



ACCELERATING SDG 7 ACHIEVEMENT

POLICY BRIEF 12

GLOBAL PROGRESS OF SDG 7—
ENERGY AND GENDER

7 AFFORDABLE AND
CLEAN ENERGY



POLICY BRIEF #12

GLOBAL PROGRESS OF SDG 7— ENERGY AND GENDER

Developed by

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In collaboration with

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KEY MESSAGES

Status of gender and energy and progress towards achieving SDGs

- Over 1 billion people in the world lack access to electricity, and close to 3 billion lack access to clean cooking.² Women bear the greatest burden of this energy poverty—it is their unpaid time and labour that is expended to gather biomass fuels for cooking, collect water or manually process grains and other foods. Household air pollution, linked to burning fuels such as wood, animal waste and charcoal, is responsible for about 2.8 million deaths every year, mostly among women and children.
- Greater access to energy services can improve women's health and well-being, free up their time and enable their economic empowerment, thereby supporting the achievement of SDG 5.
- While some countries and regions are on track to achieve electricity for all, under current policies and trends, 2.3 billion people will still lack access to clean-cooking facilities in 2030. In recent years, going beyond their traditional role as “users” and “beneficiaries,” women are playing a role in expanding energy access, thereby becoming part of the solution. A number of actors have started working on the intersection of gender, energy and sustainable development, and in advancing gender equality, social inclusion and women's empowerment in the energy sector.

Priority Actions

- Integrate gender and energy actions within all SDGs and establish gender-responsive global and national energy sector policies backed by evidence, such as sex-disaggregated data and analysis. Continue to build expertise and experience on gender issues across the energy value chain, from off-grid distribution and consumption to policy/pricing to generation and energy production. Energy sector institutions including energy ministries and utilities should be supported in developing gender-responsive programmes, monitoring systems and data collection methods.
- Promote and invest more in clean-cooking technologies and decentralized sustainable energy technologies that support gender equality and women's economic empowerment, involving women in the design and distribution of modern energy equipment and services. Within the energy industry itself, barriers to women executives, entrepreneurs and employees must fall, and their representation on national and global energy bodies grow.
- Governments must raise their efforts to promote women-centric business models for expanding energy access to all, including at the last mile, through capacity-building, partnerships with local stakeholders, expanding women's access to finance and building a conducive enabling environment for women entrepreneurs.
- International and national energy and climate change programmes and mechanisms such as the Green Climate Fund and Nationally Determined Contributions must be supported to meaningfully integrate gender concerns in programming.

Gender and Energy Nexus

The Sustainable Development Goals (SDGs) seek to change the course of the twenty-first century, addressing key challenges such as eradicating poverty and hunger, eliminating inequalities and violence against women and girls and combating climate change. *Gender equality and women's empowerment are prerequisites for achieving these and other global goals.* Thus, achieving gender equality and women's empowerment is a stand-alone goal—SDG 5—and also integrated across the other goals, with many targets specifically recognizing gender equality and women's empowerment as both an objective and part of the solution.

Box 12.1

Gender and Energy Facts and Figures

- High reliance on biomass for cooking in many countries means that women and children without clean cooking access spend an average of 1.4 hours/day collecting fuel.
- Only 4 of 72 countries analysed (6 per cent) had women ministers overseeing national energy policies and programmes.
- A study of more than 1,500 companies found that having more women on boards of directors led to more investment in renewable energy.
- Thirty-five per cent of the workforce in renewable energy companies are women, compared with 20-25 per cent in the broader energy sector.
- Women accounted for less than one-third of those employed in scientific R&D across the world.

Sources: C3E/IEA Technology Collaboration Programme, "Women in Clean Energy: Knowledge, Gaps and Opportunities" (2017); IEA Energy Access Outlook 2017; IRENA Director-General

There is a clear and important intersection between energy access and gender equality. Women and children are often disproportionately affected by lack of energy access, in that large amounts of their time and labour must typically go towards meeting daily needs (for example gathering biomass for cooking or manually processing grain or other food in the absence of machines). Additionally, lack of access has important implications for the intersection of gender-equality considerations and many of the other SDGs. Sustainable modern energy fuels development, from the light that allows a child to do her homework to street lamps allowing women to travel safely home at night. Universal access requires energy to be affordable and reliable. Generating it must not irreversibly harm the environment, highlighting the need for renewable energy.

In households, women are often the primary energy managers. But sustainable modern energy infrastructure and technology tend to reach women and girls last, even if it is vital for relieving their disproportionate share of unpaid care and domestic work and enhancing their economic opportunities. This situation is obscured by the lack of sex-disaggregated data and gender statistics.

Women are key agents of change and, as primary energy managers in households, they could play powerful roles in extending access to sustainable modern energy, adopting energy efficiency technologies and improving consumer behaviours. Each stage of energy planning and policymaking needs to factor in gender dimensions and actively advance women's leadership. Women need to be involved from start to finish in the design of modern energy-access technologies and programmes and empowered to become more involved in the provision of energy services. Within the energy industry itself, barriers to women executives, entrepreneurs and employees must fall, and their representation on national and global energy councils and other fora must grow.

Are we on track to achieve SDGs and gender-equality and energy-access objectives?

A number of SDGs are more likely to be achieved if the gender-energy-poverty nexus is recognized and integrated into development policies and planning. Significant among these are SDG 7, which seeks to "ensure access to affordable, reliable, sustainable and modern energy for all" by 2030, and SDG 5, which aims to "achieve gender equality and empower all women and girls", and these are inextricably linked. Integration of gender and energy issues can help reap benefits at multiple levels, contributing to most SDGs through improving the quality of services provided for maternal health, food security, clean water, entrepreneurship, agriculture and education. At the same time, women's participation can increase the project and policy effectiveness and efficiency of energy-sector interventions and the achievement of SDG 7.

Focus is still needed on the multiple tiers of access to clean and affordable energy. Global electrification reached 86 per cent in 2016 and close to universal access was achieved in urban areas (96 per cent), while rural areas lagged behind at 73 per cent. (IEA and World Bank, 2017) This means that over 1 billion people still do not have access to electricity, particularly in sub-Saharan Africa and South Asia. Global access to clean fuels and technologies for cooking reached 62 per cent in 2015. (*ibid*) However, 2.8 billion people still lack access to clean cooking, mainly in rural sub-Saharan Africa and Asia-Pacific (IEA, 2017). Thirty-eight per cent of the global population and almost 50 per cent of the population in developing countries lack access to clean cooking, relying on solid biomass, coal, and kerosene (IEA, 2017; WHO, 2016). Polluting fuels are used for cooking in 75 per cent of households in rural

communities across the world, 91 per cent of rural households in Africa, and 82 per cent of rural households in the Western Pacific. Women and children in many places spend on average 1.4 hours a day collecting solid fuels (i.e., wood, crop wastes, charcoal, coal or dung) and women spend several hours per day cooking with inefficient stoves, limiting time available for them to pursue other economic, family or leisure activities.

In countries that rely heavily on solid biomass and coal for cooking, household air pollution is responsible for 2.8 million premature deaths every year (IEA, 2017), linked to fumes from biomass fuels. Africa alone accounts for about 600,000 deaths each year as a result of household air pollution (Africa Progress Panel, 2015), and approximately 60 per cent of these victims are women (ESMAP, 2011 and IRENA, 2013 cited in UN Women, 2017). Two underresearched but often-mentioned links between health and energy poverty are sexual assault and the physical burdens of carrying heavy loads of fuel and water. Some evidence indicates that women and girls are at risk of sexual violence when they collect fuel and water or when they are outside after dark (Rewald, 2017), especially in the absence of community lighting.

In most countries, even though the potential for improved or clean cook stoves to eliminate the time and health burdens of cooking with biomass is understood, it has been challenging to encourage households to adopt new cooking technologies (Rewald, 2017; IEA, 2017). Significantly, the policy commitment to clean cooking has lagged behind as well. In 2014, more than 140 countries had

renewable energy targets and support policies in place, but almost all of these were for the power sector (ADB, 2015). Under current policies and trends, 2.3 billion people will still lack access to clean-cooking facilities in 2030 (IEA, 2017). Women and children bear the greatest burden of energy poverty. In contrast, access to and use of clean energy brings interconnected, corollary benefits related to greater gender equality, economic productivity, educational opportunities, and more.

In addition to fuel collection and cooking, the burden of a number of other time- and labour-consuming activities typically carried out by women can be eased by modern energy applications, which increase efficiency and productivity, thus improving well-being and freeing up time for leisure and rest. Village transport surveys in Ghana, Tanzania, and Zambia showed that women spend nearly three times as much time in transport activities compared with men, and carry, on their heads, about four times as much in volume as men, primarily water, firewood and crops for grinding (Blackden and Wodon, 2006). Time spent on fetching water can be significantly reduced through piped water supply. Processing staple foods, such as grain grinding, is a time-consuming manual task performed daily by many women, which can be eased by modern energy. Lack of sustainable transportation, water pumps, electric appliances, and other tools and equipment that require energy access, means that women in poor households have to exert much more of their own energy.

Box 12.2

Key Gender Issues Across the Energy Sector

Energy Access <i>Household Energy and Rural Electrification</i>	Time poverty due to fuel collection and cooking; gender-based violence related to fuel collection; health impacts, as women and children are disproportionately affected by indoor air pollution; and lack of access to information and financing for energy services or technologies.
Electricity Infrastructure <i>Generation, Transmission, and Distribution</i>	Displacement, inequity in ownership or land titling during resettlement; inequitable access to new jobs in areas such as energy, engineering, tourism or services; inequitable benefit sharing due to lack of land titles or government identification; gender-based violence related to migration, new roadways and traffic patterns; and exposure (mostly affecting men) to hazardous work on energy infrastructure such as electrical wiring and chemical handling.
Clean Energy <i>Renewable Energy and Energy Efficiency</i>	Women and female-headed households having less information on new technologies that can create opportunities for employment and training; lack of access to financing and collateral to purchase such technologies or services; lack of voice in household decision-making about energy options and electricity use that can impact behavioural change or adoption of improved energy services.
Energy Policy <i>Subsidies, Tariffs and Reforms</i>	Female-headed households are often poorer and may suffer more from rapid tariff increases than male-headed households; men often have power over household budgets and decision-making; men may be more affected than women by direct job losses in heavy manufacturing; women may not be included in policy consultations and decision-making due to societal norms.

Source: ESMAP 2017

Interlinkages with other SDGs

Addressing gender and energy issues offers potential gains across a number of SDGs in addition to SDG 7, notably those linked to poverty (SDG 1), health and well-being (SDG 3), education (SDG 4), gender equality (SDG 5), and climate change (SDG 13).

Access to electricity can support women's economic empowerment by facilitating productive and employment opportunities. In Nicaragua, access to reliable electricity increases the likelihood of rural women to work outside the home by approximately 23 per cent (Grogan and Sadanad, 2013). A recent study from Brazil showed that in rural areas with access to electricity, girls are 59 per cent more likely to complete their primary education (SEforALL, 2017a). Electricity also gives people the opportunity to charge mobile phones, increasing connectivity and employment opportunities and, where the financial infrastructure exists, access to services like mobile banking (GSMA, 2015). Moreover, as investments in renewable energy increase, there is potential to consider ways to help foster equitable employment opportunities for both men and women (World Bank ESMAP, 2018).

Engaging women in energy value chains, as employees and as entrepreneurs, helps augment their incomes. When a woman is given an opportunity to earn an income, it helps in many other areas of her life. Studies show that women reinvest 90 per cent of their income in their families and communities, while men reinvest only 30 to 40 per cent; thus, the implications for economically empowering women can reach far beyond the individual (Borges, 2007). Women are also more likely than men to invest a large proportion of their household income in the education of their children, including that of girls (Lewis, 2013; IMF, 2013). According to the ILO, women's work, both paid and unpaid, may be the single most important poverty-reducing factor in developing economies (IMF 2013, Borges 2007).

Aside from eliminating or at least reducing household air pollution, addressing gender and energy issues can have discernible impacts on global health. Improved lighting and hygiene associated with clean energy and safely managed water would help reduce maternal mortality rates. The maternal mortality ratio is strongly correlated with access to electricity (UN Women, 2014 cited in Smart Villages, 2015). Yet 1 billion people globally are served by health facilities without electricity: in India 46 per cent of the health facilities, serving an estimated 580 million people, are without electricity (Practical Action, 2013). An analysis of health facility survey data for Bangladesh revealed that electrified clinics are open on average an hour longer (IEG, 2008), and electrified households in the country reported a higher proportion of child deliveries assisted by medically trained persons (36 per cent) compared to those in non-electrified villages (23 per cent). In addition, higher proportions of electrified households reported antenatal care, pregnancy check-

ups by medically trained personnel, tetanus injections during pregnancy and post-natal check-ups after delivery (Barkat et al., 2002 cited in Smart Villages, 2015). There are also opportunities to integrate gender considerations within energy efficiency programmes that focus on retrofitting schools and hospital.

Advances in the gender and energy nexus

Perhaps the most pertinent reason for considering women's roles insofar as the SDGs are concerned is the fact that women are slowly and steadily becoming a part of the solution in the energy access gap, which the conventional business as usual approaches are unable to solve (SEforAll, 2017c). In recent years, going beyond their traditional role as "users" and "beneficiaries," women are playing a role in expanding energy access, thereby becoming part of the solution to expand energy access for all (Dutta et al., 2017). There is also growing evidence that greater gender diversity—particularly on boards and in other leadership positions, including in the energy sector—benefits business in meaningful financial and non-financial terms, such as through improved profitability and innovation capacity (Ernst and Young, 2016; World Bank ESMAP, 2018). This section discusses the progress that has been made in addressing these nexus issues as well as the persisting gender gaps.

In recent years, a number of actors have started working at the intersection of gender, social inclusion, sustainable energy and climate change. The legitimacy of gender inclusion and energy access as an interrelated issue area is now well established; studies show positive benefits when these issues are tackled together (UN Women, 2016). A global movement is under way to create a more inclusive approach to energy access, with women and marginalized people taking centre stage—no longer as victims, but as agents and accelerators of change (SEforAll, 2017a). This is strengthened by several recent international agreements, which provide a framework for gender and energy work, including: the Istanbul Programme of Action for 2011–2020 which charts out a path for Least Developed Countries (LDCs), highlighting energy access as a priority area for action, along with gender equality and the empowerment of women; the Sustainable Energy for All (SEforALL) initiative, launched by the United Nations Secretariat in 2012; and the 2016 Paris Agreement on climate change, which formally recognizes the intersection of climate change and gender equality, empowerment of women, and realization of their rights, and mandates gender-responsive adaptation actions and capacity-building activities. The SEforALL business plan moved from positioning women as victims/beneficiaries to leaders and change agents in the energy transition, and launched the People-Centered Accelerator to form a voluntary partnership of stakeholders interested in advancing gender equality, social inclusion and women's empowerment in the sustainable energy sector. Additionally, many organizations focus specifically on women and girls in the gender and energy nexus, such as UN Women, Women for Women International, and the

Global Fund for Women.

The World Bank's Energy Sector Management Assistance Program (ESMAP) was an early mover on gender and energy and has played an important role in ensuring that gender issues in energy go beyond advocacy to produce concrete results in investment, project design, and implementation, by focusing on knowledge generation and supporting pilot interventions at the country level. ESMAP has helped curate a strong set of best practices, developed online training and tools and is producing a series of reports and guides on gender issues across energy topics such as electricity infrastructure, geothermal, mini-grids, energy efficiency and behavioural change, and clean cooking. Through its gender and energy regional programmes in Africa and East Asia and Pacific, ESMAP is currently engaged in over 30 countries and has developed a roster of gender experts, who have been repeatedly called upon to provide expertise in lending and non-lending activities of the World Bank. Some examples of project-level activities in Africa include capacity-building and economic empowerment, data collection and evidence building, and behavioural change and consumer outreach. In East Asia and Pacific, gender experts are providing support in areas such as surveying male and female customers of energy cooperatives; developing gender action plans and gender-informed beneficiary schemes for a hydropower project; improving outreach mechanisms for ethnic minority women affected by a hydropower project; applying baseline data collection, and monitoring and evaluation tools; promoting women's leadership and employment; and supporting clean cooking programmes through guidance notes.

Gender integration in energy policy and regulation:

A number of positive developments at the regional and national level have recognized the centrality of gender considerations in energy-sector interventions and development. The ECOWAS Policy for Gender Mainstreaming in Energy Access, adopted in June 2017, is one such instance, where 15 countries have committed to address existing gender barriers in expanding energy access in West Africa. This gender-responsive energy policy aims to increase general awareness of gender and energy within government, academia and at large; mainstream gender perspectives into all public-sector energy activities; achieve gender balance in public sector energy-linked jobs and decision-making roles; and ensure women have equal opportunity to participate in the private energy sector. (SEforALL 2017a)

An accompanying ECOWAS regulation mandating gender-impact assessments for energy projects is now under consideration. Similar efforts are being taken up in East Africa (by the East Africa Centre for Renewable Energy and Energy Efficiency) and in Southern Africa (Southern Africa Centre for Renewable Energy and Energy Efficiency) (SEforALL, 2017a). A recent review of

gender integration in energy policies in 15 East and South African countries shows a positive trend in integrating gender dimensions into energy policies (UN Women, 2017). More than 60 per cent of the policies acknowledge the need for enhancing women's participation in policy- and decision-making in the sector, and more than half note the need to enhance women's access to energy services and technologies as a means of empowerment. Some of the policies also identify specific actions to tackle the challenges identified. About 40 per cent of the policies highlight the link between women's empowerment and enhanced environmental sustainability in the sector.

While progress has been made, gender considerations are often absent in energy planning and policy (Clancy, 2017). Regarding electrification projects, even though the impacts and risks of energy development should be addressed in environmental and social impact assessments, mitigation plans are not always funded, monitored or disaggregated by gender. Consultations, policy planning, and decision-making in the energy sector do not always consider gender and social inclusion issues and stakeholders. Since women and other so-called vulnerable groups are left out of energy plans and surveys, baselines for measuring development benefits usually do not exist.

Women in energy entrepreneurship:

Significant evidence is now emerging to show that: energy interventions that take into account women's needs are more likely to have a significant impact on addressing gender equality and household and community energy poverty; and ensuring women's equal participation in energy interventions has much higher potential benefits for all (UN Women, 2016; Glemarec et al., 2016). One such emerging strategy is women's entrepreneurship in energy, which represents a huge economic growth potential (SEforALL, 2017c). Even though 80 per cent of the people without energy access and reliant on biomass for cooking have incomes of less than US\$ 3 per day, together they spend US\$ 37 billion per year on meeting basic energy needs (World Economic Forum, 2013). However, the conventional private sector actors find it difficult to tap this potential as operating distribution channels to reach last-mile markets remains a challenge: customers in remote areas do not shop through standard retail channels; local distribution chains are fragmented; and sales volumes are low.

Women and their organizations are uniquely positioned to play a critical role in bridging this gap at the last mile. A large number of women are engaged in small and medium-sized enterprises (SMEs); female ownership represents 30 per cent to 37 per cent of all SMEs (8 million to 10 million women-owned firms) in emerging markets (IFC and McKinsey Women SME mapping exercise 2011). This provides a ready springboard for selling energy products and services, leveraging their networks to promote adoption of new technologies. They are effective spokespeople for

use of clean energy, endorsing marketing messages, and taking advantage of women-to-women communication strategies. This is important since women play a key role in spending decisions in homes: women make or influence 80 per cent of buying decisions and control US\$ 20 trillion in global spending. It is projected that by 2028 women will control close to 75 per cent of discretionary spending worldwide (Ernst & Young, 2012, cited in SEforALL, 2017b). Because women are close to their customers and know local circumstances, women entrepreneurs have enormous potential to manage supply chains and acquire new credit-worthy customers in rural areas, lowering customer acquisition costs (Glemarec et al., 2016). New research from Ernst and Young also shows that women entrepreneurs are powerful job creators—even outperforming their male counterparts on this front. As a result, a number of energy enterprises have begun to employ women as sales representatives in order to reach energy markets in “last mile” and other contexts.

Networks and partnerships in gender and energy:

ENERGIA's Women's Economic Empowerment programme works closely with women energy entrepreneurs in hard-to-reach areas across Nepal, Indonesia, Kenya, Nigeria, Tanzania, Uganda and Senegal. The “last-mile” distribution model, centred around women-led micro- and small-scale businesses, has led to a robust programme with 4,153 women entrepreneurs involved in selling and distributing clean energy products or adopting clean energy to boost the productivity of existing businesses. A number of partnerships and networks are also emerging, such as the WPower, the Global Alliance for Clean Cookstoves and the Shine Campaign, bringing together resources and paying attention to gender equality and social inclusion in catalysing distributed clean energy development at scale to meet the 2030 goal of universal energy access (SEforALL, 2017a).

Networks such as the Clean Energy, Education and Empowerment Initiative (C3E), Women of Renewable Industries and Sustainable Energy (WRISE), Women in Solar Energy (WISE), Entrepreneurial Women in Renewable Energy (EWiRE) and the Global Women's Network for the Energy Transition (GWNEN) are also spreading ideas, mobilizing support and providing encouragement, to build a cadre of women leaders in the energy sector.

Persistent bottlenecks and challenges

While there is considerable momentum on the gender and energy nexus globally, and new innovative women-centric business models are emerging, it appears that potential gains are not being fully realized owing to persistent gender barriers—and gaps such as continued dependence on biomass for fuel, with attendant time, energy poverty and health issues exacerbated by climate change

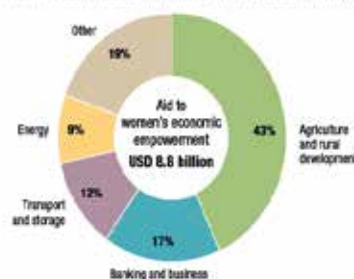
and environmental degradation. What are the bottlenecks that need to be addressed to make meaningful progress?

Figure 12.1

Distribution of Aid to Women's economic empowerment by sector

Distribution of aid to women's economic empowerment by sector

Chart 3: Sectoral distribution of gender equality focused aid to the economic and productive sectors
% of total bilateral aid commitments: 2013-14, constant 2014 prices



Funding Barriers

The OECD DAC Network on Gender Equality (GENDERNET) in June 2016 noted that only a very small proportion of ODA for women's economic empowerment is directed to the energy and transport/storage sectors (9 per cent and 11 per cent respectively). (OECD DAC Network on Gender Equality (GENDERNET) 2016)

A recent study by SEforALL points out that while a wide range of activities, including advocacy, research, capacity-building, training, networking, and convening, have been funded, there is a need to step up investment and private-sector engagement. Recent data collected through desk research and structured interviews on 174 programmes showed that just 12 per cent of organizations are focused on moving capital into sustainable energy solutions that address gender and social inclusion. Grants need to be increased in amount and tenor to respond to the most frequently cited barrier—lack of access to multi-year funding –and used to leverage more and varied types of sustained funding, including commercial investments. More methodical inclusion of women-centred funds into existing sustainable energy financing vehicles is a key need, recognizing that there are both rights-based and efficiency-based arguments for doing so. Availability of financing also remains a primary bottleneck for women energy entrepreneurs. (SEforALL, 2017a)

Women's representation in the energy sector A cross-country comparison of women's representation in national parliaments showed that globally only 19 per cent of parliamentary seats were occupied by women in 2015. (SEforALL, 2017a) Moreover, women's labour force participation has not seen significant improvements since 2000, with the global average being two women for every three men. In 2016, women still represented just 40 per cent of the global labour force and 23 per cent of national decision makers (SEforAll, 2017a).

In ministries of energy, women are overrepresented in administrative positions, men in managerial and technical areas. The main factors encouraging gender policies that promote women's representation in the energy sector are national regulatory frameworks with clear objectives on gender, corporate social responsibility policies, gender awareness within the utility and utilities' demand for labour and specific skills (World Bank ESMAP, 2018).

The gender and energy sector is specifically challenged by the lack of women in technical fields, limiting their participation in energy companies and their involvement as entrepreneurs, outside of the retail segment of the value chain. Women's familiarity with new technologies is also usually lower than men's, particularly in rural settings. Women's groups that can benefit from access to energy for productive use may not know what technologies are available to them or may not have the technical skills to use the devices (SEforALL, 2017a).

Discriminatory social norms and practices Barriers related to cultural and social norms must be addressed for sustainable energy initiatives that aim for gender equality and social inclusion to succeed. Women and girls face multiple and intersecting inequalities and forms of discrimination. Because of prevailing discriminatory gender norms, women and girls tend to be less educated than men and boys, with less access to information, skills, training and labour markets, while facing greater risks of violence and harmful practices. This complexity influences their decision-making power and exercise of voice and agency, and constrains their access to land and productive resources, technology and information, and education and health services. Based on data for 161 countries, only in 37 per cent do women and men have equal rights to own, use and control land. In 59 per cent, while the law guarantees women and men the same rights, customary and religious practices often discriminate against women and undermine the full implementation of national legal codes. In the remaining 4 per cent, women explicitly have no legal right to own, use or control land¹. Moreover, social tariffs for electricity are not equally accessible to female- and male-headed households. These constraints jeopardize women's chances of success as entrepreneurs in the sustainable energy sector.

Women-owned enterprises account for a third of businesses in the formal economy worldwide, but the majority in developing and emerging economies are informal micro- and small enterprises with little growth potential. Women working in family-owned businesses are often not considered full shareholders or compensated equally. Nevertheless, women's enterprises can be important vehicles for economic empowerment, leading to improved incomes and contributing to poverty reduction in the household and community. Yet discriminatory social norms and family responsibilities can prevent women from even starting a business. Policies are needed to address discriminatory property

and inheritance laws that inhibit women's entrepreneurship, as well as to facilitate women's access to markets, credit, financial services and products, infrastructure and technology, procurement opportunities and social protection (IFC 2013, ILO and GIZ 2013).

Data availability Lack of high-quality data and, more precisely, lack of sex-disaggregated data and gender statistics, is a major impediment to projects in the gender and energy nexus. Gender statistics on energy access are almost never available at any level. Additionally, many practitioners struggle to agree to and capture quantifiable measures of women's empowerment, either selecting overly broad or overly narrow indicators, trying to balance the efforts required to collect data with the usefulness of that data, and then finding that measurements are not directly comparable across organizations. This, in turn, makes it difficult to convincingly raise awareness on the topic. Judging from the level of advocacy that programmes and organizations are engaged in and the presence of the activity in all regions, the level of awareness of the gender and energy nexus seems quite low, even among the international community, national governments and the private sector.

Policy Implications/Recommendations

Build gender-responsive global and national energy sector policy regimes through evidence-based policy advocacy

Against a backdrop of declining production costs for renewable energy technologies and international commitments on energy and climate change as well as gender, the time is ripe to build a cohesive, strong and multi-stakeholder movement on gender, social inclusion, women's empowerment and sustainable energy. Platforms that bring together diverse actors and elevate the profiles of locally grounded individuals and groups should be supported. Resources are needed to support the consolidation of evidence-building efforts, lobbying demands, message coordination among groups and a high-level strategic mobilization plan to build gender and social inclusion more firmly into sustainable energy opportunities, financing and services. When sustainable energy becomes widely viewed in political spheres not just as an issue area but as a matter of human rights and women's rights, the door will open for follow-on actions, budgeting, and policy reform (SEforALL, 2017a).

Promote and invest in decentralized sustainable energy technologies that support gender equality and women's economic empowerment

Rapidly falling renewable technology costs and new business models mean that decentralized energy solutions hold great promise to accelerate universal sustainable energy access and support women's reproductive and productive work. Decentralized sustainable energy technologies—both at the individual systems level, such as solar home systems, and at the mini-grid level

servicing 50 to 100 households or an entire community—are the cheapest solutions for energy access in an increasing number of locations worldwide. Women should be directly involved in the development, deployment and benefits of these business models and technologies (Glemarec et al., 2016).

Scale up women's energy entrepreneurship approach as an effective business model, including to reach last-mile communities

As part of their energy access strategies, governments should raise their efforts to promote women-centric business models for expanding energy access to all, including at the last mile. They should (from SEforALL, 2017c):

- Leverage the work done by women's networks, including women entrepreneurs and civil society organizations working simultaneously on the delivery of energy services, poverty reduction and gender equality.
- Build the capacity of organizations working on women-centric business models to develop technical, business and leadership skills and advocacy capability, with a focus on elevating the level of women to become leaders at all levels.
- Expand women's access to finance, by developing financing instruments, mechanisms, and specific loan products for women, including microfinance and mobile banking.
- Engage with manufacturers, suppliers and distributors to partner with women's formal and informal networks as distributors/resellers.
- Support governments in reforming the business environment for women, including tax administration and regulations, especially for smaller, informal sector firms.

Prioritize clean-cooking fuels and technologies

The lack of access to sustainable energy for cooking continues to have severe socioeconomic impacts on the poor—women and children in particular. While there have been notable advances in electrification, not enough has been done to ensure clean cooking. Women should be at the centre of policies and programmes on clean cooking. To move away from reliance on solid biomass for cooking, policies and programmes need to reflect local needs and expectations, account for social and cultural factors, clearly address health risks and empower women, as they are the central decision makers in household cooking matters.

National governments should be encouraged and supported to demonstrate greater political and financial commitment to ensure that all households in the region switch to clean fuels and clean, efficient stoves and have access to decentralized renewable energy solutions in the short term. Supporting R&D of innovative, low-

emissions technologies to provide household energy services should be a top priority for the global development agenda (WHO, 2016).

Engender energy sector programming through support for national and locally led initiatives

Advocating for strategies and planning approaches that enable the inclusion of women at every stage of the design, implementation, delivery and monitoring of energy services is critical if those services are to respond to the needs and priorities of women and girls. Gender and energy issues are often location-specific. For this reason, adapting strategies to specific gender contexts and energy situations is important. In most successful initiatives, local level engagement is a critical success factor with locally driven issue identification, problem solving, know-how, and mobilization of local capabilities. In policy arenas—whether for a sector strategy or regulatory change—national and local level engagement is manifested through buy-in and ownership, which translates into greater likelihoods of gender-sensitive provisions being put into practice (SEforALL, 2017a).

- Ensure that energy sector policies highlight the challenge of gender equality and include a visible commitment to addressing it
- Mobilize and commit funding for gender and energy programmes and activities within organizations and businesses for research, pilot activities and capacity-building
- Establish gender-sensitive targets and indicators for energy sector programmes and routinely report on progress
- Include explicit objectives for women's energy access, participation, labour mobilization and leadership in energy infrastructure programme documents
- Ensure energy sector projects track the participation of and benefits to women and girls and other disadvantaged groups

Include systematic and sex-disaggregated data collection and analysis of gender statistics as part of programming and to support policy formulation

Lack of sex-disaggregated data and gender statistics is a major gap in achieving equal access to energy for men and women, without which the extent of unequal access cannot be grasped. Universal energy access cannot be achieved without more gender-responsive programmes and policies—which in turn require better data collection, gender-sensitive indicators and gender analyses. For women to be actively involved in decision-making, data collection on women's and men's resource use, knowledge of, access to and control over resources and economic opportunities must be improved.

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