering & Technology.**

Abstract:

This paper reviews the role of energy in contributing to the solution of a major development objective: moving people out of poverty. Understanding gender issues, especially the crucial role women play in household energy provision, is important in the design and implementation of appropriate energy interventions. The role energy plays in improving women's lives and the role women can play in providing energy services is reviewed. Some indicators of success factors for sustainable energy interventions are identified based on recent field experience. (*Abstract from original source*)

Keywords: gender; sustainable energy

Clancy, Joy S., and Nthabiseng Mohlakoana. 2020. "Gender Audits: An Approach to Engendering Energy Policy in Nepal, Kenya and Senegal." *Energy Research & Social Science* 62 (April). doi:10.1016/j.erss.2019.101378.

Abstract:

Gender audits are an approach for putting gender on the policy agenda and are an alternative to gender budgets being less dependant on experts in government finance.

This paper explores the effectiveness of gender audits as an approach to mainstreaming in the energy sector which has lagged other sectors in mainstreaming gender. The assessment takes the experiences of an international network on gender and sustainable energy that aims to get gender onto the energy policy agenda. Since there is no standard audit methodology, the network developed its own.

The paper uses an analysis of qualitative data, reviews of audit reports and key informant interviews to answer two questions. As a result of gender audits, have gender issues or attending to women's particular interests been incorporated in energy policy? Did participation in an audit build the capacity of national actors to contribute to gender mainstreaming in the energy sector? Detailed data comes from network countries conducting audits: Kenya, Senegal and Nepal, with supporting evidence from 8 countries in Sub-Saharan Africa and Asia.

The gender audit methodology used is partially effective in integrating gender issues into government energy policy. Pragmatic, conceptual and political barriers to gender mainstreaming continue to operate. Adopting gender-aware policies occurs rapidly in organisations that participated in the audits. Male employees more readily accept gender policies when they see that policies also benefits men. In the audit countries, a group of national gender and energy experts has been established able to contribute to mainstreaming gender in the energy sector. (*Abstract from original source*).

Keywords: gender mainstreaming; gender audits; energy policy; engendering policy; knowledge networks; gender capacity; mainstreaming effectiveness

Elnakat, Afamia, and Juan D. Gomez. 2015. “Energy Engenderment: An Industrialized Perspective Assessing the Importance of Engaging Women in Residential Energy Consumption Management.” *Energy Policy* 82: 166–77.

Abstract:

This study assesses gender role and participation in energy utilization at the residential household level in an advanced industrial country setting. Two hundred and twenty one (221) standardized surveys of single-family residential households in San Antonio, Texas – the seventh largest city in the United States of America – are collected and used as a test case. The objective is to highlight the role of women in improving household energy efficiency. By coupling the behavioral and analytical sciences, studies such as this one provide better insight for the effective deployment of targeted energy efficiency programs that can benefit both households and municipalities while reducing impact on environmental resources. Study conclusions highlight 80% higher per capita consumption in female dominant households versus male dominant households ($p=0.000$) driven by approximately double the gas consumption in female-headed households ($p=0.002$), and 54% more electric usage ($p=0.004$). The higher use in female dominant homes is examined through the socio-demographic impacts of education, income, vintage of home occupied and size of home occupied. The theoretical framework and test case presented in this study promote the need for market segmented energy efficiency initiatives that better engage women in energy demand-side management in industrialized populated cities. (*Abstract from original source*)
Keywords: energy engenderment; energy efficiency; residential energy consumption; gender analysis; predictive analytics; industrialized energy

Fathallah, Judith, and Parakram Pyakurel. 2020. “Addressing Gender in Energy Studies.” *Energy Research & Social Science* 65 (July). doi:10.1016/j.erss.2020.101461.

Abstract:

Although there are several studies on energy and gender, most of the studies have conflated ‘sex’ and ‘gender’ and there are some inconsistent and imprecise uses of these terms in energy and gender studies. In this article, we explore some differences between ‘sex’ and ‘gender’ from a Global North perspective based on current gender theory that can be helpful to ensure that these terms are used more consistently and precisely when conducting energy and gender studies. We contend that most of the existing gender and energy studies are often inadequate in that they only address energy and a biological conception of sex, or else simplistically equate gender with a masculine/feminine binary that may actually reinforce essentializing gender myths. Thus, we highlight an important gap in energy and gender research and propose a conceptual approach to precisely and consistently utilize the terms ‘sex’ and ‘energy’. Furthermore, we emphasize the need of considering gender impacts while devising energy policies and set out research agenda to make energy and gender studies more rigorous. This study is focused on the Global North, and similar studies are also needed for Global South. (*Abstract from original source*)

Keywords: energy and gender; gender theory; energy policy; energy and sex

Fofana, Ismaël. 2015. “Gender Analysis of the Policy Responses to High Oil Prices: A Case Study of South Africa.” *Feminist Economics* 21 (3): 216–40.

Abstract:

The 2007–8 surge in oil prices has created concern about its impacts on poor and vulnerable populations in developing countries. Government management of the energy crisis was shown to be important in reducing adverse impacts. This study uses an applied general equilibrium framework to examine alternative policy and external shocks with the recent surge in oil prices in South Africa through a gender lens. Simulation results show that although the 2007–8 energy crisis contributed to slowing down South African gross domestic product (GDP) growth and reducing employment and earnings, the distributional impact between men and women has been neutral. This neutrality is driven by an increase in capital inflows, which has mitigated the exchange rate depreciation owing to the oil price hike. Without an increase in capital inflows, the crisis would have significantly depreciated the exchange rate and contributed to decreasing women's market opportunities and increasing women's workload as compared to men. (*Abstract from original source*)

Keywords: energy policy; gender; household economics; time use

Fraune, Cornelia. 2016b. “The Politics of Speeches, Votes, and Deliberations: Gendered Legislating and Energy Policy-Making in Germany and the United States.” *Energy Research & Social Science* 19: 134–41.

Abstract:

Empirical evidence reveals a gender difference in both energy technology preferences and environmental concern. In contrast, research on gender differences in environmental or energy policy-making is rather sparse and yields inconclusive results. But more recent research on gender in environmental policy-making provides empirical evidence that female legislators make a difference in policy outcome. This paper contributes to this research by analyzing the legislative behavior of female and male legislators in energy policy-making in Germany and the United States for both roll call votes and legislative debates. The study gives hints that there exist gender differences in energy policy-making revealed by legislators' energy policy preferences. (*Abstract from original source*)

Keywords: gender; energy policy preferences; roll call votes; speech-giving

Govindan, Mini, Debajit Palit, Rashmi Murali, and Deepa Sankar. 2020. “Gender in Electricity Policymaking in India, Nepal and Kenya.” In *Energy Justice Across Borders*, edited by Gunter Bombaerts, Kirsten Jenkins, Yekeen A. Sanusi, and Wang Guoyu, 111–35. Cham: Springer Nature Switzerland AG.

Abstract:

Electricity is regarded as a basic amenity fundamental to improving human well-being and overall economic development. It also contributes to improving gender parity and social inclusion, especially in situations where women are challenged by harsh living conditions. This chapter examines how gender issues that were considered are addressed in the policies related to electricity in India, Kenya, and Nepal. The analysis reveals that whilst more than half of the reviewed documents were devoid of any explicit mention of gender concerns, an increasing number of electricity policies are now reflecting gender considerations. The predominantly “gender-blind” approach towards the potential benefits of electricity access emanates from a reluctance to explicitly acknowledge gender based differences in needs in creating equitable outcomes. The assumption that electricity access itself is enough for associated benefits to trickle down, that too equitably for men and women, stems from limited awareness. This is aggravated further by the absence of documented evidence on the merit of including gender elements in electrification policies and programmes. Based on the review of existing electricity policies, this chapter provides specific recommendations for incorporating gender in the electricity policies with a view to support and address the broader energy justice concerns. (*Abstract from original source*)

James, Bronwyn. 1999. “At the Margins of Power: Gender and Policy in the Energy Sector.” *Agenda: Empowering Women for Gender Equity* 15 (1): 18–47.

No abstract available.

Summary:

“The Department of Minerals and Energy (DME) released its draft White Paper on Energy in June 1998, after a protracted period of negotiation and consultation about the policy content and strategic direction of the energy sector. This paper examines the various steps in the process of formulating the White Paper. It begins by examining the definition of gender issues in the energy sector, focussing on the theoretical assumptions which have been made and which point to some of the conceptual difficulties with integrating gender into energy policy. The role of the Women's Energy Group (WEG) and the DME in asserting and supporting the need for integrating gender into policy will also be examined” (James 1999, 18).

Karlsson, Gail, and Sheila Oparaocha. 2003. “The Road to Johannesburg and Beyond: Networking for Gender and Energy.” *Energy for Sustainable Development* 7 (3): 62–7.

Abstract:

Although the Plan of Implementation adopted at the 2002 World Summit on Sustainable Development (WSSD) contained important provisions regarding the role of energy in sustainable development, it did not adequately reflect the linkages between energy, poverty and traditional gender roles. This was especially noticeable in comparison to the decision on energy adopted at the Ninth Session of the UN Commission on Sustainable Development (CSD-9). ENERGIA, an international network on gender and

energy, worked in partnership with other organizations to undertake successful lobbying and advocacy activities to ensure that a gender and energy perspective was reflected in the CSD-9 decision. UNDP, in particular, has been an important partner in raising awareness about the importance of gender-sensitive energy policies. The text of the WSSD Plan of Implementation recognised the importance of gender equality in sustainable development, but did not include specific references to gender issues in the substantive paragraphs of the text. To some extent this reflects the fact that the need for gender sensitivity has become much more widely recognised and accepted. With regard to the provisions concerning access to energy, the negotiators at the WSSD were focused on much more controversial matters. Nevertheless, in order to ensure that gender and energy concerns are included in national and international planning and decision-making processes, ENERGIA and its partners need to develop greater capacity for advocacy and information-sharing. Some of the partnership initiatives launched at the WSSD will provide new opportunities for gender and energy advocates to participate in the design and implementation of sustainable energy activities. For example, the Global Village Energy partnership sponsored by UNDP and the World Bank's Energy Sector Management Assistance Programme has emphasised gender sensitivity in energy decision-making, and has included ENERGIA members on its Board of Directors. (*Abstract from original source*)

Kooijman-van Dijk, Annemarije. 2020. "ENERGIA's Gender and Energy Research Programme: Findings and Experience from Research for Policy." *IDS Bulletin* 51 (1): 91-110.

Abstract:

It has long been understood that energy is a key contributing input to reaching development goals, but little is known about the extent to which energy supply benefits men and women equally, and how interventions could contribute to a reduction of any gender inequalities. Filling in gaps in knowledge on the gender equality of benefits of energy supply and providing insights for policy and practice were the starting points for ENERGIA's Gender and Energy Research Programme. This article has a dual objective: highlighting findings and policy implications from the research programme and reflecting on aspects of programme design on doing research for policy. Findings from the nine research projects in the programme illustrate the links between energy interventions and impacts along an adapted energy results chain. Reflection on research programme design is based on the experiences in this international multimethod interdisciplinary programme. (*Abstract from original source*)

Keywords: gender; energy; policy research; multimethod; interdisciplinary; research programme

Lapniewska, Zofia. 2019. "Energy, Equality and Sustainability? European Electricity Cooperatives from a Gender Perspective." *Energy Research & Social Science* 57 (November). doi:10.1016/j.erss.2019.101247.

Abstract:

The European electricity market and energy security have recently become heatedly discussed topics at the European Union level. In many countries, political and financial support for the transition towards renewable energy systems during the last two decades have encouraged the establishment of a substantial number of new electricity cooperatives. Cooperatives, as social enterprises, demonstrate attachment to values such as equity and equality in their actions, thus they might be perceived as women-friendly entities. However, little empirical research on that topic has been carried out in the European Union so far. The pilot study presented in this paper fills this gap by determining if gender perspective is reflected in the European electricity cooperatives' declarations and actions and whether this perspective is related to cooperative size, adopted mode of governance and cultural determinants of the region/country. This paper shows why gender equality is valuable to electricity cooperatives and how the presented research results may be useful to practitioners, researchers and policy makers. *(Abstract from original source)*

Keywords: electricity cooperatives; energy; gender perspective; gender equality; European Union

Longstreth, Molly, Jean Turner, Michael L. Topliff, and Donna R. Iams. 1989. "Support for Soft and Hard Path American Energy Policies: Does Gender Play a Role?" *Women's Studies International Forum* 12 (2): 213–26.

No abstract available.

Summary:

Women comprise a heterogeneous, issue-oriented voting segment and now represent the majority of United States voters. Energy issues are among a core group of environmental issues, around which political coalitions can form and which are linked theoretically and empirically with gender differences. Univariate and multivariate analyses are used to analyze the relationship between gender and preferences for a variety of energy policy options. Energy policy options are aggregated conceptually as "soft," "hard," and "conservation" paths. Women are found to be more opposed to hard path policies such as coal and shale development, than men. Results regarding support for soft and conservation paths vary. Univariate analyses show women to be more supportive of conservation and some soft-path options than men. Multivariate analyses indicate that women and men support soft path options equally and that men are more supportive of conservation policies than women. *(Summary from original source)*

Lugonzo, Alaka, and Kennedy Chege. 2020. "Gender Justice in the Energy Transition Era: Exploring Gender and Technology in the Extractives Sector." In *Energy Transitions and the Future of the African Energy Sector*, edited by Victoria R. Nalulue, 371-96. Cham, Switzerland: Springer International Publishing.

Summary:

The world of technology is transitioning fast as a result of the Fourth Industrial Revolution ('the 4IR'). The digital revolution is not only making fundamental changes

to how we live, but it is also having a profound impact on how we conduct business. The global market is adapting to new trends and faster turnaround times, and all sectors, including the energy and extractives sector (oil and gas, and mining sectors), will be forced to adapt to the transition. This change aligns with the clean energy developments and the global move to transition to a low-carbon economy which is characterized by technological advancements. The world is gradually discovering new things to do with technology, as its potential is beginning to be embraced. The present COVID-19 pandemic, for example, has altered the way we use technology, with many people spending more time online, thus creating the impetus to fast track the implementation of the 4IR. These changes will affect gender inclusivity and the future of work. Apart from the above issues, this chapter examines: why it is essential to include women in the workforce and along the different value chains, the need for automation in the extractives sector and how it will affect how we work. Lastly, the proposed solutions to address the challenges of gender disparity and promote inclusivity in the energy and extractives sector will be explored from the perspectives of the different role players in this sector, i.e. the public sector/governments; the private sector, including business entities; and Non-Governmental Organizations (NGO's). (*Summary from original source*)

Mahat, Ishara. 2004. "Rural Energy Planning and Policies in Nepal: Gender Perspectives." *Journal of Resources, Energy and Development* 1 (1): 19–41.

Abstract:

Women in rural Nepal are heavily involved in managing household energy systems. They spend a large proportion of their time and energy in collecting firewood and processing food grain. For instance, a woman in Nepal's rural mountainous area spends four to six hours in collecting a bundle firewood. Being the primary users and managers of household energy, women are very careful in ensuring efficient energy use. Indeed, they possess indigenous knowledge and skills in energy production and management. Despite this reality, Nepal's planners and policy-makers – who are usually male – rarely consider rural energy problems from the perspective of women. Rural energy interventions are planned and designed with the aim of saving fuel rather than that of reducing human drudgery or opening up new development opportunities for women and men. This paper analyses the issues and challenges facing Nepal's rural energy sector and makes some policy recommendations with a focus on gender-based plans and policies. A gender-sensitive planning framework indicating long-term goals, medium-term objectives, and relevant indicators has been designed to provide planners with a basis to integrate gender into rural energy planning and policies. (*Abstract from original source*)

Mechlenborg, Mette, and Kirsten Gram-Hanssen. 2020. "Gendered Homes in Theories of Practice: A Framework for Research in Residential Energy Consumption." *Energy Research & Social Science* 67 (September). doi:10.1016/j.erss.2020.101538.

Abstract:

A reduction of residential energy consumption is urgently needed, and gender is central in the performance of residential practices for this energy consumption. Thus, including gender is necessary for energy research. Theories of practice have proven to be a useful approach to the study of residential energy consumption. However, these theoretical approaches have only included gender to a limited extent. Building on contributions from gender studies, this paper presents an analytical framework for working with gender in theories of practice. The focus is on residential energy consumption in north-western middle-class homes, as most energy is consumed here. The paper presents the argument that gender can be conceptualised as 'general understandings' in theories of practice because 'general understandings' combines discursive and tacit elements of practices. Further, the paper builds on the practice theoretical understanding that the roles of materials, such as technology and houses, change according to specific associated practices. This also means that the practice as much as the materials are gendered. The paper concludes by indicating four ways to include gender in residential energy studies: 1) in all parts of the research design, 2) in the analysis of the surrounding institutions, 3) in the study of the performance of energy-related practices, and 4) in how gender is affected by and affects sustainable transitions. (*Abstract from original source*)

Milne, Wendy. 2004. "Women, Energy and Sustainability: Making Links, Taking Action." *Canadian Woman Studies* 23 (1): 55–60.

Abstract:

The ENERGIA network has worked skillfully to promote its mission. At the WSSD, ENERGIA was able to ensure that gender and energy issues were a component of the discussions. ENERGIA developed a background paper on gender and energy (ENERGIA 2001) and then created strategic alliances with other organizations to successfully lobby the Women's Caucus and the Climate Change Caucus to ensure that a gender and energy perspective appeared in their statements (Karlsson and Oaproacha). Ultimately the weakness in the political commitment to adequately address the linkages between energy, gender, and poverty in the WSSD Plan of Implementation (PoI) does not negate the success of ENERGIA in raising awareness of the issue and providing rationale for gender sensitive energy planning and policies for sustainable development (de Melo Branco and Roehr).

Climate change like energy is not gender neutral. Fatma Denton (2000) observes that the topic of gender and climate change is such a burgeoning area of study that the findings are often more theoretical than empirical. However, it is being argued that women, particularly in the South, will be especially vulnerable to the effects of climate change (Denton 2002; Dankleman). Building on existing research in gender and energy, environment and sustainable development a number of factors have been identified that make woman particularly vulnerable to climate change. The possible health effects of climate change and caring for the ill will fall within women's areas of responsibility, as will expected nutritional problems, food and water shortages (Villagrasa). The affects of climate change on agriculture, fishing, and the tourism sectors also have the potential to affect women more than men (Denton 2000). As well, there is some indication that

women are more vulnerable to disasters related to climate change (Dankleman; Skutch 2002)

The two principal treaties related to climate change, the UN Framework Convention for Climate Change (UNFCCC) and the Kyoto Protocol, are lacking references to women, gender, and poverty, and only generally refer to social and economic sustainable development (Skutch 2002). Gender sensitive responses to climate change require more women on the various commissions within the climate change development process, and gender needs to be included in future policy formulations and activities (Denton 2002; Villagrasa). Women need to be active participants in policy-making on mitigation strategies, vulnerability studies, and in projects for adaptation, technology transfer, and capacity building (Wamukonya and Skutch). Skutch (2002) adds that explicitly including gender considerations in all climate change negotiations and strategies will increase the efficiency of the negotiation process and keep gender equity issues on the international agenda. (*Abstract from original source*)

Mininni, Giulia M. 2015. “Gender and Energy Issues in the Global South: Implications for the Post-Millennium Development Goals Agenda after 2015.” *The Luminary* 5: 43–62.

Abstract:

Due to the conditions of gender inequality that limit women’s access to and control over environmental resources in remote rural areas, unfavourable environmental conditions tend to have more negative effects on women than on men. The same considerations can be applied to the lack of access to energy services, especially given women’s traditional roles and responsibilities as housekeepers. This happens more consistently in areas where people are directly dependent on natural resources for their livelihoods. This paper will explore how access to energy services is essential to improving the living conditions of women in off-grid rural areas of the global south, and, in the end, to contribute to global poverty reduction. It will highlight how for a long time energy projects have been treated as “gender neutral”, founded on the belief that energy issues and solutions were the same for men and women. However, the reality is different in most countries in the global south. The paper will outline how gender sensitive policies and programmes are necessary to address women’s specific needs. Finally, the paper will focus on the post- Millennium Development Goals (MDGs) agenda and underline how the new framework has the potential to offer opportunities to integrate energy access as a priority goal. Small-scale decentralised energy options could also ensure better participation at local level of under-represented groups such as women and push for better gender equality. (*Abstract from original source*)

Musango, Josephine Kaviti, Suzanne Smit, Fabrizio Ceschin, Amollo Ambole, Benjamin Batinge, Christer Anditi, Aine Petrulaityte, and Matia Mukama. 2020. “Mainstreaming Gender to Achieve Security of Energy Services in Poor Urban Environments.” *Energy Research & Social Science* 70 (December). doi:10.1016/j.erss.2020.101715.

Abstract:

Addressing energy insecurity in poor urban areas in Africa is gendered. However, emerging evidence on gendered energy transitions of urbanising Africa to deal with energy insecurity remains weak. Energy transition studies in Africa that have focused on the gender-energy nexus are mostly limited to rural areas. Further, debates persist about the conceptualisation of gender mainstreaming. This paper therefore builds on the emerging energy-gender-poor urban nexus research in urbanising Africa. We focus on conceptualisation and understanding of gender mainstreaming, energy security and poor urban environments, identifying the emerging issues and gaps in our current understanding of gender and energy research, and in framing further research in poor urban environments in Africa. Our central message is threefold: First, we need more evidence-based research on the gender-energy-poor urban nexus to understand progress towards universal access to energy for all. Second, we need to reconceptualise our understanding of gender mainstreaming as a long-term strategy aimed at bridging gender awareness into consciousness and daily routines. Finally, policies and research to improve energy security in poor urban environments need to shift the focus to securing energy services and to consider the gendered aspects of everyday energy use practices. (*Abstract from original source*)

Keywords: gender mainstreaming; energy insecurity; empowerment; environmental sustainability; slums; urban Africa

Nel, D., and C. Joel. 2019. “The Transformation of Governance in the South African Energy Sector: Critical Considerations for Gender Mainstreaming.” *Journal of Contemporary Management* 16 (1): 313–32.

Abstract:

The United Nations Sustainable Development Goal (SDG) 5, views gender equality as a basic human right. SDG 5 emphasises that the end of discrimination in all sectors across the globe, is essential to achieve SDG 5. SDG 7 calls for affordable and clean energy. Consequently, affordable energy and energy efficiency is a basic prerequisite for socio-economic development, whereas clean energy, is an essential component for preventing environmental degradation and resource depletion. Based on these SDGs, it is important that equal rights in terms of gender be reflected in the energy sector to achieve sustainable development. Gender inequality limits womans’ opportunities to participate in policy- and decision-making in terms of energy resource governance. Gender mainstreaming addresses the inequality of women and therefore implies a shift in the role of women in the energy sector. This article aims to discuss the interrelationship of the energy sector and gender mainstreaming, to work towards achieving SDGs 5 and 7. The analysis in this article is based on a qualitative approach, using unobtrusive research techniques. Data was collected through a desktop study, using secondary data, including scholarly papers and books, reports from the United Nations, ministerial websites, relevant news articles, unsolicited government reports and policies. An analysis was done to determine the development of the level of female representation at the executive decision-making level in the energy sector in South Africa. The results indicate that male representation is higher than female representation’, which may

indicate, unequal access to participation in energy resource governance, which would reinforce an unequal gender power balance. Although there has been an improved effort from government in terms of gender mainstreaming and empowerment, a number of barriers remain, including a lack of gender-sensitive policies, awareness, information, and employment equity. The South African government has made some progress in terms of gender mainstreaming and there seems to be improvement in some areas in the energy value chain. However, these efforts have been fragmented and disjointed and not much has been achieved in terms of gender mainstreaming in the policy process and implementation. (*Abstract from original source*)

Keywords: energy governance; energy resource management; gender mainstreaming; sustainable development goals

Oparaocha, Sheila, and Soma Dutta. 2011. “Gender and Energy for Sustainable Development.” *Current Opinion in Environmental Sustainability* 3 (4): 265–71.

Abstract:

Energy services are linked to well-being and have the potential to impact almost every area of human life, from increased economic activity to improved child literacy, safe drinking water and women’s empowerment. Energy is a critical input in the daily lives of women for their household chores such as cooking and space heating; for agricultural uses, including post-harvest processing; and for rural industry uses such as milling and process heat. Energy poverty is a problem that has a disproportionate effect on women and girls. This paper explores the implications of the prevalent energy poverty for women in developing countries. At the same time, the paper highlights how addressing gender issues in the energy sector can help achieve overall developmental goals, contribute towards achievement of the MDGs, and makes specific recommendations towards gender mainstreaming in the energy sector. (*Abstract from original source*)

Pachauri, Shonali, and Narasimha D. Rao. 2013. “Gender Impacts and Determinants of Energy Poverty: Are We Asking the Right Questions?” *Current Opinion in Environmental Sustainability* 5 (2): 205–15.

Abstract:

Compelling empirical evidence on the gender differentiated impacts and determinants of energy transitions remains weak. In this paper, we focus on identifying key gaps in our current understanding of how women’s well-being relates to energy poverty and in framing questions for further research. Our overarching message is twofold: first, more research and empirical evidence is needed to understand the factors – both outside and within the household – that influence women’s decision-making power in relation to the adoption of modern energy services, and whether their adoption leads to the intended benefits. Second, policies (and research) that aim to improve (study) women’s well-being through improvements in household energy use need to consider not only this broader enabling context, but also the multiple dimensions of modern energy service provision. Existing power relations and institutions today discriminate against women in many developing countries. Disregarding these gender inequalities can undermine the

potential for transforming women's status and well-being. (*Abstract from original source*)

Parikh, Jyoti K. 1995. "Gender Issues in Energy Policy." *Energy Policy* 23 (9): 745–54.

Abstract:

Gender issues have received attention at micro level in terms of technological intervention such as cookstoves, biogas, solar cookers, and wood plantations. They have yet to be addressed in macro level policies. Women's needs for energy vary depending on whether they are in urban or rural areas, their stage of economic development, and whether they are economically active. This article emphasizes the need for better understanding of these issues for women engaged in different sectors, whether agriculture, transport, industries, household, and the energy sector itself (ie charcoal making, fuel gathering and fuel marketing). Deeper enquiries, analysis, and action for gender issues are needed through surveys, laboratory experiments, macro policy modeling and analysis, and technology development and production. This article makes a plea to include gender issues in macro level energy policies such as energy investment, imports, and pricing. The latter are discussed in detail. A lot more work lies ahead. (*Abstract from original source*)

Keywords: gender issues; macro policies; cooking fuels

Parikh, GenJyoti K. 1996. "Gender Issues in Energy Policy and Pricing." *Bulletin of Science, Technology & Society* 16 (3): 116–21.

No abstract available.

Summary:

"The energy sector requires a large share of the national investment in developing countries (DC). People's needs for energy are not yet met, even for basic needs and amenities, therefore, levels of national investment in this sector will be high for many decades to come. For example, in India, the energy sector has accounted for 25% to 30% allocations for every five-year plan in the last 3 decades. In addition to this capital investment, annual import requirements for the energy sector are of major concern. Oil imports require 30% to as much as 90% of the export earnings of many developing countries depending on their levels of energy utilization, resource-mix, indigenous availability of energy sources, world prices and so on. Elsewhere, (1994) I have shown that oil-imports do not provide the full picture of energy related imports because capital goods for energy such as power plants, mining equipment for fossil fuels are accounted for elsewhere. Total annual imports for the energy sector for all countries increase by substantial margins when energy is related to capital goods and included along with oil imports. Therefore, the scale of investments and imports for the energy sector is large enough to have macro-economic ramifications. Some developing countries do not have enough energy to provide every home with clean cooking fuel and light bulbs. Thus, the policies for investment, and for imports in the energy sector are two cornerstones for a

country's economic structure. The well-being of society depends heavily on decisions involving energy and finances" (Parikh 1996, 116).

Peñalvo-López, Elisa, and Francisco-Javier Cárcel-Carrasco. 2019. "An Analysis about Learning to Increase Women's Participation and Employment in Europe's Energy Transition: Evidence from the European Project MEnS." *Sustainability* 11 (16): 4345.

Abstract:

The Energy Performance Building Directive (EPBD) introduced the requirement for all Member States to include the concept of Nearly Zero Energy Buildings (NZEBs) in their national plans. However, this challenge requires upgrading professional skills in NZEB concepts and strategies, thus guaranteeing the maximum impact on NZEB deployment around Europe. This is the objective of MEnS ("Meeting Energy Professional Skills"), an H2020 project focused on providing high quality upskilling and education to architects, engineers, and building professionals. The role of women in the NZEB industry indicates that female participation in the building industry is still low. The need to rebalance this gender gap is highlighted in this work through the identification of female programs and schemes. In addition, the results of women's participation in the MEnS project is analyzed. The MEnS project created and implemented a new education program, training 1200 building managers (engineers and architects) in the design and construction of NZEBs, out of which 46% were women. Focusing on the Spanish case, 18 interviews were randomly conducted with women participants in order to assess the courses and their expectations of employment in the NZEB framework. The method used for the analysis was a semi-structured interview and analysis by the grounded theory. This article describes the participation of women in this educational program and analyses initial conclusions and lessons learnt from this initiative in 10 European countries, including Spain. (*Abstract from original source*)

Keywords: Nearly Zero Energy Building (NZEB); women empowerment; training; gender equality; women; employability; H2020 European project; architecture; engineering

Pueyo, Ana. 2020. "Introduction: Gender and Energy – Opportunities for All." *IDS Bulletin* 51 (1): 1-6.

Abstract:

The global drive to provide universal access to sustainable and modern energy by 2030 is creating numerous opportunities for energy users and suppliers. However, men and women do not benefit equally from these opportunities. As users, they have different energy needs linked to their different gender roles. Gender blindness in the sector has led to women's needs often being ignored. As suppliers, the energy sector has traditionally been male dominated. Despite stark gender differences in the energy sector, there has been a lack of evidence to inform more equitable policymaking. This issue of the IDS Bulletin aims to fill some of these evidence gaps through five original papers, part of ENERGIA's Gender and Energy Research Programme. The issue pays

particular attention to women's involvement in the supply chain as energy entrepreneurs, an emerging area of research in the gender and energy space. (*Abstract from original source*)

Keywords: gender; energy; development; entrepreneurship

Shankar, Anita, Amanda B. Elam, and Allie Glinski. 2020. "Strengthening the Women's Entrepreneurship Ecosystem within the Energy Sector." *IDS Bulletin* 51 (1): 27-52.

Abstract:

As women are increasingly engaged in clean energy value chains globally, it is crucial to understand what business models, practices, and enabling conditions can support the dual goals of scaling energy access and empowering women. To understand gaps in the women's energy entrepreneurship ecosystem, we draw from recent theories of gender and entrepreneurship and both peer-reviewed and grey literature sources on entrepreneurship and development. Key challenges in women's energy entrepreneurship and potential programme supports to the women's energy entrepreneurship ecosystem are identified from a resource-based perspective, focused on five primary sources of capital – economic, social, time, cultural, and symbolic. Examples of programme supports include: (a) access to finance and capital; (b) access to coaches, mentors, and business networks; (c) business education and skill development; (d) training to foster personal agency, personal initiative, and entrepreneurial mindsets; and (e) inclusion of men within women's energy entrepreneurship programming. (*Abstract from original source*)

Keywords: gender; economic empowerment; micro-enterprise; emerging markets; women's empowerment; business development; clean energy

Skutsch, Margaret M. 1994. "Integrating Women in Energy Assistance: Which Way Forward?" *Energy for Sustainable Development* 1 (3): 49-51.

No abstract available.

Summary:

"Almost all the western donor agencies are very concerned with responding to "women's needs" in the planning and implementation of development projects. Some donors have special units not only to organise women's projects but increasingly also to make sure the needs of women are attended to in "mainstream" projects, for example by developing checklists against which to assess a project's likely impact on women, or as an aide- memoire to planners to think about women's interests when designing the project. All the DAC countries of the OECD have indeed agreed to prepare such instruments (OECD, 1990), which undoubtedly are useful in creating better working habits, and this is a good initiative. However, the existence and even the use of such guidelines will not seriously change the way development assistance works with regard to women if they are simply applied to the same types of development interventions that we have been using in the past. To really help women, it is necessary to rethink the

types of projects supported, with a more basic understanding of what women need” (Skutsch 1994, 49-50).

Skutsch, Margaret M. 1998. “The Gender Issue in Energy Project Planning: Welfare, Empowerment or Efficiency?” *Energy Policy* 26 (12): 945–55.

Abstract:

The gap between gender policy as adopted by governments and donors, and the inclusion of gender issues in energy planning practice at project level, is great, despite the fact that there are many manuals available which demonstrate how to go about gathering gender-based data and analysing this. This gap is partly due to difficulties in translating policy into achievable objectives at project level, which in itself is due to differences of opinion on what the motive is for including gender as a variable. Three main motivations are identified, and it is shown that once this has been done, the choice of planning tools, instruments and approaches for gender sensitive energy project planning falls more easily into place. (*Abstract from original source*)

Keywords: gender policy; energy project planning; welfare; empowerment; efficiency

Skutsch, Margaret. 2005. “Gender Analysis for Energy Projects and Programmes.” *Energy for Sustainable Development* 9 (1): 37–52.

No abstract available.

Summary:

This paper proposes that one of the reasons why gender is not being mainstreamed in energy project and programme planning is because there are no appropriate gender-analytic tools available for the special case of energy. It reviews the standard gender tools as used in development planning, and a number of approaches that have been proposed for the energy sector, such as the EnPoGen model and various schemes based on the project cycle. The critique of these leads to suggestions for an improved model. The paper was written as part of a process in which a training manual on gender and energy is being prepared. (*Summary from original source*)

Sovacool, Benjamin K., Shannon Clarke, Katie Johnson, Meredith Crafton, Jay Eidsness, and David Zoppo. 2013. “The Energy-Enterprise-Gender Nexus: Lessons from the Multifunctional Platform (MFP) in Mali.” *Renewable Energy* 50: 115–25.

Abstract:

The Mali Multifunctional Platform (MFP)—a government managed, multilaterally sponsored energy program that distributed a small diesel engine attached to a variety of end-use equipment—expanded access to modern energy services and raised village incomes from 1999 to 2004. Over this period, it successfully distributed more than 500 MFPs throughout Mali, and in doing so empowered women, improved educational opportunities, and enhanced food security and community cohesion. The MFP has also

motivated the government to install 1800 such platforms by the end of 2012. Based on original research interviews supplemented with an extensive literature review, this study introduces readers to the rural energy situation in Mali and describes the history of the MFP project. It then discusses the benefits the project achieved, as well as five sets of challenges the MFP faces: a growing number of non-functional platforms, lack of policy coordination, poverty, dependence on imported technology and fuel, and patriarchy. The study concludes by offering six lessons for energy development planners and practitioners. (*Abstract from original source*)

Keywords: energy poverty; Mali; multifunctional platform

Standal, Karina, Tanja Winther, and Katrine Danielsen. 2018. "Energy Politics and Gender." In *The Oxford Handbook of Energy Politics*, edited by Kathleen J. Hancock and Juliann Emmons Allison. doi:10.1093/oxfordhb/9780190861360.013.6.

Abstract:

Policy makers and scholars often assume gender to be irrelevant in energy politics. However, an increasing body of scholarship and development policies has focused on how gender discrimination has negative effects on women's access to energy resources and equal contributions to decision-making processes that influence energy issues. This article evaluates four overarching and salient policy and research discourses that frame women's and men's positions in benefiting from and participating in decision-making about energy. First, energy has mainly been perceived as gender neutral, ignoring gendered outcomes of energy policies. Second, women have been presented as victims of energy poverty in the global South to instigate donors and action. Third, women's empowerment in the global South has been presented as instrumental to increasing productivity and economic growth through access to modern sources and uses of energy. These discourses have produced narratives that provide limited imaginaries of women's agency and relevance to the politics of energy in their lives. The fourth and less familiar discourse has presented women as rights holders of basic services, including access to modern and sustainable energy. This last discourse has provided a tool for examining the deeper unequal structures, as well as holding stakeholders in supply accountable for reproducing gender equality, needed to understand and produce relevant and socially just knowledge. (*Abstract from Oxford Handbooks Online*)

Keywords: gender; energy politics; energy access; electricity; cookstoves; development policy; energy justice

Sundström, Aksel, and Aaron M. McCright. 2016. "Women and Nuclear Energy: Examining the Gender Divide in Opposition to Nuclear Power among Swedish Citizens and Politicians." *Energy Research & Social Science* 11 (January): 29–39.

Abstract:

Whether or not there will be a 'renaissance' of nuclear power in the near future may depend upon the nature of support for this energy source among citizens and elected officials. Continued examination of the predictors of opposition to nuclear power

therefore remains quite policy relevant. While the existing literature finds modest but consistent gender differences in attitudes towards nuclear power in the general publics of several Western countries, the robustness of this relationship has seldom been investigated across time or among elected officials. This paper addresses both of these gaps. First, analyzing nationally representative data from the Swedish general public between 1986 and 2011, we confirm that the theoretically expected gender divide in opposition to nuclear power-whereby women report greater opposition than do men-is indeed robust over time. Second, examining data from three recent surveys of elected officials at the local, regional, and national levels in Sweden, we find that female elected officials at each polity level report greater opposition to nuclear power than their male counterparts. Our results are consistent with the health and safety concerns argument, whereby women are less supportive than are men of technologies with considerable perceived health and safety risks. (*Abstract from original source*)
Keywords: nuclear power; gender; public opinion; politicians

Sunikka-Blank, Minna, Ronita Bardhan, and Anika Nasra Haque. 2019. “Gender, Domestic Energy and Design of Inclusive Low-Income Habitats: A Case of Slum Rehabilitation Housing in Mumbai, India.” *Energy Research & Social Science* 49 (March): 53–67.

Abstract:

Women's involvement in decision-making in domestic energy remains an under-researched area, especially in the urban context. This research adopts a gendered perspective in exploring slum rehabilitation housing in India. Based on a household survey and a focus group discussion (FGD), women's household and working practices are explored in interview narratives and systems analysis. The findings show that the relocation to slum re- habilitation housing (SRH) has radically changed women's household routines (cooking, comfort, childrearing, working and entertainment practices) and that women are more affected by the relocation than men. Changed practices, poor design of SRH and lack of outdoor space have radically increased electricity use and living costs in all the surveyed households. The economic pressure forces women into lowly paid jobs or informal economy, creating a vicious circle where women's time poverty further reduces their social capital and opportunities for self-development in terms of education or formal employment. A comparison of SRH typologies shows that building design has great influence both on gendered use of space and electricity use, advocating a courtyard typology. Further, interviews with policy-makers reveal a dis-juncture between the occupant realities and the policy objectives. The paper argues that gender equality can and should be influenced through energy and housing policies and offers a conceptual framework for inclusive SRH to address this dis-juncture. (*Abstract from original source*)

Keywords: slum rehabilitation; housing; gender; domestic energy use; inequality; design

Terrapon-Pfaff, Julia, Carmen Dienst, and Willington Ortiz. 2015. “The Role of Gender Concerns in the Planning of Small-Scale Energy Projects in Developing

Countries.” In *Decentralized Solutions for Developing Economies: Addressing Energy Poverty Through Innovation*, edited by Sebastian Groh, Jonas van der Straeten, Brian Edlefsen Lasch, Dmitry Gershenson, Walter Leal Filho, and Daniel M. Kammen, 285–94. Switzerland: Springer International Publishing.

Abstract:

Energy poverty affects women in developing countries more severely than it affects men; at the same time, women have less control over household resources and are often not involved in decision-making processes on energy matters. In order for transition processes of energy systems to be sustainable, these gender-related concerns need to be addressed. Although this link is widely recognized, gender aspects are still not well perceived in the planning of energy projects. To better understand the role of gender concerns in project planning, the research presented in this paper evaluates concepts of small-scale sustainable energy projects with regard to their gender sensitivity. The data originates from an expert evaluation process and was analyzed with focus on gender-related aspects. The results show that even in sustainable energy projects the issue is still not high on the agenda. (*Abstract from original source*)

Keywords: gender; sustainable energy transitions; project concepts; developing countries

Tjørring, Lise. 2016. “We Forgot Half of the Population! The Significance of Gender in Danish Energy Renovation Projects.” *Energy Research & Social Science* 22 (December): 115–24.

Abstract:

Energy renovations are considered to have great potential for reducing the problem of excessive energy consumption. Thus far, initiatives to increase the number of energy renovations have mostly consisted of financial incentives and technical home solutions. Such initiatives overlook the fact that the way people live their everyday lives plays a crucial role in understanding why they choose whether to perform an energy renovation. This study is based on an anthropological investigation of ten Danish families and their decision-making process while receiving free energy advice, which, in many cases, ended as an energy renovation project in the home. During the study, gender emerged as a significant factor in two ways. First, energy renovations were perceived differently by men and women as a consequence of their different everyday practices. Second, there was a cultural norm about the division between what men and women do in the home. This cultural norm placed energy renovation in the male sphere of interest. These findings call for new methods to increase the number of energy renovations that focus on the home, not only as a technical issue that can be improved but also as a living space that contains different gender practices and cultural influences. (*Abstract from original source*)

Keywords: energy renovation; gender; private household; anthropology; Denmark

Wakhungu, Judi Wangalwa. 1996. "Gender Issues in Energy Policy & Planning: Perspectives from the Dakar Workshop." *Bulletin of Science, Technology & Society* 16 (3): 98–106.

No abstract available.

Summary:

"The international experts working in the field of energy had the following objectives in meeting in Dakar: to corroborate their views on gender issues in energy policy analyses; provide a strategic assessment of research issues and gaps; advance research on women and global energy policy as a new area for policy analysis; and to create an informal network of institutions and individuals with an interest in women and global energy policy research. It was incumbent on the energy policy makers assembled in Dakar to re-evaluate the issues. In order to assess what improvements were required in the future, the energy experts reflected on the energy strategies of the last two decades and what the effects had been. They assessed the key energy actors, energy strategies, and possibilities for improved policy analysis and decision-making which will highlight women's relevance to and potential contributions for sustainable energy development. Participants discussed which issues are still relevant to today's intellectual debate and which new issues exist. Participants also attempted: to establish a consensus around policies that make sense in the midst of the current energy and socio-economic situation; to begin the process of rejecting energy policies that tie us to the status quo; and finally, to establish a framework for ensuring more effective integration of gender concerns into energy policy-making" (Wakhungu 1996, 98).

Wang, Sumei. 2016. "Green Practices Are Gendered: Exploring Gender Inequality Caused by Sustainable Consumption Policies in Taiwan." *Energy Research & Social Science* 18 (August): 88–95.

Abstract:

In the context of climate change, governments and international organizations often promote a "sustainable lifestyle." However, this approach has been criticized for underestimating the complexity of everyday life and therefore being inapplicable to households and consumers. In addition, procedures for promoting sustainable consumption seldom incorporate domestic workers' opinions and often increase women's housework loads. This article employs a practice-based approach to examine the "Energy-Saving, Carbon Reduction" movement, a series of sustainable consumption policies that have been advocated by the Taiwanese government since 2008. The goal of the movement is to encourage an eco-friendly lifestyle. On the basis of empirical data collected through ethnographic interviews, this article argues that existing policies unexpectedly increase women's burdens and exacerbate gender inequality. (*Abstract from original source*)

Keywords: sustainable consumption; gender inequality; Taiwan; global warming

B. Non-Academic Resources

Angelou, Nicolina, and Sanjukta Roy. 2019. *Integrating Gender and Social Dimensions into Energy Interventions in Afghanistan*. Washington, DC: The World Bank.

Abstract:

This policy brief suggests ways for Afghanistan to integrate gender and social aspects into energy projects, to better address the country's energy challenges and enhance its development impact. The energy sector increasingly recognizes that men and women experience different levels of access to benefits and exposure to risks and that these are important elements to be considered for effective policy-making and project design. Women and men have different roles, responsibilities, and voice within households, markets, and their communities. Despite significant improvements, gender equality remains a major challenge in Afghan society, with women and girls being far more disadvantaged than men and boys. Rural grid electrification interventions that involve men and women into project implementation can lead to increased electricity access and use. Energy efficiency measures that specifically target men and women can improve adoption rates and drive behavior change. This policy brief presented a series of actions embedded into energy interventions aiming to address Afghanistan's energy challenges and improve gender equality. Four types of energy interventions were selected: grid and off-grid electrification in rural areas, energy efficiency initiatives, and electricity pricing policies. This policy brief seeks to show how Afghanistan can integrate gender and social concerns into energy projects to better address the country's energy issues and achieve greater development impact. Chapter one gives introduction. Chapter two examines how energy can benefit men and women, emphasizing the gender-differentiated impacts of energy on human development and economic empowerment. Chapter three presents the socioeconomic status of Afghanistan and provides overviews on gender and the energy sector. Chapter four identifies several strategies for integrating gender and social considerations into the development and implementation of energy projects and programs in Afghanistan, including on-grid and off-grid electrification in rural areas, energy efficiency initiatives, and electricity pricing policies, with the aim of addressing current specific challenges. (*Abstract from original source*)

Keywords: energy sector; energy efficiency

Angelou, Nicolina, Cindy Suh, Inka Schomer, Amanda Beaujon Marin, and Giacomo Palmisano. 2019. *Gender and Energy Role Playing: Training Guidebook*. Washington, DC: International Bank for Reconstruction and Development / The World Bank.

No abstract available.

Summary:

This gender and energy training has been developed based on role playing, to maximize participant engagement and interaction. This guidebook aims to enable practitioners to

conduct role-playing training in gender and energy and demonstrate the World Bank Group (WBG) gender tag methodology applied to International Bank for Reconstruction and Development and International Development Association (IBRD and IDA) projects. It presents the methodology and training material and provides a number of case studies. Training material consists of four types of cards - gender gaps, gender data, case studies, and character profiles - and is easily customizable and can be applied to other case studies, in other sectors as well. *(Summary from the World Bank)*
Keywords: role playing; poverty and social impact analysis; gender gap; access to information and communication technology; access to modern energy service; gender equality and social inclusion; access to health service; access to finance; emergency electricity; information on gender aspect; incentives for energy efficiency; adoption of energy efficiency; voice and agency; base of the pyramid; access to new technology; access to electricity; access to energy; minister of women; gender and energy; burden of disease; clean energy development; senior operations; affordable modern energy; high dropout rate; strategic environmental assessment; list of countries; sustainable economic development; reimburseable advisory services; energy efficiency measure; energy efficiency incentives; role play exercise; solar home system; control of asset; cost of access; access to asset; usage of energy; clean technology fund; assessment of education; integration of gender; corporate social responsibility; exposure to risk; lack of exposure; indoor air pollution; access to technology; control over resources; access to land; health care provision; privileges and immunity; energy projects

Berthaud, Alexandre, Aude Delescluse, Dina Deligiorgis, Kabir Kumar, Sunanda Mane, Satoshi Miyamoto, Waafas Ofosu-Amaah, Lara Storm, and Myla Yee. 2004. *Integrating Gender in Energy Provision Case Study of Bangladesh*. ESMAP Report 30214. ESMAP Technical Series. Washington, DC: The World Bank.

Abstract:

Energy sector projects and women's empowerment are crucial to poverty reduction efforts, sustainable development, and achievement of the Millennium Development Goals (MDGs). Energy-related issues are often assumed to be gender neutral. However, energy scarcity can have disproportionately negative effects on women in the developing world. A large proportion of the world's poorest are women, and approximately 70 percent of the energy sources in developing countries come from biomass fuels, which are overwhelmingly the responsibility of women. Historically, this link has not been acknowledged in energy planning and projects, whether governmental or nongovernmental. Similarly, energy as a crucial input to other sectors, such as agriculture, has a myriad of implications when analyzed through a gendered lens with respect to specific times and places. Approaching energy in a manner that accounts for changing gender relations can do much to transform the situation of women their relations to men. *(Abstract from The World Bank)*

Botswana Power Corporation. 2011. *Gender Mainstreaming in the Botswana Power Corporation*. Leusden, The Netherlands: ENERGIA.

No abstract available.

Summary:

The Botswana Power Corporation (BPC) has recently launched a gender mainstreaming process with the aim of ensuring that gender is considered during planning and implementation of energy projects and programmes. This project was conceived after an audit of energy policies and programmes conducted by the Gender and Energy Network of Botswana (GENBO) revealed that the energy sector in Botswana was not gender-sensitive and the energy policies and programmes were not gender-responsive. Although some effort has been made at a policy level, such as the Draft National Energy Policy that calls for the inclusion and consideration of gender differences in energy planning, many factors in the energy sector are still insensitive to gender issues. In relation to energy access, reports indicate that electricity connection rates in rural areas still remain very low in Botswana. High connection costs, often considered prohibitive, result in many poor households being unable to connect to electricity. Levels of poverty are highest among female-headed households, and as a consequence, female-headed households in rural areas find it difficult to connect to electricity, resulting in low connection rates for this group. (*Summary from IUCN Global Gender Office*)

Cecelski, Elizabeth. 2004. "Re-thinking Gender and Energy: Old and New Directions." ENERGIA/EASE Discussion Paper, Leusden, The Netherlands.

Abstract:

Women/gender and energy has emerged as one of the critical pathways for linking energy interventions to the Millennium Development goals. Yet, despite many efforts, energy poverty is widespread, and gender inequality exists at every level of the energy sector. At the same time, most poverty assessments and research exclude energy.

This paper is addressed primarily to researchers on gender and energy policy, and asks what approaches to policy research could help make the linkages among gender, energy and poverty more understandable and more convincing to policy makers and practitioners, both in the energy sector itself, and in the gender and development community. It attempts a "re-thinking" of the gender and energy paradigm, by looking both backwards and forwards.

This analysis seeks to initiate movement towards the development of an agreed framework for research on gender and energy that would be credible in both gender and energy communities. Most past gender and energy research has seen its primary audience as the energy community and has sought to respond to energy imperatives and frameworks. This paper seeks to explore the usefulness of gender theory in better explaining linkages among gender, energy and development.

It begins by offering a selective review of approaches to gender in energy research and policy in two areas: biomass energy and labour-saving energy technologies. Chapter 1

attempts to “unpack” key assumptions and concepts about gender in past research and policy on gender and energy in these sub sectors.

Then, state-of-the-art conceptual frameworks are explored for relevance to future policy research on gender and energy. In Chapter 2, the sustainable livelihoods framework as adapted to the energy sector is analysed, and its contributions and limitations. In Chapter 3, recent gender analytical approaches are examined: new gender and poverty thinking, and new gender and environment theoretical frameworks, including feminist political ecology.

Themes from these frameworks that could be analysed in future case studies on gender and energy are then suggested, together with some possible hypotheses for exploration of gender-energy-development linkages. The analysis is focused on two questions of policy relevance:

- Is gender equality a key variable in the success or failure of energy interventions?
- Is improved access to energy a key variable in women's/gender empowerment?

This paper is a joint output of the research program of ENERGIA, the International Network on Gender and Sustainable Energy, and an ETC project on Enabling Access to Sustainable Energy (EASE). It is also intended as a background document for the preparation of case studies under a new DfID KaR research project on Gender as a Key Variable in Energy Interventions: Are We Asking the Right Questions?, being implemented by ENERGIA and launched in January 2004. (*Abstract from original source*)

Cecelski, Elizabeth. 2005. “Gender, Energy & the MDGs: Towards Gender-Sensitive Energy Policy Research and Practice.” *ENERGIA News* 8 (2): 1–5.

No abstract available.

Summary:

“This special issue of ENERGIA News presents the results of an DFID KaR (Department for International Development UK) research project on ‘Gender as a key variable in energy interventions: are we asking the right questions?’ The project brought together some of the world’s foremost experts on gender and energy in a Collaborative Research Group on Gender and Energy (CRGGE). The group included policy researchers from France, Kenya, India, the Netherlands, the Philippines, South Africa, Uganda, the UK and the US, who further involved other researchers in their networks and countries. The challenge was to move towards a framework for gender and energy policy research and practice in the 21st century, a framework that would be credible both for energy and for gender researchers and practitioners. We also wanted to build capacity in our own institutions to do policy research on gender and energy, and to influence the international energy policy research agenda as well as practice. Working on the project was rewarding, because it provided the basis for continuous (and

continuing) interaction among researchers, practitioners and networks on their research, and their practical policy and programme work, related to gender and energy” (Cecelski 2005, 1).

Cecelski, Elizabeth. 2006. *From the Millennium Development Goals Towards A Gender-Sensitive Energy Policy Research and Practice: Empirical Evidence and Case Studies. Synthesis Report. Leusden, The Netherlands: ENERGIA/DfID Collaborative Research Group on Gender and Energy (CRGGE).*

Abstract:

Bringing a gender perspective to energy policy research brings two intertwined challenges in credibility. First, what evidence is there that energy has a key role to play in gender and poverty? An empirical review addressed this question by reviewing the evidence from a gender perspective on linkages between energy and the first seven Millennium Development Goals. Chapter 3 summarises the findings of this study.

Second, development of a credible analytical framework for gender-sensitive energy policy research through an iterative process involving expert meetings and eight case studies by CRGGE members was the focus of the second part of the project, in Chapters 4 and 5. How can current research frameworks such as sustainable livelihoods and gender analysis be used to more effectively analyse gender as a key variable in energy interventions? What are the key elements and the "right questions" to ask in gender-sensitive energy policy research in the new Millennium? (*Abstract from DfID*)

Cecelski, Elizabeth, and Joy S. Clancy. 2001. *Gender Perspectives on Energy for CSD-9: Draft Position Paper Including Recommendations Proposed by the ENERGIA Support Group and the CSD NGO Women's Caucus. Leusden, The Netherlands: ENERGIA.*

No abstract available.

Summary:

“The sectoral focuses of CSD9 are energy and transport, both key elements in the drive towards sustainable development. Sustainable energy policy should concern sustainable access to sustainable energy. In considering sustainable energy options, the access to these by different groups in the population is sometimes overlooked. This paper sets out the reasons, both from a Southern and from a Northern perspective, why gender issues need to be more strongly integrated into energy policies, planning and projects, to increase sustainable energy access for women. It refers to relevant recommendations made at UN meetings and other expert gatherings and lists a number of major achievements in both North and South. Ten general recommendations for engendering energy and empowering women are made, as well as specific recommendations for the Commission on Sustainable Development, international agencies, donor agencies, governments, business and industry, workers and trades unions, NGOs and other groups in civil society” (Cecelski and Clancy 2001, 1).

Cecelski, Elisabeth, and Soma Dutta. 2011. *Mainstreaming Gender in Energy Projects: A Practical Handbook*. Leusden, The Netherlands: ENERGIA.

No abstract available.

Summary:

“This Handbook on mainstreaming gender in energy projects seeks to provide guidance, practical tools and examples for energy projects that show how to undertake gender mainstreaming systematically” (Cecelski and Dutta 2011, iii).

“This handbook ... was developed ... to provide guidance on how to integrate gender concerns in energy projects:

- How to assess the gender situation in an energy project
- What gender interventions can be undertaken as part of project activities
- How to build capacities and institutionalise gender mainstreaming practices within implementing organisations and partners
- How to measure and monitor the progress made on gender aspects of energy projects” (2).

Clancy, Joy S. 1997. “Making Women’s Energy More Visible through Integrated Rural Development.” *ENERGIA News*, October.

No abstract available.

Summary:

“This year’s annual meeting of the Household Energy Network (HEDON) discussed the issue of whether or not household energy should be integrated into other sectors of the economy.

“Some of the arguments heard there have already been set out in the second issue of *ENERGIA News*, in an article about the GTZ Household Energy Programme. The authors asserted that household energy programmes (HHE) should have more than a technical focus and not just be about cook stoves. In addition, HHE could be integrated into other sector projects or alternatively components of other sectors should be integrated into HHE projects. Although, in the context of rural development, is this really something new? Isn’t integrating household energy with forestry, agriculture, transport, small and medium scale industries etc. just integrated rural development under another name? Integrated rural development recognises that energy is a basic input in all development activities. When, energy supply is constrained, as is the case in many rural areas, basic needs and human development will not be met. An integrated development approach is considered to produce more effective solutions to these problems. However, so, does it adequately meet both women’s and men’s needs?” (Clancy 1997, 1)

Clancy, Joy S. 2000. "Policies, Projects or the Market – Enabling Women's Access to Energy." *ENERGIA News* 3 (1): 1-2.

No abstract available.

Summary:

"In the coming eighteen months, the inter- national stage will see some important events relevant to women and sustainable energy.

"These include the UN Special Session in June this year on Women 2000: Gender Equality, Development and Peace for the 21st Century (also known as Beijing +5); the World Summit for Social Development (also known as Copenhagen +5) and the UN Commission on Sustainable Development Meetings (on Energy and Transport in April 2001). ENERGIA aims to be active in the preparatory processes which lead up to these meetings as well to contribute to events around the main plenary sessions. To assist in our advocacy we have been reviewing what has been happening with women and energy at both the field and policy levels. As is well known, there has been a general policy shift in all development co-operation away from public sector projects to private sector, more market-based, initiatives. This raises important questions: which is the better mechanism for assisting women in meeting their energy needs, and do policies support those processes" (Clancy 2000, 1).

Clancy, Joy S. 2005. "Gender and Energy: How Is Gender Relevant to Sustainable Energy Policies?" In *Sustainable Energy Strategies: Materials for Decision Makers*. United Nations Development Programme (UNDP).

No abstract available.

Summary:

This paper emphasizes the importance of a gender-based approach to national energy policies. It explains how the differing roles of men and women affect their energy needs and concerns, and how gender equity is essential to sustainable development. It also includes case studies highlighting the gender impact of energy policies in Sri Lanka and China. (*Summary from iKNOW Politics*)

Clancy, Joy, Lailun Nahar Ekram, Sadeka Halim, and Nazmunnessa Mahtab. 2004. "Gender Mainstreaming in the Bangladesh Rural Electrification Board." *ENERGIA News* 17 (1): 18-20.

No abstract available.

Summary:

A Gender Equity Strategy and Action Plan has been integrated into the Bangladesh Rural Electrification Board's Master Plan. Implementation of this plan will be the first gender mainstreaming exercise in the energy sector in Bangladesh, and possibly in the world. (*Summary from original source*)

Clancy, Joy S., Soma Dutta, Andrew Barnett, Elizabeth Cecelski, Shonali Pachuari, Youba Sokona, Mumbi Machera, et al. 2019. *Gender in the Transition to Sustainable Energy for All: From Evidence to Inclusive Policies*. Synthesis Report of the Evidence Generated by the ENERGIA Gender and Energy Research Programme. Leusden, The Netherlands: ENERGIA.

No abstract available.

Summary:

“This five-year research programme on gender and energy (2014-2019), coordinated by ENERGIA, was supported by the UK's Department for International Development (DFID) as part of its Sustainable Energy, Access and Gender (SEAG) programme. The objective of the programme was to generate and analyse empirical evidence of the links between gender, energy and poverty, and to translate this evidence into recommendations for energy policy and practice. In the context of energy access, the research sought to test the hypotheses that a gender-aware approach will:

- lead to greater equity between women and men in the impacts of modern energy services, and
- transform traditional gender roles and relations by empowering women through improved access to, or participation in the delivery of, modern energy services.

The research explored gender, energy and poverty linkages in six thematic areas identified through a review of current literature: (a) electrification, (b) productive uses of energy, (c) energy sector reform, (d) the role of the private sector in scaling up energy access, (e) the political economy of energy sector policies, and (f) women's energy entrepreneurship. Although cooking energy was originally excluded as a theme due to overlap with other DFID-supported research, many findings relevant to cooking energy emerged in the research and are included in this report. Each of the themes was narrowed to more specific research topics; for example, the wider theme of energy sector reform was narrowed down to focus on fossil fuel subsidies. This report presents a prioritised selection of key messages and associated policy implications. Recommendations for policy development and future research are included” (Clancy et al. 2019, 12).

Clancy, Joy S., and Gail Karlsson, eds. 2004. *Gender and Energy for Sustainable Development: A Toolkit and Resource Guide*. New York: United Nations Development Programme (UNDP), Bureau for Development Policy, Energy and Environment Group.

No abstract available.

Summary:

“This toolkit and resource guide outlines the linkages between gender and energy in the context of sustainable development and provides suggestions and materials on how to address energy poverty by integrating gender and energy sensitivity into development programmes, projects, and policies.

“An important reason for the focus on gender and energy is that in many developing countries women are particularly affected by lack of accessible and affordable energy services due to their traditional roles, household responsibilities, and low social and political status. Better understanding of differences in the ways men and women use energy in various cultures and locations can promote greater gender equity and empowerment of women, as well as enhance the effectiveness of energy projects, poverty programmes, and overall sustainable development activities.

“UNDP and ENERGIA have collaborated on a number of activities related to energy, women, and gender, and this guide builds on that work as well as on other, separate initiatives over the past several years. In 1999, UNDP initiated a project entitled ‘Energy and Women: Generating Opportunities for Development’ to look at new approaches to the use of energy as a means of addressing poverty alleviation and the advancement of women. One of the project’s key assumptions is that greater access to energy services can provide significant social and economic benefits, especially for women and girls in developing countries who are primary providers and users of traditional fuels such as wood, dung, and charcoal. ENERGIA has been a important partner with UNDP in its Energy and Women Project. Founded in 1995, ENERGIA brings together individuals and groups concerned with sustainable energy, the environment, and women. ENERGIA’s goal is to engender energy and empower women through information exchange, research, advocacy, and actions aimed at strengthening the role of women in sustainable energy development” (Clancy and Karlsson 2004, 2).

Clancy, Joy S., and Rose Mensah-Kutin. 2013. *Planning and Implementation of Gender Activities of the MLME-NVE Institutional Cooperation Program in Liberia. Best Practice: Challenges and Entry Points*. Leusden, The Netherlands: ENERGIA.

No abstract available.

Summary:

“In July 2011, ENERGIA was approached by MLME-NVE for support in gender mainstreaming within the Program “Institutional Capacity Building and Strengthening of the Energy and Water Resources Sectors in Liberia” funded by the Norwegian Government for 5 years (2010-2015) in partnership with Norwegian Water Resource Directory (NVE) and the Liberian Ministry of Land, Mines and Energy (MLME).

ENERGIA's support to MLME-NVE was based on Norad's frame-agreement with ENERGIA.

"ENERGIA's support to the gender activities of the Program in Liberia consists of: (i) gender mainstreaming across all the Cooperation Areas of the Program, (ii) women's empowerment particularly as relates to local communities and (iii) collection of sex disaggregated data on energy use and needs. The support has involved three visits to Liberia by ENERGIA Consultants (2 in November 2011; 1 plus support staff February 2012; 2 in May 2012) plus Skype calls and email exchange" (Clancy and Mensah-Kutin 2013, 1).

Clean Energy Solutions Center. 2016. *Catalyzing Gender Equality-Focused Clean Energy Development in West Africa*. Paris: Clean Energy Ministerial.

Abstract:

The ECOWAS Regional Center for Renewable Energy and Energy Efficiency (ECREEE) partnered with the Clean Energy Solutions Center (Solutions Center), the African Development Bank and other institutions to develop a Situation Analysis of Energy and Gender Issues in ECOWAS Member States. Through a systematic approach to assess interlinked gender and energy issues in the region, the report puts forth a number of key findings. In particular, the analysis finds that women in the region continue to be less represented within the energy decision-making sphere and energy access challenges often negatively impact their human rights. Further, the study reveals that although women will be disproportionately more affected by climate change, they possess relatively limited influence on key decisions related to climate change mitigation and adaptation. This finding reiterates the need for gender equality to be integrated as a critical step to combat climate change, as articulated by the United Nations Framework Convention on Climate Change. (*Abstract from IUCN Global Gender Office*)

Dutta, Soma. 2009. "Policy Innovation Forum for Gender and Poverty Sensitive Energy Policies." *ENERGIA News* (July): 29–31.

No abstract available.

Summary:

"The poor in general, and the women among them in particular, are highly vulnerable in the current climate of high energy prices and heightened economic uncertainty. ENERGIA believes that projects, programmes and policies that explicitly address gender and energy issues while paying attention to poverty will result in more sustainable energy services and enhance economic and social development opportunities for both women and men" (Dutta 2009, 29).

ECOWAS. 2016. *Draft: ECOWAS Policy for Gender Mainstreaming in Energy Access*. Abuja, Nigeria: Economic Community of West African States (ECOWAS).

Abstract:

The ECOWAS Programme on Gender Mainstreaming in Energy Access (ECOW-GEN), since its establishment in 2013, has worked to steer ECOWAS Member States towards the direction of mainstreaming gender in policy formulation, legislative drafting, energy project and programme design and implementation, with the intention to promote equality in energy development through equal access to resources and equal contribution to the decision-making processes that shape and influence energy expansion in West Africa. With the aim to institutionalize the interventions being implemented through ECOW-GEN, the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) and the ECOWAS Department of Social Affairs and Gender formulated this Policy for Gender Mainstreaming in Energy Access that commits the Member States to concrete actions that eliminate every form of inequality in energy production and consumption in the ECOWAS region. (*Abstract from IUCN Global Gender Office*)

ENERGIA, Eco, Practical Action East Africa, Centre for Knowledge on Sustainable Governance and Natural Resource Management, the Netherlands (KuSiNi), and East African Energy Technology Development Network, Uganda (EAETDN). 2008. *Turning Information into Empowerment: Strengthening Gender and Energy Networking in Africa*. Leusden, The Netherlands: ENERGIA, Eco, Practical Action East Africa, KuSiNi, and EAETDN.

No abstract available.

Summary:

This report is the result of two and a half years work within the TIE-ENERGIA project 'Turning Information into Empowerment'. TIE-ENERGIA has been pioneering in laying the groundwork for mainstreaming energy and gender with a comprehensive capacity-building initiative across Africa in terms of the scope and the practitioners targeted. Gender-sensitive energy policies and programmes fostered by this action are expected to target disadvantaged groups among target populations, and improve the design and efficiency of implementation and thereby the outcomes of energy programmes and projects. (*Summary from ENERGIA*)

Energy Sector Management Assistance Program (ESMAP). 2013. *Integrating Gender Considerations into Energy Operations*. 014/13. Knowledge Series. Washington, DC: The World Bank.

No abstract available.

Summary:

“In the energy sector, the gender dimensions of access to services, access to benefits, and exposure to risks and benefits, are being increasingly recognized as important elements to be considered for effective policy making and project design. In practice, this translates into integrating a gender perspective throughout the operational cycle to improve gender equity in project participation, benefits and opportunities. The objective of this briefing note is to provide World Bank energy task teams a brief overview of the key issues, resources and tools to help integrate gender considerations into energy sector operations. This briefing note discusses the key elements of the “gender in energy” topic and provides specific examples on “how to” integrate gender considerations in energy policy dialogue and the project cycle. This note draws on recent experience within the World Bank and elsewhere in mainstreaming gender in energy projects. It aims to consolidate this knowledge and make it available to energy practitioners addressing gender aspects of energy projects. This note is complemented by a compendium of online resources to provide energy teams with basic tools, such as sample questionnaires, Terms of Reference, and screening guidance, as well as reference material on gender and energy. These resources have been developed by drawing on the experience of ESMAP’s Africa Renewable Energy and Access (AFREA) gender and energy program, where gender considerations have been integrated into five energy operations in Senegal, Mali, Benin, Tanzania and Kenya. Section 3 of this note and the ESMAP/AFREA online resources are organized around the three key areas the World Bank considers essential parts of a gender-informed project: assessment, actions, and monitoring and evaluation. The resources are available on ESMAP’s website (www.esmap.org) and will be updated on an on-going basis. Box 1.2 — Resources on Gender and Energy — lists some current resources available online, in addition to the ESMAP compendium” (ESMAP 2013, 2).

Energy Sector Management Assistance Program (ESMAP). 2017. *Mini-Grids and Gender Equality: Inclusive Design, Better Development Outcomes*. ESMAP Papers. Washington, DC: The World Bank.

Abstract:

This note is intended to serve as a quick reference guide for applying a gender lens to the design and implementation of a mini-grid to enhance development outcomes. As mini-grids are increasingly seen as a potential solution to energy access issues, importance must be placed on ensuring that the benefits and opportunities of the intervention are realized for both men and women. The guidance below provides energy access, social development and gender specialists, with additional ideas and best-practice approaches to integrate at all stages of the project cycle in order to enhance gender equality. (*Abstract from World Bank Group eLibrary*)

Falcão, Juliana, Alexandre Strapasson, Hirdan Medeiros, Nathália Weber, and Marcia Barbosa. 2019. *Energy & Gender: An Assessment on Gender Equality in the Energy Sector in Brazil*. Brasilia, Brazil: British Embassy Brasilia.

No abstract available.

Summary:

“This report focuses on gender equality in the energy sector, both public and private sectors, on how gender inequality impacts women, and how their presence in decision-making can lead to more diverse and better practices that can positively influence transition towards inclusive and successful clean energy paradigm. It also considers the development of a gender-responsive approach to designing opportunities for women in energy technology and innovation. Successful best practices in Brazil and abroad are presented, with the potential to be disseminated and replicated.

This assessment was carried out through literature review, surveys and interviews, including online questionnaires and in-person meetings with several representatives from the energy sector in Brazil, as well as international comparative analysis, including country-level case studies and the UN Sustainable Development Goals (SDGs).

Recent research shows that women’s equality is economically important. According to Woetzel et al. (2015), US\$ 12 trillion could be added to global GDP by 2025 by improving gender equality. In general, women are underrepresented in technological fields and decision-making positions, and receive lower salaries in most jobs in Brazil. Gender inequality continues to hold back women from reaching higher positions in companies and public sectors. Women’s participation in decisionmaking is fundamental to transform Brazil into a nation in which equal rights are not only a constitutional statement, but also a reality.

Moreover, gender inequality means the industry is less open to new ideas, in particular the move to a lower-carbon energy market. The International Renewable Energy Agency’s annual review on the sector’s jobs (IRENA, 2019) showed that gender discrimination in the field of renewable energy is less pronounced than in the energy sector more broadly. The report also presented some of the main challenges to employment and promotion, such as: flexibility in workplace; mentorship and training; support for parenting; fair and transparent processes; and equal pay and targets for diversity. Brazil’s recent increase in renewable energy alternatives such as wind, solar and biomass presents a favourable prospect for improving gender equality. For instance, solar PV (photovoltaics) is expected to increase 122% in the coming years. This is a great opportunity for gender equality, if adequate policies are in place targeting women workforce. In addition, lower costs from solar PV and wind, and decreasing costs of renewable energy technologies will represent a major energy policy shift, bringing more competitiveness and different power generation options. In contrast, the oil and gas sector rank second in gender inequality globally, only behind the construction industry. In the European Energy Sector, for instance, women only represent between 8% and 15% of the total workforce, the majority of women staff work on administrative and sales functions, with only a small percentage occupying senior and mid-management positions.

Our study indicates two shortcomings at the government level that hinders the design and monitoring of policies for gender equality: lack of data disaggregated by gender,

and absence of gender policies. Among the affirmative actions included in this study, we assessed the Permanent Committee on Gender, Race and Diversity Issues (Cogemrev) at the Ministry of Mines and Energy (MME), with the charge of analysing the situation and proposing objective actions, and the social programmes “Minha Casa Minha Vida” (My House, My Life) and “Luz para Todos” (Light for All) which provide renewable energy for low income families, particularly the families led by women.

This report indicates that overcoming barriers for gender issues in the energy sector requires not only recognition of the baseline or the current situation in the country, but also a good monitoring of indicators, in order to identify the problem and support public policies, companies and NGOs’ project management. Both quantitative and qualitative indicators are relevant to appraise the level of success and efforts allocation. This report also suggests actions, indicators and recommendations for gender equality in the energy sector in Brazil” (Falcão et al 2019, 6-7).

Fuuna, Peter. 1997. *The Impact of Structural Adjustment Policy on the Energy Crisis and the Environment: A Gender Comparative Study of Rural and Urban Households*. Addis Ababa, Ethiopia: Organization for Social Science Research in Eastern and Southern Africa (OSSREA).

Abstract:

This study on the Impact of Structural Adjustment policy on the Energy Crisis and the Environment: A Gender Comparative Study of Rural and Urban Households was carried out in Kampala and Mbale Districts of Uganda, between the months of January and May, nineteen hundred and ninety five.

The major objective of the study was to analyse the impact of the structural Adjustment Programmes (SAP) on household energy among the rural and urban dwellers in Uganda. The study further aimed to ascertain the adaptation strategies of both men and women and their effect on the environment.

For data collection, the Participatory Rapid appraisal (PRA) or Participatory Learning and Action (PLA) methodology was employed.

The result of the study is that the structural adjustment policies on the energy sector enacted by the Ugandan government have had varying effects amongst different categories of the rural agricultural producers and the urban households. It was therefore found that some households gained while others are still vulnerable.

In conclusion, the energy crisis has had a negative impact on the rural than on the urban environment. Women-headed households who have no alternative but to continue to depend on scarce, monetized fuel wood are particularly affected. (*Abstract from original source*)

Georgieva, Sophia, Ekaterina Romanova, Zeynep Darendeliler, Ezgi Canpolat, and Michelle Rebosio. 2015. *Toward Gender-Informed Energy Subsidy Reforms: Findings from Qualitative Studies in Europe and Central Asia*. 96945. Washington, DC: The World Bank.

Abstract:

Since the 1990s, most states in Europe and Central Asia (ECA) have embarked on energy sector reforms. These have included removing subsidies, which has resulted in increased end-user costs for energy. The research presented here comprises an integral part of a set of qualitative studies on poverty and social impacts of energy subsidy reforms. In particular, it examines what it means for energy subsidy reforms to be more gender sensitive. The purpose of this research is to illustrate the extent to which energy subsidy reforms in the ECA region differently impact men and women. Prior global studies on gender and energy suggest that men and women have different priorities when it comes to energy use; that the reforms may have unequal effects on their well-being; that they face different challenges in interacting with energy providers or social assistance institutions; and may have different views on and knowledge of policy reforms. The target audience for this study is development practitioners, public officials, and civil society actors involved in social sustainability and the communications aspects of energy reform policies. (*Abstract from The World Bank*)

Green Alternative. 2016a. *Gender Impact of Shuakhevi HPP Project and Its Compliance with EBRD Requirements*. Tbilisi, Georgia: Green Alternative.

No abstract available.

Summary:

“A majority of local population protests the construction of Shuakhevi HPP for various reasons, including the issues related to the land and water ‘grabbing’, geological risks posed to local population because of the construction works, employment problems, etc. The purpose of the present document is to assess the project’s gender impacts on affected population as well as to evaluate whether the project related documentation and construction process meets the requirements of the international financial institutions” (Green Alternative 2016a, 1).

Habtezion, Senay, Soma Dutta, Elizabeth Eggerts, Sophia Huyer, Hannah Strohmeier, and Lucy Wanjiru. 2013. *Gender and Energy*. Training Module 4. Gender and Climate Change Capacity Development Series: Asia and the Pacific. New York: United Nations Development Programme (UNDP).

No abstract available.

Summary:

“This module provides the basic information and learning tools needed to understand and advocate for integrating gender perspectives into regional, national and community-level climate change initiatives. It covers the following topics:

- Gender-differentiated aspects of energy production, use and distribution in the Asia-Pacific region;
- Climate stress on the energy sector and the gendered results of these changes; and
- The need and options for integrating gender perspectives into energy policy and development and the deployment of clean energy technologies” (Habtezion et al. 2013, 3).

Hammond, Alicia, Inka Schomer, Alassane Ngom, Awa Seck, and Vanessa Lopes Janik. 2015. *Improving Gender Equality and Rural Livelihoods in Senegal through Sustainable and Participatory Energy Management*. 2015/40. Live Wire Knowledge Note. Washington, DC: The World Bank.

Abstract:

Launched in 2011, the Second Sustainable and Participatory Energy Management Project (PROGEDE II) for Senegal has been hailed for effectively mainstreaming a gender perspective into an energy project. Under the project, women have participated more in decision making; developed skills in technical production, entrepreneurship, and organizational management; and benefitted from increased incomes. (*Abstract from The World Bank*)

Kitson, Lucy, Christopher Beaton, and Victoria Ohaeri. 2016. *Making Subsidy Reform Work for Women in Nigeria*. GSI Briefing Note. Geneva: International Institute for Sustainable Development (IISD).

No abstract available.

Summary:

It is well understood that increasing fuel product prices can be a shock for low-income households, requiring careful mitigation strategies to ensure that subsidy reform does not harm the most vulnerable.

But little research has been conducted on understanding the gender disaggregated impacts of subsidy reform: How do price increases affect individual men and women? Do impacts differ in accordance with the linkages between gender roles and energy use? This policy brief summarizes initial research on this topic in Nigeria, focusing on how women may be affected by the reform of subsidies to kerosene, which is widely used across the country as a cooking and lighting fuel. (*Summary from IISD*)

Kitson, Lucy, Laura Merrill, Christopher Beaton, Shruti Sharma, Andrew McCarthy, Chandrashekhar Singh, Ashutosh Sharma, Jyoti Parikh, Victoria Ihuoma Ohaeri, and Tahreen Tahrima Chowdhury. 2016. *Gender and Fossil Fuel Subsidy Reform: Current Status of Research*. GSI Report. Geneva: International Institute for Sustainable Development (IISD).

No abstract available.

Summary:

This report explores current knowledge on energy subsidy reforms and gender through a review of existing literature. First, it sets out the global context of energy subsidies, energy access and gender empowerment. It then reviews literature on gender, energy access, fossil fuel subsidies and mitigation measures related to subsidy reform, such as cash transfers. Finally, it provides an overview of these issues across three focus countries: Bangladesh, India and Nigeria, as well as case studies on Peru, Mexico and Morocco. The review concludes that subsidy reform is a significant opportunity for Sustainable Energy for All and that poorly performing subsidies do not benefit impoverished women. At the national level, however, the removal of subsidies related to lighting and cooking fuels can negatively affect women's lives. As a result, governments should develop more information about the gendered impacts of reforms and, in the meantime, adopt a 'precautionary principle,' ensuring that reform plans are designed to safeguard women's access to clean household energy sources. The paper also sets out an agenda for future research on this issue in Bangladesh, India and Nigeria. This is the first publication in the Global Subsidies Initiative project 'Gender and Energy Sector Reform,' funded by the UK Department for International Development (DfID) and coordinated by the International Network on Energy and Sustainable Energy (ENERGIA). For more information, see www.iisd.org/gsi/fossil-fuel-subsidies/gender. (*Summary from International Institute for Sustainable Development*)

Köhlin, Gunnar, Erin O. Sills, Subhrendu K. Pattanayak, and Christopher Wilfong. 2011. "Energy, Gender and Development: What Are the Linkages? Where Is the Evidence?" Policy Research Working Paper 5800, The World Bank, Sustainable Development Network, Social Development Unit, Washington, DC.

Abstract:

This report reviews the literature on the links between energy access, welfare, and gender in order to provide evidence on where gender considerations in the energy sector matter and how they might be addressed. Prepared as a background document for the 2012 World Development Report on Gender Equality and Development, and part of the Social Development Department's ongoing work on gender and infrastructure, the report describes and evaluates the evidence on the links between gender and energy focusing on: increased access to woodfuel through planting of trees and forest management; improved cooking technologies; and access to electricity and motive energy.

The report's main finding is that energy interventions can have significant gender benefits, which can be realized via careful design and targeting of interventions based on a context-specific understanding of energy scarcity and household decision-making, in particular how women's preferences, opportunity cost of time, and welfare are reflected in household energy decisions.

The report focuses on the academic peer-reviewed literature and, although it applies fairly inclusive screening criteria when selecting the evidence to consider, finds that the evidence on many of the energy-gender linkages is often limited. There is thus a clear need for studies to evaluate interventions and identify key design elements for gender-sensitive project design. (*Abstract from original source*)

Kooijman, Annemarije, Jon Cloke, and Joy Clancy. 2019. "Needs, Wants and Values: Integrating Gender with Energy Access." Briefing Paper 3. Loughborough: Low Carbon Energy for Development Network (LCEDN).

No abstract available.

Summary:

This paper derives from a collaboration between the Low Carbon Energy for Development Network (LCEDN) and gender and energy specialists of the ENERGIA network which has been funded under the UK Department for International Development's Transforming Energy Access programme. This collaboration has brought together members of both networks in workshop discussions, shared dissemination events and knowledge sharing activities and the development of recommendations around the mainstreaming of gender within energy research programmes.

As one of the fruits of this collaboration, this paper focuses on the appropriateness of the recent tier-based energy access measurement methodologies now being deployed to track global progress. In particular, we focus upon the extent to which these types of methodologies are able to reflect how energy access impacts on gender equality and how gender norms and values impact on the benefits of access. Although these tools have a value in steering towards improving target setting and measuring progress, the paper argues that care should be taken in how the results are interpreted and used.

The paper outlines three main messages. These are:

(i) that a focus on numbers of energy connections or availability of supply (or even quality of supply) although important, is insufficient in ensuring meaningful energy access for men and women alike, and in ensuring actual utilization of energy services because energy demands are gendered.

(ii) that it is crucially important that we better understand the socio-cultural opportunities and barriers that motivate or hinder transitions towards the adoption of modern energy services

(iii) that there is a need to develop approaches that will enable policy-makers to add depth to the energy access narrative and their interventions by addressing factors that contribute to a more inclusive development of energy access, particularly the empowerment of women through bottom-up innovation and more utilization of holistic (rather than energy sector centric) approaches. (*Summary from original source*)

Kumasi Institute of Technology and Environment (KITE). 2006. “Ghana: Women’s Energy Enterprise - Developing a Model for Mainstreaming Gender into Modern Energy Service Delivery.” ESMAP Technical paper 096/06, Energy Sector Management Assistant Program (ESMAP), Washington, DC.

Abstract:

This paper looks at the feasibility of creating employment in the energy sector for women in rural communities in Ghana. The report is based on a stakeholders’ analysis of the feasibility of embarking on a micro-enterprise on multiple energy services for women in rural fishing and farming communities. The objective of the study is to test a business model for empowering women through income generation in energy service delivery. It is based on the background experience of a successful pilot project, in Bangladesh. The model involves capacity-building among rural women and micro-enterprise development for modern energy service delivery to their communities and surrounding ones. The focus of this study is to see if transfer of skills for manufacturing and production of energy service appliances can be accomplished without a high level of education among rural women. Such skills are considered as opportunities for initiating social transformation. The stakeholders’ analysis in five selected communities was carried out to assess the willingness and preparedness of women in these communities to engage in other similar projects in Ghana. The findings of the analysis have recommended that the Nyanyano region be selected as the pilot electrified community. The findings are presented in the report and are followed up with some recommendations on how to proceed and what the next steps should be. (*Abstract from The World Bank*)

Lambrou, Yianna, and Grazia Piana, 2006. *Energy and Gender Issues in Rural Sustainable Development*. Rome: Food and Agriculture Organization of the United Nations (FAO).

Abstract:

It is FAO’s view that increased access to energy sources in rural areas and the development of new bioenergy¹ sources can contribute to achievement of the Millennium Development Goals relating to the eradication of extreme poverty and hunger, improvements in health, education, and environmental sustainability, as well as gender equality and the empowerment of women. FAO’s Committee on Agriculture has identified the great potential of bioenergy for supporting new rural infrastructure and employment opportunities, and has also recognized that an integrated multidisciplinary approach is needed for its new Bioenergy Programme to address the social and

economic objectives set out in the MDGs. A focus on gender issues is particularly important in this context since many of the world's poorest people are women living in rural areas in developing countries who are currently dependent on subsistence agriculture to feed their families, and who are disproportionately affected by the lack of modern fuels and power sources for farming, household maintenance and productive enterprises.

This paper discusses some gender issues and energy linkages within the international sustainable development context and presents recommendations on ways of incorporating gender sensitivity into energy and development policies and planning processes. (*Abstract from FAO*)

Maier, Elisabeth, Samantha Constant, and Ali Ahmad. 2020. *Gender in Energy Interventions in Fragile and Conflict Situations in the Middle East and North Africa Region: Insights from Iraq, Lebanon, Republic of Yemen, and the West Bank and Gaza*. Washington, DC: The World Bank.

Abstract:

The Middle East and North Africa (MENA) is home to some of the most fragile situations and conflict-affected population in the world. With one in five people in the region living near conflict, nearly half of the economies of the MENA region are classified as fragile and conflict situations (FCSs). In such challenging contexts, the provision of basic and essential services, such as electricity, becomes a priority to mitigate the heavy burden of conflict and instability, particularly on the most vulnerable women and men, who are affected in different ways. The objective of this report is to advance the understanding of the gender-energy-fragility nexus, with a focus on some of MENA's fragile and conflict situations, namely, Iraq, Lebanon, Republic of Yemen, and the West Bank and Gaza. The research and data cover (i) an overview (and typology) of the gender, energy, and fragility landscapes in the studied countries, (ii) related evidence and analytics drawn from the World Bank's energy interventions and operations in the MENA region, and (iii) distilled policy recommendations tailored to the contexts of the examined countries. (*Abstract from original source*)

Keywords: refugees

Mbuthi, Paul, Faith Odongo, Mumbi Machera, and Joel K. Imitira. 2007. *Gender Audit of Energy Policy and Programmes in Kenya*. Nairobi, Kenya: Kenyan Ministry of Energy, Practical Action East Africa, ENERGIA and East African Energy Technology Development Network.

No abstract available.

Summary:

"The Gender Audit was implemented as one of the programme activities of the International Network on Gender and Sustainable Energy (ENERGIA), through Turning Information into Empowerment: Strengthening Gender and Energy

Networking in Africa (TIE-ENERGIA) programme. Members of the Africa Gender and Energy Network (AGEN), the Africa chapter of ENERGIA, implement TIEENERGIA, which is funded by the European Union (EU) under the COOPENER, a funding window under the EU Energy Initiative for Poverty Eradication and Sustainable Development.

“The Audit of energy policy and related projects and programmes in Kenya aimed at identifying gender gaps in energy and poverty policies through making gender and energy issues visible to a wide audience. It was envisaged that such action would support national and international networking as well as advocacy initiatives to influence energy policies and programmes. The Kenyan Gender Audit exercise was implemented as one of the components of the TIE-ENERGIA programmed, and part of collaborative activities between ENERGIA, East African Energy Technology Development Network (EAETDN), Practical Action East Africa and the MoE. It was implemented with co-funding from TIE-ENERGIA programmed, which builds on AGEN. Similar studies have been carried out in Botswana and Senegal.

“The Audit was coordinated by Practical Action East Africa, which is ENERGIA’s national focal point for Kenya. A team of four Kenyan professionals skilled in gender and energy, research and planning conducted the Audit. The Audit process included capacity building of both men and women through training of the team members and stakeholders to acquire skills and information on advising policy planners towards making gender responsive policies and programmes” (Mbuthi et al. 2007, 7).

Mohlakoana, Nthabiseng. 2010. *Seed Funding for Gender and Energy Network South Africa (GENSA): First Progress Report*. Cape Town: Human Sciences Research Council (HSRC).

Abstract:

The present report for seed funding activities is intended to identify the abovementioned indicators and feed the overall reporting format for DGIS and SIDA, including the identification of lessons learned, challenges and opportunities for the future of the national networks (sustainability). (*Abstract from HSRC*)

Keywords: funding; sustainable energy; Gender and Energy Network South Africa (GENSA)

Morris, Ellen, Jennye Greene, and Victoria M. Healey. 2019. *Blueprint Guide for Creating Gender-Sensitive Energy Policies*. Paris: The Clean Energy Solutions Center.

Abstract:

A policy that considers gender roles, differences and preferences driven by socio-cultural norms, can help to maximize the impact of energy projects, programs, and initiatives. Gender responsive regional and national energy policies and strategies can be a lever for addressing gender inequalities across the energy value chain, with collateral impacts on environmental sustainability, social inclusivity, and economic

growth. Moreover, the equal participation of women and men is imperative for achieving universal energy access and meeting the Sustainable Development Goals (SDGs). Policy and regulatory instruments can be a way to help close gender gaps in the energy sector; create awareness and understanding of the role of women in the workforce; send a strong signal to developers and investors, creating the tone and space for bottom up change; and encourage information exchange, education and communication about gender informed approaches. This guide presents the critical components for developing a policy on gender mainstreaming for energy access, including different considerations around design, development, implementation procedures, critical success factors, challenges, and integrated strategies. (*Abstract from US Department of Energy Office of Science and Technical Information*)

Nathan, Dev, and Govind Kelkar. 2009. “Monitoring the Effectiveness and Access to Energy by the Poor and Women.” *ENERGIA News* 12 (1): 24–6.

No abstract available.

Summary:

This three-page brief highlights the importance of monitoring activities in supporting governments by evaluating the effectiveness of pro-poor and gender-sensitive policies, the goal of which is to accelerate access to energy for the poor and women. It is suggested that generally pro-poor and gender-sensitive energy policies act in one or more of three domains: availability, access and end-use of energy services. However these factors, in turn, may or may not have an impact on the wellbeing of energy users, which is frequently overlooked. Therefore the monitoring framework proposed in the brief is divided into four levels in order to address all of the key domains i.e. availability, access, end-use and, finally, impacts on wellbeing and capability. (*Summary from Eldis*)

National Electric Transmission Company (ENATREL), ENERGIA, International Union for the Conservation of Nature (IUCN), and Latin American Energy Organization (OLADE). 2014. *Creating Conditions for Gender Equity in Rural Electrification Projects: Experiences from the Nicaraguan Electrification Project (PELNICA)*. Case Study. Washington, DC: IUCN Global Gender Office.

Abstract:

The Nicaraguan Electrification Project (PELNICA) is implemented by the National Electric Transmission Company (ENATREL), with financial and technical support from the Ministry of Foreign Affairs, Trade, and Development from Canada. PELNICA is implemented in seven departments of Nicaragua (Nueva Segovia, Madriz, Estelí, Jinotega, Matagalpa, León, and Chinandega), and it was designed with the objective of contributing to economic development to improve quality of life for women and men. For this reason, project implementation has used a series of different gender methodologies and tools. PELNICA has focused its activities on promoting greater

women's participation in decision-making spaces, as well as supporting women's economic empowerment as a needed element for rural sustainable development.

This study highlights the results for gender equality obtained through PELNICA, and shares some reflections on how this six-year process has been able to influence the design and implementation of other similar projects in Nicaragua, as well as expand its impacts by building strategic alliances with local governments. (*Abstract from IUCN Global Gender Office*)

Orlando, Maria Beatriz, Vanessa Lopes Janik, Pranav Vaidya, Nicolina Angelou, Ieva Zumbyte, and Norma Adams. 2018. *Getting to Gender Equality in Energy Infrastructure: Lessons from Electricity Generation, Transmission, and Distribution Projects*. ESMAP Papers. Washington, DC: The World Bank.

Abstract:

Getting to Gender Equality in Electricity Infrastructure: Lessons from Electricity Generation, Transmission, and Distribution Projects examines the social and gender footprint of large-scale electricity generation, transmission, and distribution projects to establish a foundation on which further research and replication of good practices can be built. The main impact pathways analyzed are access to land and labor markets, along with social sustainability considerations, including health and education. The study adopted this approach because, according to the World Development Report 2012, gender equality in access to land and labor markets matters for women's agency and empowerment. In addition, the study considers the role of the energy utilities and businesses to better understand the roles of various stakeholder. The study's mixed-methods research approach comprises critical in-country qualitative and quantitative field research, along with extensive literature and portfolio reviews. Qualitative analyses of several projects distinguished by their project type, energy source, and geographical representativeness were conducted to better understand how infrastructure construction can change the lives of local people. The World Bank Group (WBG) portfolio review provides guidance on how to operationalize good practices and lessons learned to move the energy-gender agenda forward. The study's primary audiences are energy task teams and social and gender specialists of the WBG and other leading development agencies, along with energy practitioners seeking better ways to address the gender aspects of energy infrastructure projects throughout the project and lending cycles. (*Abstract from World Bank eLibrary*)

Panjwani, Anja. 2005. "Energy as a Key Variable in Promoting Gender Equality and Empowering Women: A Gender and Energy Perspective on MDG #3." Discussion Paper, Department for International Development (DfID), London.

Abstract:

The third Millennium Development Goal - to promote gender equality and empower women - has as its target to eliminate gender disparity in education. This paper explores whether linkages between this goal and the energy sector exist and whether the energy

sector has a contribution to make to this MDG. It does that by looking at empirical evidence from studies done into the subject and presenting an overview of the results in the main text, but with more detailed findings given in tables in the annexes to the paper. Intended mainly as an advocacy tool, the groups mainly targeted by this paper are policy makers, academics, and people working as professionals in the energy sector. (*Abstract from DfID*)

Panjwani, Anja, and Elizabeth Cecelski. 2003. *Major Activities and Actors in Energy, Poverty, and Gender*. Energy, Poverty and Gender Working Paper Series. Washington, DC: The World Bank.

Abstract:

This report gives an overview of the major institutional actors and their activities in energy, poverty, and gender. The report is an updated and revised version of an appendix attached to Elizabeth Cecelski's briefing paper, 'Enabling Equitable Access to Rural Electrification: Current Thinking on Energy, Poverty, and Gender' (report no. 34531). This report starts by describing a number of United Nations initiatives, followed by a description of nongovernmental initiatives. These are subdivided in three categories, namely gender and energy networks; regional and national nongovernmental organizations (NGOs) (subdivided by region); and international NGOs. Finally bilateral and other donors and a number of World Bank programs with an energy, poverty, and gender focus are described. (*Abstract from The World Bank*)

Roddis, Suzanne. 2000. *Senegal – The Role of Women in the Traditional Energy Sector: Gender Inclusion in an Energy Project*. 152. Africa Region Findings. Washington, DC: World Bank.

Abstract:

In many countries of Sub-Saharan Africa energy sector planning has long been something of a paradoxical exercise in the context of modern as opposed to traditional fuels in the economy. Although essential to the functioning of society, modern fuels generally account for only 15 to 40 percent of total energy consumption. However, since they are inseparable from modern methods of energy transformation and use, these modern fuels absorb virtually all investments in the energy sector. Traditional fuels, on the other hand, although they occupy a dominant place in the overall energy balance and in the consumption of households, have received little in the way of planning and policy making attention and investments. The importance of traditional energy (fuelwood and charcoal) in terms of total energy consumption is significant. In low-income countries such as Burkina Faso and Ethiopia, the household sector accounts for more than 80 percent of total energy consumption and projections call for this rate of consumption to continue into the 21st century. Most traditional energy is used for household consumption (cooking and heating) and the daily lives of rural women are greatly influenced by its availability and use. (*Abstract from The World Bank*)

Sengendo, May, ed. 2009. *Improving Energy Policy and Programme Impacts through Gender Audits: A Summary of the Gender Audit of Energy Policies and Programmes in Botswana, Kenya and Senegal*. Leusden, The Netherlands: ENERGIA Africa.

Abstract:

This document provides a summary of the information and data provided in the reports and flyers of the Gender Audit of Energy policies and programmes in Botswana, Kenya and Senegal. It has been written through making further analysis and editing of the three reports which are available on the ENERGIA website. This work package aimed at identifying gender gaps in energy-poverty policies and making gender and energy issues visible to a wide audience. It was envisaged that the issues identified would then be used to support the national and international networking and advocacy initiatives to influence energy policies and programmes. The key issues which the Gender audits activities in the three countries revealed include the following:

- Gender is a low-level priority concern in the energy sector in all the three countries, despite efforts to provide a conducive international level framework as well as gender policies at national level. Gender mainstreaming in the energy policies is still at low levels and requires capacity building of staff as well as incorporating gender management systems at institutional level to provide guidance to gender responsive leadership and energy decision making
- The major challenge facing the policy makers in the energy sector is lack of gender -related energy statistics that can easily be applied to energy policy planning.
- Gender mainstreaming in the organisational management of energy related programmes has been worked on in all the three countries but monitoring indicators to trace progress made, is lacking.
- Resource mobilisation for gender and energy related policies and programmes (such as the budget for the energy sector) are key in enabling gender mainstreaming. All the three countries were at the initial stages of applying the tool of gender budgeting in other sector but not in the energy sector.

The links between gender and energy and the national objectives for achieving the Millennium Development Goals have been worked on well in all countries. This mainly due to the funding and regulations from international level to ensure that gender is a key concern in the MDGs and should be applied to the sectors including energy. (*Abstract from original source*)

Sinha, Shirish, Poushali Maji, Jyoti Parikh, and Ana Rojas. 2009. “Making Carbon Markets Work for the Poor and for Women.” *ENERGIA News* 12 (1): 19–21.

No abstract available.

Summary:

“As the world debate moves in 2009 towards achieving a greater consensus and agreement on finding solutions and taking actions on climate change, one of the key

issues is the role of carbon markets in any post-2012 climate policy agreement. Although the current economic crisis has raised concerns over the stability of carbon markets, even before the crisis there were many voices arguing that carbon markets had failed to deliver in terms of their sustainable development agenda” (Sinha et al. 2009, 19).

Skutsch, Margaret. 1996. “Gender and Energy Planning.” In *Sub-Regional Training Course on Women in Wood Energy Development*. Rome: Food and Agriculture Organization of the United Nations (FAO).

No abstract available.

Summary:

This paper highlights a number of different positions that can be taken regarding the reason for and purpose of a gender approach in energy planning. The two extreme positions ‘gender for efficiency’ and ‘gender for equity’ are described. Most energy planners are found somewhere in between these extremes. Next the question of how the gender approach fits into the overall planning approach is addressed. Gender differences in resource distribution are found already at the household level and these need to be taken into account by energy planners. (*Summary from ENERGIA*)

Skutsch, Margaret, Joy Clancy, and Hanke Leeuw. 2006. *The Gender Face of Energy: A Training Manual Adapted to the Pacific Context from the ENERGIA Commissioned Training Manual*. Pacific Energy and Gender Network (PEG). Suva, Fiji: Pacific Islands Applied Geoscience Commission (SOPAC) and ENERGIA.

No abstract available.

Summary:

“Energy is a basic need and a component of all productive processes. It is essential for development. Improved energy sources can improve levels of welfare, increase standards of living, and liberate people from darkness and isolation. Billions of people in developing countries have no access to modern forms of energy such as electricity and gas, and often hardly use even kerosene, but depend on traditional biomass fuels for heat, light and their own metabolic energy for mechanical tasks. In many places, woody biomass is hard to find and people switch to using poor quality biomass.

“There have been many programmes and projects set up to try to change this situation and to introduce improved energy technology – in particular, to introduce renewable energy technologies, such as photovoltaic systems, and technologies which conserve fuel, such as efficient woodstoves. Other approaches have tried to increase biomass supplies, such as fuelwood lots. By no means all of these programmes and projects were successful, and one of the contributing reasons is that they have mostly been planned with scant regard for gender aspects of the energy problem.

“This manual is designed to support training of development planners and project managers to increase their capacity to bring the gender aspects of energy into the planning cycle” (Skutsch et al. 2006, 2).

Southern African Research and Documentation Centre (SARDC). 2015. *Mainstreaming Gender in the SADC Energy Sector*. Policy Brief. Harare, Zimbabwe: SARDC.

No abstract available.

Summary:

Without access to modern energy services, women and girls spend most of their time on basic tasks that are time-consuming, non-remunerative and highly laborious, such as collecting biomass fuels. This further exacerbates gender inequalities as many women are unable to access wage employment, education or business opportunities due to these responsibilities, and also limits options for social and political interaction outside the household. Women and girls are largely responsible for household and community activities, including energy provision in most Member States of the Southern African Development Community (SADC) and thus are the primary energy producers and end users at household level. Major challenges within the gender and energy nexus are the limited participation of women in designing home energy systems, resource access, and decision-making at national and regional levels. The regional trend at the critical decision-making level is more inclined towards men, with women occupying less than 10 percent of most governance structures in this regard. (*Summary from IUCN Global Gender Office*)

Sreekumar, N. 2009. “Regulation and Incentives to Enhance Energy Access by the Poor and Women in Privatising Energy Markets.” *ENERGIA News* 12 (1): 14–6.

No abstract available.

Summary:

“Market-oriented reforms that began in 1990s have, by and large, ignored the poor. Their priority has been improving technical efficiency and commercial viability. Equity and environmental sustainability have been neglected. A fifteen-country study by the Global Network on Energy for Sustainable Development in 2004 noted that: ‘In most cases, market-led reforms with strong requirements regarding the financial health of electricity companies have been introduced into countries where a large sector of the potential “market” consists of very poor people ...A reduced role for governments and no direct programme focused on increased access could not, from the outset, address the energy problems of the poor’” (Sreekumar 2009, 14).

Sreekumar, N., and Tejal Kanitkar. 2008. “Balancing Regulation and Incentives to Enhance Energy Access to the Poor and Women in Privatising Energy Markets.” Discussion Paper for the High Level Regional Policy Meeting on Networking

**Towards Gender and Poverty Sensitive Energy Policies, United Nations
Conference Centre, Bangkok, November 3–4.**

No abstract available.

Summary:

“The objective of this paper is to explore issues related to incentives and regulation in providing energy access to the poor and women. The market-oriented reform that began in 1990s, promising the end of all problems of the sector, has by and large bypassed the poor. Many countries have initiated direct programmes to increase energy access to the poor, bringing many long buried issues (like mainstreaming stand-alone systems, reviving efficient cook stoves, gender equity and women’s empowerment in the energy sector, increasing investment in household electrification etc.) back to the centre stage. While it is clear that incentives are critical to promote energy access to the poor, there is the realisation that clear policies and strong regulatory systems are essential to ensure the effective implementation of such programmes.

“It is in this background that we are discussing the issue of energy services to the poor and women. Section 2 gives an overview of the issues of energy access and concludes by raising some questions on how to address them. Section 3 gives the policy and institutional framework. Though the specific details are from the Indian context, it helps to locate the poor, gender sensitive policy initiative in any developing country. Section 4 is on regulatory opportunities and challenges. It presents regulation as a new institution of governance with a potential to push the pro-poor, pro-women agenda. In the electricity sector, this potential exists where electricity access for the majority of the population is from grid and in areas where stand-alone systems operate. Thinking beyond regulation, the final section brings out a few recommendations towards democratisation of governance.

“The authors have drawn upon their experience in public interest oriented policy analysis, advocacy, regulatory interventions and civil society capacity building largely in the context of the Indian electricity sector and to some extent in the context of the South Asian energy sector” (Sreekumar and Kanitkar 2008, 1).

Wright, Nozipho, and Yacine Diagne Gueye. 2009. “Gender Audits of Energy Policy in Botswana and Senegal: What Has Been Achieved?” *Boiling Point* no. 57: 9–11.

No abstract available.

Summary:

“The approach used in the gender audits was primarily participatory, led by a national team of experts. The gender audits all provided in-depth analysis of energy planning, budgets, the institutional capacity of ministries to implement gender-mainstreaming strategies, the links between gender, energy and the national objectives for poverty reduction strategies and for meeting the Millennium Development Goals (MDGs). The audits identified the specific ways in which gender issues were, or were not, addressed

and critical gender gaps in existing national energy policy formulation and implementation. Validation workshops in the three countries helped to reach consensus and ownership of the audit findings within the energy ministries, discussed future recommendations and agreed on actions with specific targets and timeframes that were needed to engender the policies.

“The final reports produced from the gender audits are considered semi-official documents. Two years after finalising the gender audits, this article seeks to show the effect the audits have had on the national energy policies, programmes and planning in Botswana and Senegal” (Wright and Gueye 2009, 9).