

# Women and the Energy Transition: Challenges and Opportunities

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The ongoing energy transition unfolds within a context of multiple crises - climatic, economic, and social - that might exacerbate pre-existing inequalities since gender, class, and geography critically shape individuals' capacity to respond to these challenges.

In 2024, the Joint Research Centre of the European Commission, in cooperation with 75inQ (the Dutch expert centre on diversity in the energy transition) has published a report [1] on the need to reduce gender inequalities, underlining the need for a transition which entails not only decarbonization but also the elimination of structural disparities, including those based on gender.

Women's participation in the energy sector reflects both progress and persistent imbalance. Female employment is higher in renewable industries (32%) compared to fossil fuels (23%): in the photovoltaic sector, women represent about 40% of the workforce, but participation drops to around 22% in wind and 25% in nuclear energy, so that significant gaps remain. This uneven distribution suggests that the transformative potential of the energy transition is not yet matched by proportional inclusivity. Energy communities, which embody the principles of collective action and energy justice, also still reproduce gender asymmetries, since women are underrepresented in these initiatives, most participants being middle-aged men.

Efforts to increase women participation focus on improving access to education, finance, and technical skills, as well as promoting women's leadership and creating inclusive decision-making processes. Several specific programs and initiatives like WEnCoop (an all-women energy cooperative in Greece that supports female entrepreneurs in the energy sector) or W4RES (an EU-funded project focused on increasing women's involvement in renewable heating and cooling solutions) are being developed to close the gender gap. In addition, many organizations are creating mentoring programs to help women navigate their careers, develop skills, and build



valuable professional networks in the energy sector.

Gendered dimensions of energy poverty (the lack of access to adequate, reliable, and affordable energy services like heating, lighting, and cooking) constitute another critical issue. Energy poverty indicators are strongly tied to income, and women face systemic disadvantages in this domain. In 2021, the average gender pay gap in the EU stood at 12.7% (5) while globally, women earn on average 24% less than men. Since 2009, more than 17 EU-funded projects have targeted energy poverty, with most initiatives implemented after 2018. However, the absence of robust methodologies for data collection and monitoring limits their effectiveness and future policy must then strengthen gender-disaggregated data frameworks, enabling tailored interventions. In conclusion, while the energy transition offers a powerful opportunity to promote both environmental sustainability

and social justice, overlooking gender disparities risks reinforcing or even deepening existing inequalities. Closing these gaps calls for coordinated policies, inclusive energy communities, and systemic efforts to ensure that women are not only consumers but also active leaders and beneficiaries of the transition. ■

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## References

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- [2] European Commission, The gender pay gap situation in the EU. [Online] 2021. [https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/equal-pay/gender-pay-gap-situation-eu\\_en](https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/equal-pay/gender-pay-gap-situation-eu_en).