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ENERGIA INTERNATIONAL NETWORK ON GENDER AND SUSTAINABLE ENERGY

EGI Environment & Gender Information

IUCN

Energizing Equality:

The importance of integrating gender equality principles in national energy policies and frameworks

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Key findings

- From a sample of 192 national energy frameworks from 137 countries, nearly one-third of the frameworks include gender considerations to some extent. Of those that include gender keywords, context analysis reveals that women are characterized as potential stakeholders or beneficiaries, but seldom as agents of change.
- Of the frameworks that include gender considerations, cross-cutting gender issues related to time poverty, lack of electrification in rural areas, women's health and well-being and underrepresentation in employment and decision making across the energy sector are the most prominently found themes.
- Of the frameworks that include gender considerations, 57 frameworks (93%) come from developing countries, particularly from sub-Saharan Africa (32 frameworks, or 56%).
- Energy frameworks from developing countries tend to reflect more diverse opportunities to advance a gender-responsive approach, including by addressing time poverty, energy poverty in rural and urban areas and women's health and well-being.
- Energy frameworks from developed countries, which are generally less likely to include gender considerations, tend to put forward a gender-responsive approach through designing opportunities for women in energy technology and innovation. All gender keyword mentions in OECD countries' frameworks fell under this theme.
- Fourteen energy frameworks identify women's ministries and organizations (or equivalents) as implementing partners, tasked with specific activities or actions.
- This analysis includes 33 renewable energy frameworks. Although half of the renewable energy frameworks are from OECD countries, only one renewable energy document from an OECD country includes gender keywords.

Acronyms

CEDAW	Convention on the Elimination of all Forms of Discrimination Against Women
ECOWAS	Economic Community of West African States
EGI	Environment and Gender Information
ENERGIA	International Network on Gender and Sustainable Energy
GBV	Gender-based Violence
GECCO	Gender Equality for Climate Change Opportunities
IAP	Indoor Air Pollution
IRENA	International Renewable Energy Agency
IUCN	International Union for Conservation of Nature
IUCN GGO	IUCN Global Gender Office
LAC	Latin America and the Caribbean
MENA	Middle East/North Africa
NGO	Non-Governmental Organization
OECD	Organisation for Economic Cooperation and Development
REEEP	Renewable Energy and Energy Efficiency Partnership
RET	Renewable Energy Technology
SDGs	Sustainable Development Goals
SEforALL	Sustainable Energy for All
SSA	Sub-Saharan Africa
STEM	Science, Technology, Engineering and Mathematics
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
WEC	World Energy Council

Introduction

Ensuring universal access to sustainable forms of energy is a key global development goal and is essential to improving the lives and livelihoods of women and men around the world. Energy enhances the well-being of women and men through the production of goods, as well as through the provision of and access to services, such as those related to water, health, education and communications. Gender roles—the sociocultural expectations, behaviors, responsibilities and activities that a society constructs—determine women's and men's roles and relationships as energy providers and users, as well as their participation in the energy labor market and in decision-making processes.

Energy policies are not gender neutral. Policy decisions have implications for women's empowerment and equality (or inequality) between women and men. Energy frameworks lay out plans of action to address national energy objectives, including through measures that can influence the access to and availability of energy resources, community participation strategies or fostering of growth within the energy technology and innovation spheres. Gender-responsive energy sector frameworks include considerations of the differentiated sociocultural experiences, as well as the needs and priorities, of women and men in order to overcome gender biases and integrate actions to promote gender equality and women's empowerment.

Identifying and addressing inequities, advancing women's empowerment and gender equality are all central to achieving universal access to modern energy and are recognized as a cornerstone of the Sustainable Development Goals (SDGs 5 and 7) and related programs, such as the Sustainable Energy for All (SEforALL) Initiative. Moreover, addressing gender equality provides the opportunity to leapfrog inefficient and polluting technologies when providing first-time access to clean modern energy technologies to millions of women living in energy poverty, to contribute to the democratization of energy systems, to improve decision-making processes and to increase the availability of human talent in the energy sector by enabling women's participation on an equal footing to men's.

Implementing the aforementioned actions in the energy sector would support countries in the achievement of their gender equality commitments under the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW), the Beijing Platform for Action[1] and subsequent national gender mandates. However,

1 The Beijing Platform for Action was adopted at the United Nation's Fourth World Conference on Women in 1995. It is an agenda for women's empowerment, aimed at removing obstacles to women's participation in all spheres of public and private life through a full and equal share in economic, social, cultural and political decision making.

the capacity of country decision makers and practitioners in the energy sector may not yet be fully realized to ensure gender-responsive policymaking and implementation at the national and subnational levels.

To understand the extent to which gender is being mainstreamed in energy policies at national levels, the International Union for Conservation of Nature's (IUCN) Global Gender Office (GGO), in collaboration with ENERGIA, the International Network on Gender and Sustainable Energy, conducted an assessment of 192 energy policies, plans or strategies—herein commonly referred to as "frameworks"—from 137 developed and developing countries. The assessment was developed under the Gender Equality for Climate Change Opportunities (GECCO) initiative, a fiveyear collaboration between IUCN and USAID that aims to leverage advancements in women's empowerment and gender equality through, and for, the benefit of climate change and development outcomes.

Gender and national energy frameworks

GENDER DIMENSIONS OF ENERGY FRAMEWORKS

Energy frameworks are generally perceived to be technical interventions with little to no social content or implications, despite the essential role energy access has in supporting all human activities, such as cooking and heating for households, sustaining production processes and delivering services.[I] The danger of having gender neutral energy frameworks is that a national energy sector may inadvertently discriminate against women and their differentiated needs; it may also fail to integrate women's differentiated experiences, expertise and capacities.

For example, a significant number of developing countries prioritize large-scale energy investments to promote the industrial and commercial sectors rather than investing in achieving universal energy access for their populations, which results in less investments being available to secure household energy use, particularly in rural areas.[II] The direct impact of these policies is felt most by low-income social groups and often has a disproportionate impact on women, who, due to their traditional roles, are largely responsible for supplying the household water and fuel needed for cooking, washing, heating and lighting. A similar case can occur when policies prioritize the energy needs of large-scale agriculture industries while failing to also address similar needs for small-scale and subsistence agriculture, activities in which the majority of women are engaged.[III]

Energy frameworks also tend to disregard women's economic potential and their role in the informal economy—which is often an important source of employment for women in developing countries.[IV] Women frequently engage in traditional activities—such as food processing or pottery making—which require large amounts of metabolic and caloric energy, for which electricity may not be the most efficient, accessible or affordable source of energy.[V] Failing to recognize that improved energy access goes beyond electricity generation may therefore inadvertently reduce support to women's economic empowerment.

Energy frameworks can also contribute to fostering women's participation in the renewable energy sector. With an estimated 8.1 million people working in the global renewable energy sector in 2016—a 5% increase from the year before[VI]—renewable energy policies, plans and strategies can introduce a series of regulatory labor conditions designed to enable women and men to contribute with their skills to this emerging sector.

FRAMING GENDER-RESPONSIVE ENERGY POLICIES

In her thesis *Towards a Gender Aware Energy Policy*, Feenstra (2002) proposes three steps for the policy-making process, including fostering an environment for developing gender-responsive energy policies.[VII] Following her framework, it is possible to say that gender-responsive energy policies: a) are developed using sex-disaggregated data as its basis, recording women's and men's differentiated uses, needs, etc.; b) have a commitment to mainstreaming gender (e.g. by ensuring gender is addressed at all levels) from objective definition to activity design and budgetary support for implementation; c) are developed in a participatory manner, ensuring women's participation in the policy-making process; d) recognize women's role in energy provision and use; and, e) apply an integrated energy planning approach, which recognizes the multi-dimensional character of energy[2] and promotes a demand-driven approach towards energy planning.[VIII]

In order for an energy policy to fully address gender considerations in its mandate and text, it is necessary to include recognition of existing gender gaps in an explicit manner. Gender tools and methodologies can support these efforts, particularly in identifying women's participation in income-generating activities and recognizing their often-disproportionate domestic work burden, for example, and suggesting strategies to address them.

One such tool is a gender audit, an assessment methodology used to aid institutions to better integrate gender into their policies and programs. Gender audits provide an in-depth analysis of energy policies and planning, budgets and the institutional capacity of government ministries to implement gender mainstreaming strategies— strengthening the links between gender, energy and national objectives for poverty reduction strategies.

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2 The multi-dimensional character of energy requires policies to address the political aspects of use, production, provision and distribution of energy services, their prioritization and organization; economic aspects, including the allocation of financial resources for implementation; environmental aspects, including addressing local environmental impacts and how energy interventions could contribute to global and local environmental improvements; and finally, social aspects which require governments to reconcile conflicting and convergent societal interests, redressing inequalities and leading to societal and economic transformations which should also include those related to gender equality. Source: Skutsch, M., Clancy, J., & Leeuw, H. (2006, October). *The Gender Face of Energy: Vol. Module 3. Gender and energy policy: Trainers manual*. Retrieved from http://energia.org/wp-content/uploads/2015/02/Module3-TrainersNotes-EngenderingEnergyPolicy.pdf

SNAPSHOT: GENDER-AUDITING ENERGY FRAMEWORKS IN KENYA

Kenya's Constitution, adopted in 2010, states that women and men have the right to equal treatment and opportunities; this impacts policies and activities of government agencies, including the Ministry of Energy and national energy companies. Against the background of the Constitution and other international commitments towards achieving gender equality, the Kenyan government and its energy institutions, with the support of ENERGIA, implemented a gender audit as an internal assessment to aid the institutions to improve their performances and to analyze the gender equality implications of the energy policies and development goals.[ix]

Kenya's gender audit contributed to influencing key decision makers from the Ministry of Energy and Petroleum, Kenya Power and two Kenyan non-governmental organizations (NGOs)—Kenya Sustainable Community Development Services and Practical Action Eastern Africa—to adopt gender approaches in their planning. Additionally, the audit influenced the planning of Kenya's SEforALL Action Agenda and securing of funding from the European Union and Hivos, a Dutch development organization, to support improved cookstoves for household programs.

Objectives

This assessment has been conducted to identify and understand the degree to which gender considerations have been addressed in energy policies, plans and strategies worldwide. Findings offer insights into the ways in which governments are recognizing gender considerations in the context of their energy policymaking and planning and trends with respect to key cross-cutting gender issues and regional comparisons.

Methods

SAMPLING

To understand the manner in which countries are developing gender-responsive energy sector frameworks, this assessment was conducted using 192 documents from 137 countries, including 31 countries from the Asia and Pacific region, 25 Latin American and Caribbean (LAC) countries, 28 sub-Saharan African (SSA) countries, four Middle East and North African (MENA) countries, 30 OECD countries and 19 non-OECD Eurasian countries.

All documents included in this assessment, herein referred to generally as national energy frameworks, are the approved current policies, plans or strategies by national governments.[3] These national frameworks present energy priorities and ambitions of countries, or are specific to a national objective such as rural electrification, renewable energy generation or household cooking. This assessment utilized IUCN's Environment and Gender Information (EGI) methodology to determine if and how countries included recognition of and interlinkages with their commitments toward gender equality and women's empowerment in their national energy frameworks.

DATA COLLECTION AND ANALYSIS

This study determined whether and how often energy frameworks discussed gender equality and women's participation by counting mentions of gender-related keywords in each framework. First, IUCN's GGO gender keyword dictionary was used to define a set of 68 unique English, Spanish and French[4] terms grouped into eight broad categories: *gender*; *sex*; *female*; *woman*; *women*; *girl*; *equity*; and *equality*.[5] The gender keyword dictionary included multiple forms of keywords in these categories to ensure counting of every mention; for example, the terms *gender*, *genders*, *gendered* and *gender-based* were included in the search, among others, to capture all instances of discussion on gender.

MaxQDA, a qualitative data analysis software, was used to identify keyword mentions in all 192 energy frameworks. Each keyword mention was then reviewed, and mentions not relevant to this

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3 National energy frameworks were retrieved from national energy and environment ministries, the United Nations Framework Convention on Climate Change (UNFCCC) website or from the Renewable Energy and Energy Efficiency Partnership (REEEP) *reegle* platform. This report does not attempt to be conclusive of all national energy sector frameworks, as not all energy frameworks are publicly available.

4 Most countries produce their policy frameworks in one of these three languages. For example, the energy frameworks from Brazil, Russia, India and China included in this analysis were retrieved in their English versions.

5 This report excludes analysis of 26 additional gender keywords grouped into four additional categories: *male*, *men*, *man*, and *boy*. The results reported only reflect analysis of the 68 keywords in eight groups listed above.

study's discussion of gender equality in national energy frameworks were excluded.[6]

Secondly, the keywords were analyzed for context to identify the ways in which gender has been characterized in each framework. Final keyword counts were tabulated to determine the overall frequency of keyword mentions and identify regional trends.

THE ENVIRONMENTAL AND GENDER INFORMATION (EGI) PLATFORM

IUCN's Environment and Gender Information (EGI) platform aims—through data and analysis—to convey the value of gender-responsive environmental conservation and sustainable development. By providing evidencebased information and knowledge products, the EGI platform guides action toward a more just world. Since its inception in 2013, the EGI has evolved into a source for new knowledge creation and dissemination—and for revealing progress and challenges in meeting commitments to women's empowerment and gender equality in environmental spheres.

LIMITATIONS

For the purposes of this assessment, the readily available and current energy policies, plans and/or strategies were included from as many countries as possible. The content, structure and scope of these frameworks differ, as will be the case with any broad set of national sectoral frameworks. This study made every effort, including by employing the EGI methodology, to set common criteria for assessment. This report does not attempt to be conclusive of all national energy sector frameworks, as not all energy frameworks are publicly available.

Energy frameworks do not accurately reflect ground-level implementation. Some frameworks discussed planned activities that may have not been implemented or omitted descriptions of relevant actions, so the frameworks alone do not provide a complete understanding of gender equality in energy frameworks. Finally, women's mere presence in decision-making arenas cannot be assumed to ensure gender equality in decision making itself. Considering these limitations, understanding the extent and context of reporting on women's participation still provided insight into the level of gender equality and women's empowerment in national energy frameworks.

6 For example, mentions of "genre," which is the French word for "gender" were not included when they referred to a "type" or "sort."

Findings

FREQUENCY OF WOMEN AND GENDER KEYWORDS

Including gender-related keywords in national energy frameworks indicates some level of awareness of gender considerations relevant to the energy sector and is a precursor to any potential action to advance gender equality, beginning, for example, by recognizing the differentiated roles and opportunities of women and men as energy providers and users. *Of the 192 national energy frameworks analyzed, 61 (32%) include women and/or gender keywords* [Figure 1a]. A total of 923 gender keywords are included across these 61 documents. Figure 1b provides a distribution of these gender keywords.

Figure 1a: Presence of gender keyword mentions in national energy frameworks

68%

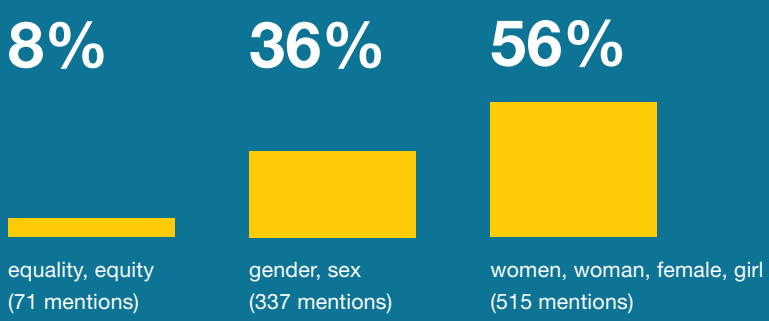
Frameworks not including keywords
(131 frameworks)

32%

Frameworks including keywords
(61 frameworks)

Nearly one-third (32%) of the national energy frameworks included in this assessment mention at least one *women* and/or *gender* keyword.

Figure 1b: Distribution of 923 *women* and/or *gender* keyword mentions in national energy frameworks

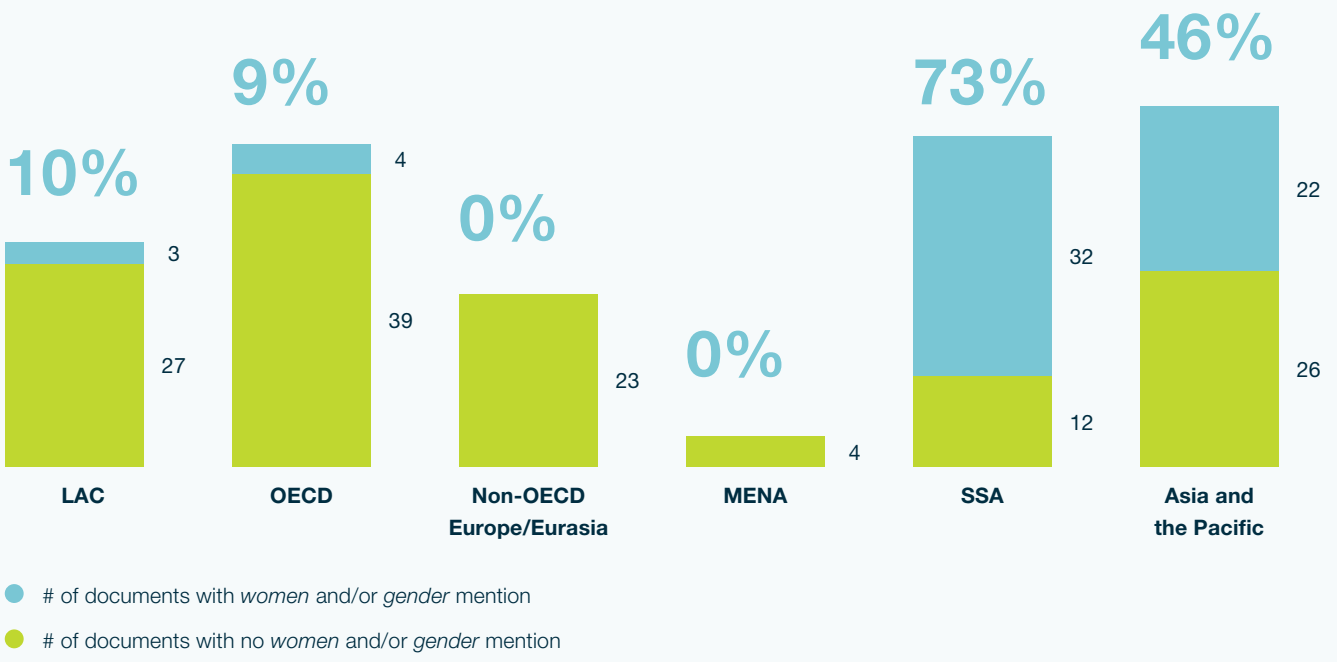


REGIONAL ANALYSIS

Comparing national energy documents by geographic region, as shown in Figure 2, reveals different trends between developed and developing countries in acknowledging gender considerations in energy frameworks. While, as previously mentioned, 32% of all frameworks included keywords, the SSA and Asia and Pacific regions well exceeded the global average: 73% of SSA frameworks and 46% of Asia-Pacific frameworks examined included one or more keyword mentions. Of the world's 1.1 billion people living without access to electricity, 95% live in these two regions, as well as a large number of the world's 2.7 billion people without access to clean cooking technologies.[x,7] The inclusion of keywords in these national frameworks is particularly important for developing gender-responsive energy policies and action plans that can improve the livelihoods of millions of women and their families, while promoting gender equality and empowerment.[xi]

Of the energy frameworks included in this analysis, only four OECD countries—Canada, Mexico, Spain and the United States—mention women and/or gender. While gender and energy linkages are commonly perceived as development issues, energy sectors in developed countries have gender dimensions as well: for example, in addition to ensuring equitable access, these countries can commit to advancing women's inclusion in energy technology and innovation, or in participation in energy sector careers—not least to contribute to their own national commitments to women's empowerment, economic security and equality.

Figure 2: Regional comparison of national-level energy documents (192 total documents)



7 According to the World Energy Outlook, 50% of the population in developing Asia and 80% of the population in SSA rely on biomass for cooking and heating.

ENERGY COOPERATION AT THE REGIONAL LEVEL

Since energy resources and markets—and resulting emissions—transcend national boundaries, regional frameworks can ensure cooperation between countries. One example of regional cooperation on gender and energy is seen in the Economic Community of West African States (ECOWAS), a grouping that includes 16 African countries. In 2015, ECOWAS endorsed a draft policy for gender mainstreaming in energy access, with the stated intention to "promote gender 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."[xii]

GENDER EQUALITY AS A GUIDING PRINCIPLE WITHIN ENERGY FRAMEWORKS

Including gender equality or a commitment to gender mainstreaming as a guiding principle within energy frameworks can signal a country's recognition and prioritization of gender considerations and indicate subsequent integration of gender-responsive objectives, strategies, actions, etc. In turn, this can result in a more robust impact on gender equality throughout the energy sector. *Twenty national energy frameworks (10%) include gender equality or gender mainstreaming as a guiding principle, or otherwise specifically commit to a gender mainstreaming process across the sector.*

Although the number of countries addressing gender as a cross-cutting issue is encouraging, it also shows there is a larger number of countries that fall short of addressing, let alone achieving, their commitments under CEDAW, the SDGs and the Beijing Platform for Action.

CHARACTERIZATION OF WOMEN

Using the EGI's context-specific analysis framework, this study analyzed how the documents' discourse characterizes women. Each gender related keyword used was categorized into one or more themes according to the criteria listed in Table 1.

TABLE 1: FOUR EGI THEMES FOR CATEGORIZING KEYWORDS: HOW WOMEN ARE CHARACTERIZED

	AS:	WHEN:
How are women portrayed?	**Vulnerable**	Document discusses women's vulnerability, e.g. to gender-based discrimination or violence.
	Beneficiaries	Document includes policies, programs or measures acknowledging women as recipients of economic, social or other benefits, including educational and capacity-building opportunities.
	Stakeholders	Document identifies women as decision makers or as a group targeted for participation in decision making.
	Agents of Change	Document describes women as driving energy sector activities or having a voice in policy change.

Women as vulnerable

Ten frameworks (5%) identify women as vulnerable or as comprising a vulnerable population that requires specific consideration in developing national frameworks to meet energy goals. For example, the Maldives' *National Energy Policy and Strategy* (2010) states, "the Government of the Maldives recognizes that adequate energy supplies are important…for the protection of vulnerable groups including women and children." Delivering "safer and affordable forms of energy among vulnerable groups, especially women," is listed as a policy measure included in Zambia's *National Energy Policy* (2008).

Efforts to address the gendered dimensions of energy production, distribution and use often begin with recognizing how inequalities of access to and control and power over rights, resources and services make women more vulnerable in the energy sector. However, shifting beyond this narrative is crucial as women are much more than just a vulnerable and marginalized group. Women have the knowledge, experience and means to be active and engaged as stakeholders, beneficiaries and agents of change in the energy sector.

Women as beneficiaries

Access to reliable and affordable energy is critical to human development. When women are the beneficiaries of energy interventions there are opportunities to equitably address many development and environment challenges. As energy is a cross-sectoral issue, women not only benefit from direct household access, but also from diverse opportunities for empowerment through improved economic, health and education outcomes driven by gender-responsive initiatives.

Thirty-two energy frameworks (17%) identify women as beneficiaries, either of specific interventions or more broadly of key objectives. For example, Nigeria's *National Renewable Energy and Energy Efficiency Policy* (2014) outlines a

specific strategy to establish microcredit facilities for entrepreneurs—particularly women—who produce renewable energy devices and systems, while the Republic of the Marshall Islands' *National Energy Policy, Volume 1* (2009) writes that women will have equal access to training opportunities on solar energy use and systems, to promote the use of clean energy sources.

Women as stakeholders

As energy producers, consumers and users, women's lives and livelihoods are affected by decisions in energy sector management at all levels. However, the recognition and inclusion of women as relevant stakeholders—and their actual engagement—in energy sector decision making is minimal. For example, a 2015 EGI analysis revealed that women hold only 10% of national energy ministry and agency positions worldwide, 4% of World Energy Council (WEC) Chair positions and 18% of WEC Secretary positions.[xiii] Additionally, while women are often the gatherers or purchasers of energy resources for household use, they are often excluded from energy consumption decisions, such as choosing the energy source or provider. When women are not included as stakeholders, they lose the opportunity to share their knowledge, advocate for their needs and rights and prioritize policies and actions that are inclusive of and responsive to the same. This often results in a lost opportunity for policymakers to develop comprehensive plans that address inequitable access to, use of and control over energy resources.

Thirty-eight energy frameworks (20%) identify women as important stakeholders in energy sector governance and decision making at the local or national level. Bangladesh is an example of a country that has recognized women's key decision-making roles: its *Country Action Plan for Clean Cookstoves* (2013) recognizes that women make the majority of household purchasing decisions and are, therefore, integral stakeholders in any national awareness and education campaign on efficient energy use. In its section titled "Energy Sector Institutions," the *National Energy Policy Document of Fiji* (2004) calls for improved governance in its national energy sector: "The operation of these institutions will become more accountable and transparent, and their membership will become more representative, particularly in terms of participation by women."

Women as agents of change

Women's knowledge and capacities, or their agency,[8] often goes unrecognized because of social, political and economic structures hindering both their access to reliable, clean and affordable energy resources and their participation within the energy sector. Empirical evidence from other sectors also suggests that integrating women into all levels of the energy value chain will lead to more effective and efficient clean energy initiatives, unleash greater return on investments and expand emission reduction opportunities.[xiv] As the primary gatherers of energy resources and as energy suppliers and consumers with unique knowledge and experiences, women can be

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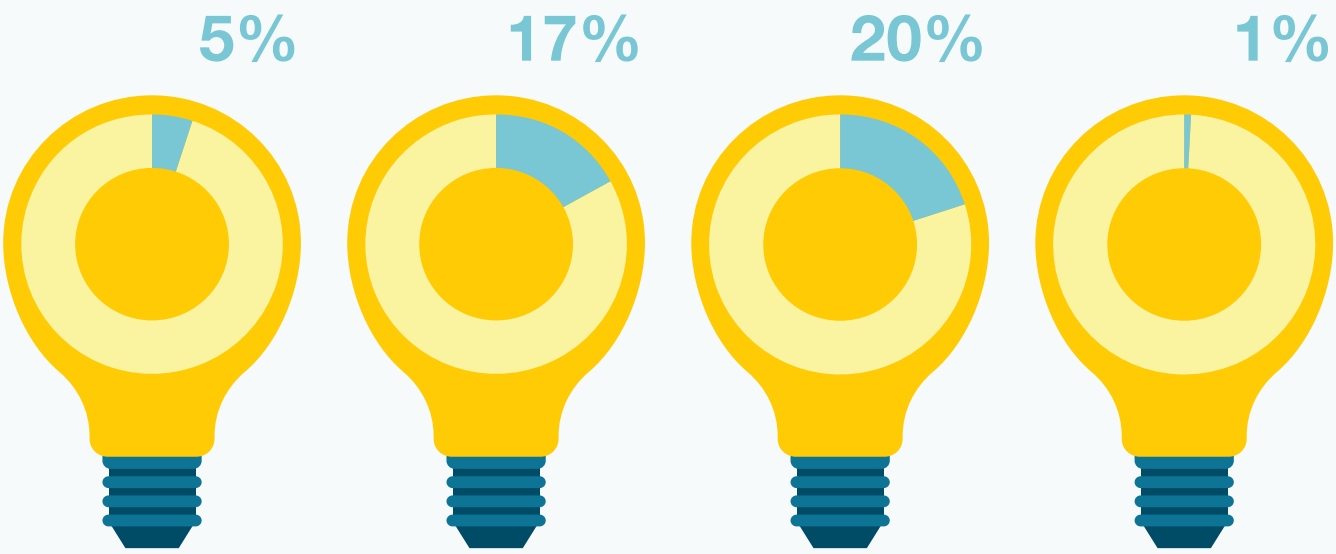
8 Agency is an individual's or group's ability to make effective choices and to transform those choices into desired outcomes. World Bank (2014) Voice and Agency: Empowering Women and Girls for Shared Prosperity. Retrieved from: http://www.worldbank.org/content/dam/Worldbank/document/Gender/Voice_and_agency_LOWRES.pdf

powerful agents of change. However, the fewest number of national energy frameworks analyzed specifically include this characterization.

Of 192 total documents, only two categorize women as agents of change, recognizing women's potential to unlock more effective energy activities and to drive policy change. Nigeria's National Energy Masterplan (2014) has an "Action Plan for Gender Issues" which includes an activity to organize meetings between women, grassroots-level development partners and other stakeholders to make energy policy recommendations to governments. The Republic of Mauritius' *Long-Term Energy Strategy* (2009) recognizes that women's roles in households and businesses, and as energy consumers and producers alike can "to a greater extent achieve energy savings and energy efficiency objectives."

Figure 3: Characterization of women in national energy frameworks (192 total documents)



10 policies identify women as **vulnerable**

32 policies identify women as **beneficiaries**

38 policies identify women as **stakeholders**

2 policies identify women as **agents of change**

WOMEN'S MINISTRIES AND ORGANIZATIONS INVOLVED IN IMPLEMENTATION

Fourteen (7%) of the 192 energy frameworks identify women's ministries (or equivalents) or organizations as implementing partners.[9] The ministries and organizations identified as implementing partners of the energy frameworks are often listed in tables and connected to specific activities or actions. Women's organizations and ministries are occasionally listed as the primary group responsible, and more commonly listed among many implementing groups as responsible, for specific activities or actions. For example, in Nigeria's *National Energy Masterplan* (2014) the Federal Ministry of Women Affairs and Social Development is tasked with nearly 40 unique activities,[10] such as conducting trainings on the installation of renewable energy technologies (RETs) and conducting awareness campaigns on energy related environmental problems.

CROSS-CUTTING GENDER ISSUES REFLECTED IN NATIONAL ENERGY FRAMEWORKS

Energy, gender and time poverty

In many societies, women and girls hold the primary responsibility of collecting biomass fuel sources, such as animal dung, wood or charcoal, to meet their household's energy needs. This time-consuming responsibility contributes to *time poverty*—the amount of time lost that could be spent on education, income generating activities or leisure. Deforestation and environmental degradation increase the distances that women and girls must travel to collect fuel. Longer distances not only exacerbate their time poverty, but also make them more vulnerable to attack and assault.[xv]

>>> In South Asia, women spend the equivalent of more than two weeks a year collecting fuel for subsistence use.[xvi] <<<

Twenty energy frameworks (10%) mention time expenditure as a gendered dimension of energy. The frameworks from Benin, Botswana, Burundi, Fiji, Liberia, Niger and Rwanda note that the burden of fuel collection and cooking—examples of reproductive tasks—falls on women. These documents posit that reliable access to efficient energy sources or electricity will allow women more time to pursue productive activities, such education or profitable economic activities.

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9 An additional five frameworks identify women's ministries and organizations as stakeholders, but do not task the ministries/organizations with specific implementation activities.

10 The Masterplan identifies the Federal Ministry of Women Affairs and Social Development (FMWA&SD) as either the main implementing agency or as a collaborating agency.

The gender-energy nexus in rural areas

There are great disparities in energy access between rural and urban areas, as approximately 85% of those who lack access to electricity, globally, live in rural areas.[xvii] CEDAW calls for Parties to ensure that rural women have the right to enjoy adequate living conditions, including access to electricity. This text is included in *Article 14*, which lays out measures to eliminate discrimination against women in rural areas by ensuring that rural women participate in, and benefit from, rural development programs and activities.

This analysis includes three national frameworks specific to rural energy access and electrification: Nepal's *Rural Energy Policy* (2006); Nicaragua's *Rural Electrification Policy* (2005); and Uganda's *Rural Electrification Strategy and Plan* (2012). Of the three policies, only Nepal's includes keyword mentions of women; Nepal's Policy recognizes the adverse health impacts that traditional energy sources have on women and children and proposes ensuring women's representation in community user organizations.

Of the 61 energy frameworks to include mentions of women and/or gender, 19 (10% of the total 192 documents) include references to women and/ or gender in the specific context of rural energy access and electrification. For example, Zambia's National Energy Policy (2008) commits to mainstreaming gender in all rural energy provision programs and emphasizes the unrecognized but vital role women hold as energy providers in rural contexts. Namibia's *Policy Goals* (1998) notes that the country's rural population has a high proportion of female-headed households —due to the migration of men to cities to find employment—and states that it is "crucial that energy policies reflect a clear understanding of the energy needs of different rural women, the problems and constraints they face and the impact that energy policies and interventions may have on them."

The gender-energy nexus in urban areas

While there is much research and action focusing on the gender-energy nexus in rural settings, there is very little discourse and action on addressing gender-related energy challenges specific to urban settings. For example, due to bureaucratic barriers—such as a lack of a birth certificate or proof of a registered address—poor urban women may need to rely on energy connections that are illegal, unreliable and dangerous.[xviii] As these connections are often informal, those owning the energy connections, such as a "slum lord," have the potential to exploit users by charging exorbitant rates.[xix]

Two countries' energy frameworks acknowledge gender-related energy challenges in urban settings: the Marshall Islands and Namibia. Women United Together Marshall Islands, an NGO working to end domestic violence in the country, provided recommendations during the development of the country's National Energy Policy and Energy Action Plan (2009), such as that "all households, particularly those located in urban centers, are equipped with energy production units for lighting, heating and cooking." Namibia's Energy Policy Goals (1998) document identifies the need for more research into energy use in urban spaces, and adds that all empirical information resulting from this research "should

address, or be sensitive to, gender relations at the household level."

Energy and women's health and well-being

Women are disproportionately and adversely exposed to the health risks of some types of energy production and use, and inadequate energy provision can threaten women's health and security.[xx] Exposure to smoke from polluting biomass fuel sources leads to poor health outcomes for women, who spend more time cooking than men. In the developing world, traveling long distances to collect energy resources is a dangerous task for women and girls because it puts their physical security at risk to gender-based violence (GBV) or attacks from wild animals. In both developing and developed countries, adequate lighting in public spaces and on streets can make women's lives safer.

Every day, nearly half the world's household's meals are cooked over open fires or on rudimentary cookstoves, using inefficient and polluting biomass fuel sources.[xxi] As a result, millions suffer from cancer, lung disease and other respiratory diseases caused by chronic exposure to indoor air pollution (IAP) and poor ventilation. *In this analysis, 22 frameworks (11%) recognize that household use of biomass fuel sources is detrimental to women's health. For example, Afghanistan's Energy Sector Strategy* (2008) reports that fuelwood accounts for 75% of rural energy supplies, which results in poor health outcomes for women and children.

Nineteen frameworks (10%) specifically propose interventions designed to address women's energy use while cooking. Burundi's *Energy Policy* (2012) notes that increasing energy efficiency through the use of improved cookstoves is a top priority. Besides the direct health benefits, more efficient cookstoves abate emissions and alleviate pressures on forests as fuel sources, which can slow deforestation, prevent soil erosion and protect biodiversity. The Republic of Rwanda's *Energy Sector Strategic Plan* (2015) reports that private sector-led efforts in the country to distribute clean cookstoves have the potential to decrease biomass consumption by 68-94%.

> ***>>> As a result of poor cooking conditions, every 16 seconds a person—most often a woman or child—dies from complications relating to household air pollution.[xxii] <<<***

Two frameworks, from Mauritius and Burundi, reference the interconnectedness between energy access and women's physical security. However, no energy document included in this analysis references the dangers fuelwood collection poses to women and girls. Relatedly, Bangladesh's *Action Plan for Clean Cookstoves* (2013) reports that women are not involved in the sales or distribution of improved cookstoves because they fear for their personal security. As another example, in both developing and developed countries, women often feel unsafe in unlit or poorly lit public spaces, and this feeling of a lack of security can limit women's access to essential services.[xxiii] Mauritius' *Long-Term Energy Strategy* (2009) recognizes that "women's empowerment and political development also depend [sic]

on their mobility and access to evening study, community meetings or attending work" and proposes additional lighting in public spaces to increase their personal security while accessing these spaces at night.

> ***>>> In Uganda, 41% of refugee households have had at least one member experience physical or verbal assault, rape or theft during firewood collection.[xxiv] <<<***

Energy is critical for the provision of health services, yet many healthcare facilities and clinics—as many as 58% in SSA—have no access to electricity.[xxv] *Two energy documents (1% of the total documents), Liberia's and Zambia's, acknowledge the nexus between energy access and women's health.* The "Gender-Related Energy Issues" section of Liberia's National Energy Policy (2009) mentions that modern energy services lead to a reduction in maternal mortality and allows for health clinics to refrigerate vaccines and care for patients during the night. As an example of a tangible action, Zambia's National Strategy (2008) plans to couple HIV/AIDS awareness programs for women in communities that are implementing national energy projects.

Women in energy technology and innovation

Access to affordable, efficient, improved and renewable energy technology not only increases energy security and reduces greenhouse gas emissions, but can also provide new economic and educational opportunities for women. At the household level, improved cooking technologies can reduce the amount of time women and girls spend collecting fuel, giving them the opportunity to pursue an education or other economic activities. As for the energy sector as a whole, research from other sectors reveals that gender diversity in the workforce can enhance innovation and creativity, which can lead to a more sustainable energy sector.[xxvi]

More than one-third (36%) of all the energy frameworks analyzed include women and/or gender keywords, either acknowledging a disparity in access to energy technology between women and men, or identifying diverse opportunities for women in energy technology and innovation—not including clean cookstove technologies. For example, Malawi's *National Energy Policy* (2003) proposes a national objective to involve women in decision making in energy technology design, development and dissemination. Meanwhile, a gender audit conducted before developing Botswana's *National Energy Policy* (2009) found that more male-headed households are able to take loans for solar photovoltaic equipment than female-headed households. As a result, the Botswana Power Corporation developed a series of strategies to increase its outreach to female-headed households, including improving its planning by including gender-related and sex-disaggregated information on connection rates and the obstacles these households faced for getting connected.

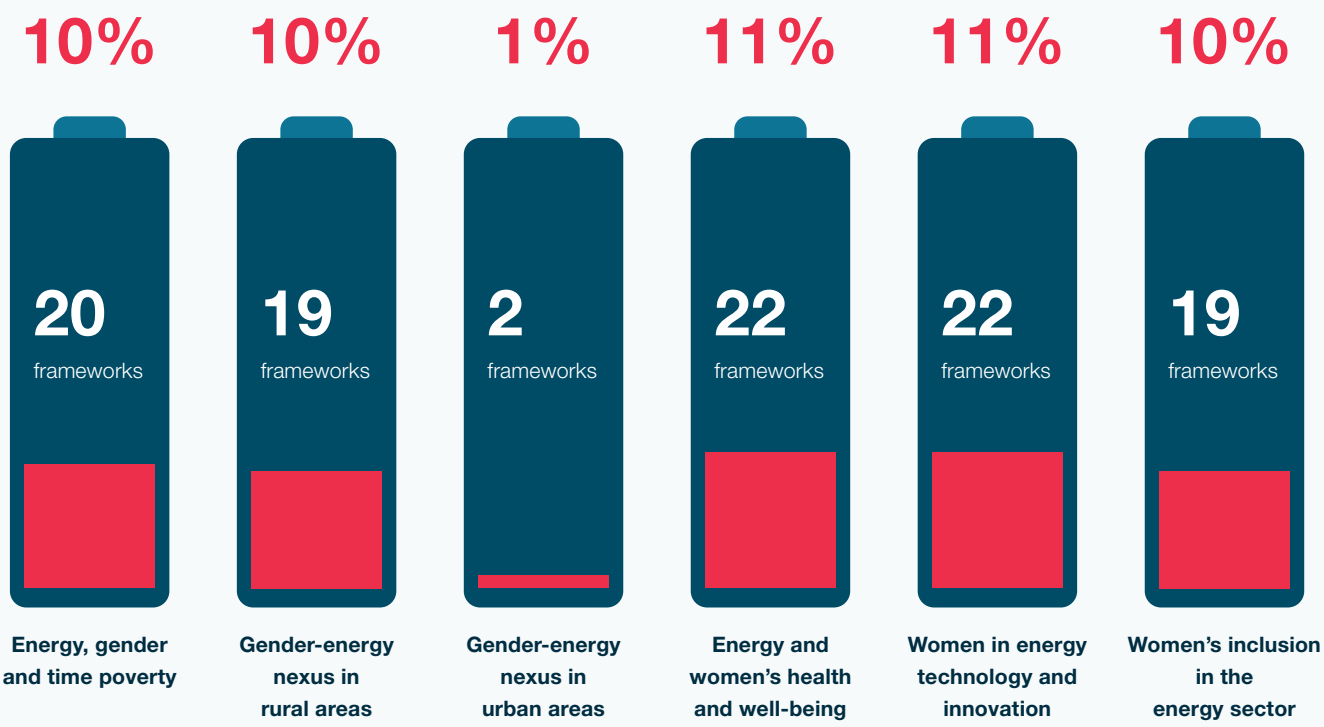
Women's participation in the energy sector

The formal energy sector's gender gap in employment is generally significant, although it varies from country to country. The absence of sex-disaggregated data across the industry

makes the situation both more challenging to understand and to improve. However, data reported by energy corporations and organizations reveal that women are advancing to some extent within the sector. For example, the percentage of women in executive positions at BP doubled between 2000 and 2007, and in 2015, 41% of Exxon Mobil's management hires were women.[xxvii,xxviii] In the renewable energy industry, a survey by the International Renewable Energy Agency (IRENA) found that women represent approximately 35% of the workforce of the surveyed companies, compared to 20-25% of positions within the energy sector as a whole.[xxix]

Nineteen energy documents (10% of the total) either identify women's underrepresentation in the energy industry, or propose actions to close this gap. In developing rural energy services, Liberia's National Energy Policy (2009) recognizes the potential women have as strong influencers in marketing campaign roles, or as teachers for energy technology use. The only references from OECD countries come from Canada's A Shared Vision for Energy (2007) and the United States' Strategic Plan (2014), which both references occurring in the context of programs designed to increase women's and minorities' representation in energy-sector training and careers.[11]

Figure 4: Cross-cutting gender issues reflected in national energy frameworks (192 total documents)



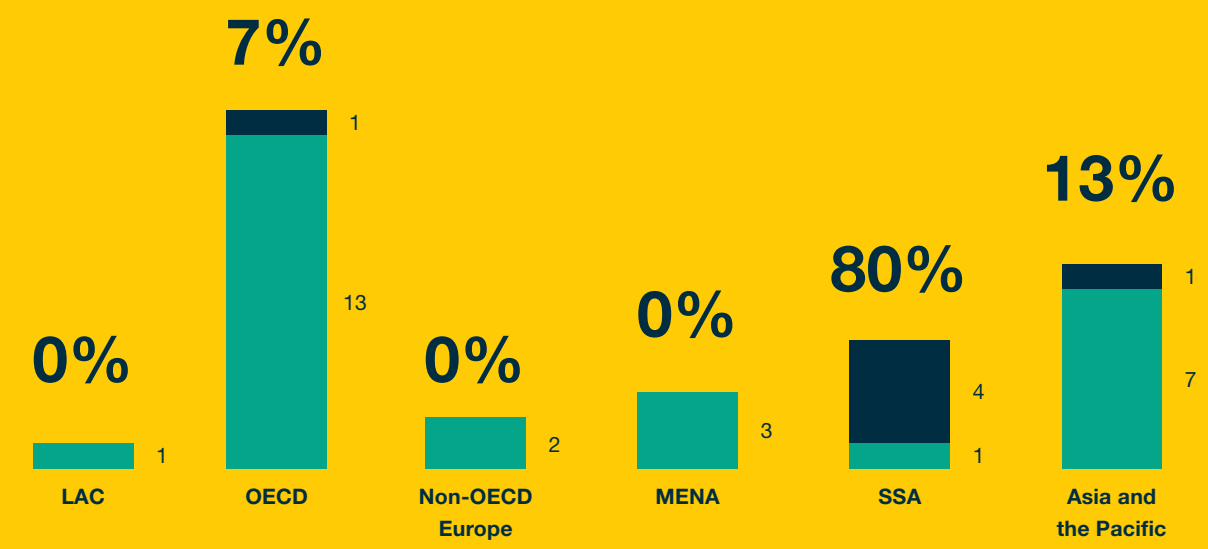
11 For both Canada and the United States, keywords were solely mentioned within this context.

GENDER EQUALITY AND WOMEN'S EMPOWERMENT IN RENEWABLE ENERGY POLICIES

Thirty-three (17%) of the 192 energy frameworks included in this analysis are documents specific to countries' renewable energy policies and objectives. *Six countries—Spain, Benin, Niger, Nigeria and Uganda and Lao PDR—include women and/or gender keywords within their renewable energy documents.*[12] (These six policies represent 18% of all renewable energy documents, and 3% of the total 192 frameworks included in this analysis.)

As Figure 5 presents, nearly one half of the 33 renewable energy frameworks retrieved for this analysis are from OECD countries. The SSA region again exceeds the global average with 80% of examined policies mentioning *women* and/or *gender*.

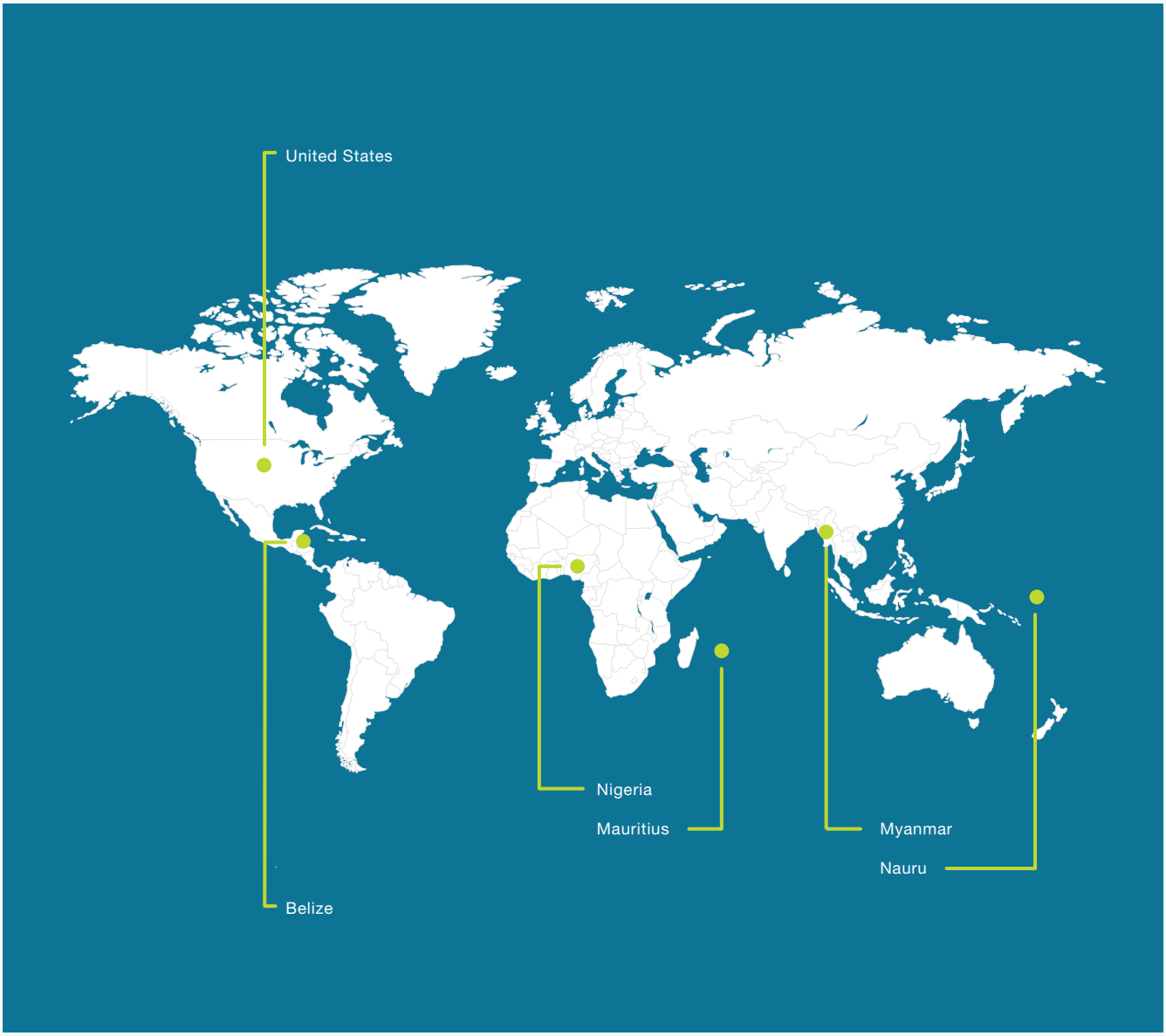
Figure 5: Comparison of gender keyword inclusion in renewable energy frameworks, by region (33 total documents)



Within renewable energy frameworks, similar trends in the characterization of women and the inclusion of cross-cutting gender issues are seen. Two frameworks identify women as vulnerable, four include women as stakeholders and three identify women as beneficiaries. Throughout the six documents, the keywords of women and/or gender are included in reference to the crosscutting themes of time poverty, energy access in rural areas, women's health and well-being, participation in energy technology and innovation and/or inclusion in energy sector careers.

12 This statistic does not include references to women and/or gender within renewable energy sections of general national energy frameworks, but rather refers only to the stand-alone renewable energy framework documents.

ENERGIZING EQUALITY AROUND THE WORLD



National energy frameworks have the potential to be gender-responsive and improve gender equality outcomes by addressing gender considerations at all stages of design and implementation. The map above offers examples of national energy documents that include strong gender-responsive elements.

Belize's *Strategic Plan* (2012) addresses the country's current energy challenges, including its dependence on imported energy sources and inadequate electricity supply to rural areas. In understanding that women play a large role in managing energy use at the household level, the Plan develops a public education and awareness program on energy efficiency and conservation that targets rural women. Additionally, the *Plan*

develops a capacity building program to increase women's participation in science, technology and innovation fields.

In the **United States**, women are underrepresented in science, technology, engineering and mathematics (STEM) careers. In order to meet future workforce needs, *The Strategic Energy Plan* (2014) advances the Department of Energy's "Women in Clean Energy" program that aspires to attract more women to work in the sector by providing support and networking programs.

Only a little more than half of **Nigeria's** population—the most populous country in Africa—has access to electricity. Nigeria's *National Energy Masterplan* (2014) outlines national activities in coordination with the Federal Ministry of Women Affairs and Social Development. For example, activities include establishing microcredit facilities for women entrepreneurs to invest in clean energy and providing trainings for women to construct their own energy efficient cookstoves.

As a small island nation, **Mauritius** relies on imported energy sources to meet its energy demand, making the nation energy insecure. The country's *Long-Term Energy Strategy* (2009) has a gender component to make women less vulnerable to energy insecurity. For example, the Strategy proposes strengthening community grassroots networks, staggering payments of electricity charges to vulnerable groups of women and ensuring that public spaces are lit to increase women's safety while traveling at night.

Only one-third of **Myanmar's** population has access to electricity—one of the lowest countrywide rates of access in the world.[xxx] Myanmar's *National Energy Policy* (2014) framework includes a program to increase women's participation in community-based renewable energy development. Under this activity, rural women entrepreneurs qualify for microfinance credits and favorable financing terms to invest in renewable energy development for their businesses.

Although access to electricity is widespread in **Nauru**, the country is reliant on imported fossil fuels. Nauru's *Energy Road Map* (2014) mainstreams gender into all planned energy projects and programing. The document calls for sex-disaggregated data in project design, implementation and evaluation. Sex-disaggregated data is vital for effective programing because the data can identify gaps in knowledge and measure how the policy improves the lives of both men and women.

ENERGY ACCESS AS A HUMAN RIGHT

Although universal energy access is not formally recognized in international human rights frameworks, energy access is interlinked with other socio-economic rights, such as the right to "adequate food, clothing and housing, and to the continuous improvement in living conditions" outlined in the *Universal Declaration of Human Rights*.[xxxi] This assessment of national energy frameworks identified that several countries have gone a step further in this recognition, with documents from Brazil, Bolivia, Uruguay, Dominica, Costa Rica and the Maldives acknowledging universal energy access as a nationally recognized human right.

Of these documents, Brazil's, Bolivia's, Costa Rica's and Uruguay's frameworks do not include women or gender references, while those of Dominica and the Maldives do. Bolivia, Brazil and Uruguay's documents mention "social inclusion" in national energy activities as both a critical process and a desired outcome.

Powering forward

From a global sample of 192 documents from 137 countries, this report reveals that nearly one-third of national energy sector frameworks consider gender to some extent within their principles, objectives, strategies or activities for their national energy sector. Most of the keyword mentions occur in frameworks of developing countries—particularly SSA countries—where ensuring access to affordable, reliable and sustainable energy remains a critical and cross-cutting development goal. The inclusion of gender considerations is minimal within the frameworks of developed countries, and these countries miss opportunities to ensure women's equal participation in energy governance, energy careers, technology and innovation. Moreover, energy poverty should not be considered only endemic to developing countries, as rising energy prices increase transport, heating, cooling and electricity costs for women and their families in developed countries as well.

The frameworks included in this study offer diverse opportunities to advance a gender-responsive approach within the energy sector's policy and planning design, including time and energy poverty, health and well-being, energy sector careers and opportunities in energy technology and innovation.

Many country frameworks describe how women must be able to access more opportunities across the energy sector to have a more active, equitable role as stakeholders and as beneficiaries of energy sector activities. However, most frameworks only regard women as passive users of energy and neglect to outline strategies or objectives to empower women within the sector. When women have access to and control over energy resources and are able to participate in decision making, they can be vital drivers toward effective policy change and implementation. In their roles as energy producers, consumers and users, women are "agents of change" who are key to a more equitable and sustainable future.

The report also reveals that although there is progress with regards to addressing gender in national energy frameworks, there is much yet to be done, as two-thirds of documents do not include any gender keywords. The following are suggestions for enhancing progress toward gender equality in energy sector policymaking:

- *Research and document the motivation for mainstreaming gender in energy policies.* After more than 35 years of CEDAW and some 20 years after the Beijing Platform for Action, progress for addressing gender equality in the energy sector seems slow relative to other related processes (e.g. health). Further research may be required to understand the low percentages of gender-responsive energy policies, particularly in developed countries.

- *Identify enabling conditions for countries to mainstream gender into their national frameworks.* The present assessment analyzed existing policy frameworks, however further research may be required to understand if there are common enabling elements present in those countries that have already addressed gender in their energy policy frameworks. Further understanding of these conditions may provide guidance for replicating gender-responsive policy processes in the energy sector.
- *Map the extent to which gender objectives of the energy policies are set into action.* Energy policies are not immune to policy evaporation. Further field research is required to understand the degree to which the gender-responsive objectives of the energy frameworks analyzed have been translated into action, supported by sufficient financial and human resources to ensure full implementation of gender objectives.
- *Build on lessons of the traditional energy sector to advance research, build capacity and advocacy to propel an equitable, sustainable and gender-responsive renewable energy sector.* Empirical evidence suggests that women have a slightly higher preference for investing in renewable energy technologies than men and seem to be more reticent to invest in technologies which are considered to be dangerous—such as nuclear[xxxii] or fracking.[xxxiii] Understanding gender preferences and dynamics may support the development of renewable energy policies, as well as increase the uptake of renewable energy technologies; failing to do so is a missed opportunity for ensuring energy access in tandem with environmental benefits—such as reliance on renewable energy technologies and reduction of greenhouse gases.

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