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Promoting the Role of Women in Azerbaijan's Renewable Energy Sector

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In Azerbaijan, women encounter obstacles in the energy sector similar to those in other areas of the economy. If we look at women's employment across occupations within the energy sector, most women are employed in white-collar jobs, primarily in customer service, finance, and human resources; whereas they are underrepresented in the more "technical" jobs. Besides, the proportion of those in higher positions who have decisionmaking power is still quite low, although this situation is getting better overall.

However, women's roles in the energy sector are becoming increasingly significant in terms of contributing to the energy transition and climate change policies. In other words, empowering women in the energy sector is fundamental to driving the energy transition forward and providing a gender perspective to enhance efficiency. Thus, with the undergoing transformation in the energy sector toward renewables, the problems and challenges that women face need urgent policy attention and, in some cases, rectification.

This IDD Analytical Policy Brief will overview the statistics on women's representation in the traditional energy sector and analyze the factors that have led to the present situation. It will then focus on the emerging renewable energy sector in Azerbaijan and explore the opportunities for women's representation therein. Next, it will highlight the importance of involving women in the country's energy transition and then conclude with policy recommendations on how better to promote women's representation in the emerging renewables sector to enhance their role in climate change processes.

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Women's Representation in Azerbaijan's Energy Sector

Despite making up approximately 40 percent of all workers worldwide, statistics show that women only make up 22 percent of the workforce in the energy sector worldwide and slightly better, at around 32 percent, in renewables. The global share of women working in full-time positions in the solar PV industry is 40 percent and in the wind energy industry is 21 percent. However, when it comes to roles in science, technology, and engineering in the context of the energy sector, these numbers are even lower: 28 percent and 14 percent, respectively. In other words, this is a global issue—not one specific to Azerbaijan.

Hence the focus of several recent IDD roundtables on promoting women and inclusivity in the renewable energy sector—including two that involved senior officials from the U.S. State Department's Bureau of Energy Resources (Kim Harrington and Harry Kamian).

Indeed, as gender equality in the energy sector is increasingly being championed in certain quarters, promoting women's equality in leadership positions in the renewable energy sector and putting forward policy actions and interventions that are responsive to gender needs have become key policy issues in a growing number of states, including Azerbaijan. This has already produced a number of shifts: in Azerbaijan, a notable innovation was a November 2022 amendment to the country's labor code that prohibited women from working in hundreds of occupations across many sectors of the economy: women could not lay asphalt, work as train engineers, drive a large public bus in urban areas, work underground under potentially hazardous conditions or in hard physical labor jobs, including oil rigs and platforms.

This situation has now changed; it should be put alongside the fact that the World Energy Transitions Outlook 2022 report predicts that there will be 139 million jobs in the energy sector globally by 2030. Of these, 38.2 million are foreseen to be in the renewable energy industry, and 74.2 million are projected to be in other industries linked to the energy transformation. This presents an opportunity to upskill and reskill a transition workforce that is more balanced and more diverse—i.e., one in which the quest to advance women's equality is prioritized to a greater extent.

According to data published in 2023 by Azerbaijan's State Statistical Committee, women are underrepresented in energy-related jobs: they comprise 10.7 percent of those employed in electricity, gas, and steam production (while 12.2 percent are employed in the country mining industry). Data from 2019 provided by the Asian Development Bank suggests that women make up slightly more than 25 percent of university students majoring in technical and technological subjects that may eventually lead to employment in the energy industry, broadly understood. Although 38 percent of students majoring in oil and gas subjects are women, a very small number of women graduating in oil and gas subjects end up being employed in that field.

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According to data published in 2023 by Azerbaijan's State Statistical Committee, only 62 entrepreneurs—57 men and 5 women—are recognized by official statistics as being involved in the production of steam, gas, and electricity. However, with increased attention being given to clean energy and renewables, new opportunities for enterprise development are opening up, which can, in turn, pave the way for greater women representation in that sector.

Indeed, Azerbaijan has been massively investing in increasing its wind and solar capacity in the past few years. As President Ilham Aliyev stated at ADA University on 23 April 2024, "Last October, we inaugurated the first 240-megawatt solar power plant, and this year, we will see the groundbreaking ceremony for four more solar and wind power plants with a total capacity of 1,300 megawatts." Also, one can observe a positive shift in the investment by the government from the traditional oil and gas industry to the renewables sector. Projects such as the building of the $300 million Khizi-Absheron Wind Power Plant (240 MW capacity) and $200 million Garadagh Solar Power Plant (230 MW capacity) in 2022 and the 2023 agreement between Azerbaijan and China Gezhouba Group Overseas Investment on renewable energy, which set a goal of constructing 2 MW of renewable power, clearly expresses the government's determination in this direction. Furthermore, during 2020-2023, Azerbaijan signed several documents with foreign companies for 25 MW of renewable energy projects. The latest development is a shareholder agreement signed on 4 June 2024 between SOCAR and Masdar to build two solar plants and a wind farm with a total capacity of 1 GW (445 MW Bilasuvar SPP, 315 MW Neftchala SPP, and 240 MW Absheron-Garadagh WPP) in Azerbaijan.

Moreover, in the past few years, several government initiatives and programs have been carried out to promote women's involvement as service providers in the energy sector and maximize women's employment opportunities in the energy sector. Some concrete positive changes have taken place in this regard, such as the recent appointment of women to top leadership positions in SOCAR.

Several factors have contributed to female underrepresentation in the energy sector, including the socio-economic difficulties of the transitional period (exacerbated by the economic conditions brought on by the Armenian occupation period that ended as a result of the outcome of the Second Karabakh War), the influence of traditional cultural stereotypes, and the lingering effects of the Soviet-era approach to gender equality. Although this last did provide formal equality to men and women in terms of education, health, and employment, it was less successful in overcoming traditional women's responsibilities associated with household management and child-rearing.

Another important factor is that women simply did not choose to pursue careers in the energy sector because of the undesirability of the specific demands of this kind of work: offshore duties, night shifts, and so on.

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To sum up, the following barriers have led to women's underrepresentation in the energy sector in Azerbaijan:

- The possibility of pursuing a career in the energy sector has not been presented to school-age girls as a professional option.
- Lack of policies at the national and industry level that foster gender equality in the sector.
- Women may be less likely to know of available opportunities in clean energy. Women may lack the necessary education or skills to respond to the demands of the industry.
- Cultural barriers, stereotypes, and misperceptions about the demands of energy sector jobs.
- Lack of mentoring programs for women pursuing careers in the energy sector.
- Lack of successful role models that can encourage and motivate young girls.

Azerbaijan's Renewable Energy Sector

The Azerbaijani government has taken significant steps to make the most of the country's renewable potential to support sustainability and energy security in the region by making ambitious yet realistic export plans, which will eventually lead to growth in the energy sector and should bring with it greater employment opportunities for women. According to the country's Ministry of Energy and an assessment by the World Bank, the technical potential of renewable energy in the country is around 135 GW onshore and 157 GW offshore, which is truly incredible.

Unsurprisingly, the Azerbaijani government has put forward several initiatives and programs to harness the country's enormous potential and promote the development of the renewable energy sector. To fulfill its voluntary commitment to reduce greenhouse gas emissions by 40 percent by 2050 (and already 35 percent by 2030), the Azerbaijani government has set the main target to increase the share of the installed capacity of renewable energy to 30 percent in the country's overall energy balance by 2030.

To improve the management system in the field of alternative and renewable energy, the Azerbaijan Renewable Energy Agency was established in 2020. Since then, several policy documents and laws have been prepared to support the development of the country's renewable energy sector. Thus, in 2021, Aliyev signed a new renewable energy law ("On the Use of Renewable Energy Sources in the Production of Electricity") and the government approved an Action Plan for the establishment of a "green energy zone" in the liberated territories by harnessing that region's high renewable energy potential, with the aim of helping to reduce the country's greenhouse gas emissions by the percentages and years indicated above. Thus, with strong policy support for the development of the renewables sector in Azerbaijan, the sector has great potential to offer more room for women's employment—as the role of women in the energy transformation is increasingly being recognized and encouraged.

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Furthermore, the Azerbaijani government has worked hard to attract high-value and innovation-driven investments in the sector, which, in turn, could generate more quality employment opportunities in the renewable energy sector. (Some of the most notable projects have been enumerated above.)

The bottom line is that expanded investments in renewables and the establishment of new businesses in the sector, many new skills and professions will be required. All this increases women's chances of employment in this field. In this context, it is useful to underline that the International Renewable Energy Alliance (REN Alliance) has identified several occupations in the renewables sector that are difficult to fill. Especially needed are hydropower-specific engineering and qualified design engineers (civil, mechanical, and electrical) with specific knowledge of particular renewable energy technologies. There is no objective reason why qualified women could not fill such positions on a gender parity basis in the time ahead.

Policy Recommendations

IRENA's 2023 flagship report indicates that women are far more likely to be employed in the renewable energy sector than they are in the oil and gas sector. In fact, there are more women working today in the former than in the latter (notwithstanding the former's rather low global market share relative to the entire energy industry). Moreover, women are more rapidly assuming leadership roles in the renewable energy field than in the industry as a whole.

The need for trained personnel in installation and maintenance will rise as the renewable sector grows. Furthermore, with rising automation becoming a characteristic of that sector, new skill sets will be needed to build and run automated systems. This, in turn, reduces conventional workforce reliance in the energy sector.

Women can play a vital role in the transition to green or renewable energy. Not only would their increased participation in the renewable energy sector make the energy transition more inclusive and advance the various goals associated with the COP process—and, more broadly, the 2030 UN Sustainable Development Agenda (see below)—but increasing the number of women in this sector would actually be good for business. A growing body of research shows that diversity in staff and leadership positions fosters greater efficiency, increased innovation, and more prudent decisionmaking. Besides, studies indicate that women's inclusion at all stages of the energy value chain can boost the effectiveness and efficiency of clean energy projects, increase investment returns, and open up new avenues for reducing emissions.

Here it is useful to underline that both SDG5 (gender equality) and SDG7 (affordable and clean energy) integrate the gender dimension of the energy transition. But this is hardly the end of the story, for a gender-responsive energy transition supports at

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least eight SDGs since the concept of sustainable development is multidisciplinary and mutually reinforcing by its very construction.

As the implementation of the SDGs presupposes the wholescale transformation of policies at all national and industry levels, effective actions are needed to promote women's roles and improve career opportunities for them in the energy sector in Azerbaijan. Although most parts of the renewable energy sector are still in the early stages of their development in Azerbaijan, a multi-faceted approach and strategic measures should be put in place to cultivate an inclusive and gender-balanced transition.

First and foremost, relevant laws and regulations at the levels of state, industry, and company focused on the elimination of organizational, technical, and institutional constraints on women's access to employment and gender equality in renewables sector should be in place. In particular, special attention should be paid to hiring processes, remuneration, and staff development issues related to gender equality in the sector. For example, with company level interventions, a program that motivates female employees to participate in professional development at the world's largest hydroelectric power plant (ITAIPU Binacional in Brazil) resulted in the doubling of the number of women managers (from 10 to 21 percent) over nine years.

Second, special attention should be paid to initiating and implementing educational programs and projects that will contribute to the removal of one of the main barriers to equality in the energy sector, which is the stereotype that the energy sector is a field of male labor. Educational projects successfully implemented in other countries could serve as models. These include "Women in Engineering Program" (Australia), "We Saved You a Seat Pilot Project" (Canada), "Mentorship for Women in STEM: HunterWiSE" (Australia), Women in Construction (Brazil). There is also the mentoring program offered by the non-governmental organization Global Women's Network for the Energy Transition (GWNET), which aims to raise awareness on issues like diversity, equality, and inclusiveness. The overall point of such projects is to motivate young women to pursue careers in fields like engineering and STEM.

Third, small-scale interventions at national and regional levels can bring positive dynamics in terms of gender equality in the renewable energy sector:

- Building gender awareness among policymakers and government energy agencies through targeted capacity development and training programs would enable them to implement policies to improve the institutional conditions for advancing gender equality in the burgeoning renewable energy industry.
- Conducting knowledge awareness campaigns regarding energy sector jobs and the role that women can play in schools and universities can break stereotypes and wrong perceptions about this sector. Energy companies operating in Azerbaijan can contribute to such a knowledge awareness campaign by providing programs to reach out to primary and high schools to start connections and change perceptions about the sector.

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- Taking concrete steps to integrate renewable energy into national curricular frameworks and providing information sessions for schoolteachers and career advisors about the sector as a viable career choice for young girls
- At the national and regional level, carrying out programs to raise awareness and expand educational pathways for women in STEM and technical fields through targeted outreach, mentorship, and scholarship programs.
- Successful women leaders in the energy sector can themselves be drivers for change. Encouraging them to serve as role models by publicizing their achievements through legacy and social media outlets can break gender stereotypes and encourage other women to pursue careers in the energy sector.

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