



ASIA CLEAN ENERGY FORUM 2026

Beyond Transition: Building Secure, Resilient, Inclusive, and Intelligent Energy Systems

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Gender-Differentiated Impacts of Energy Transitions: Evidence and Policy Implications

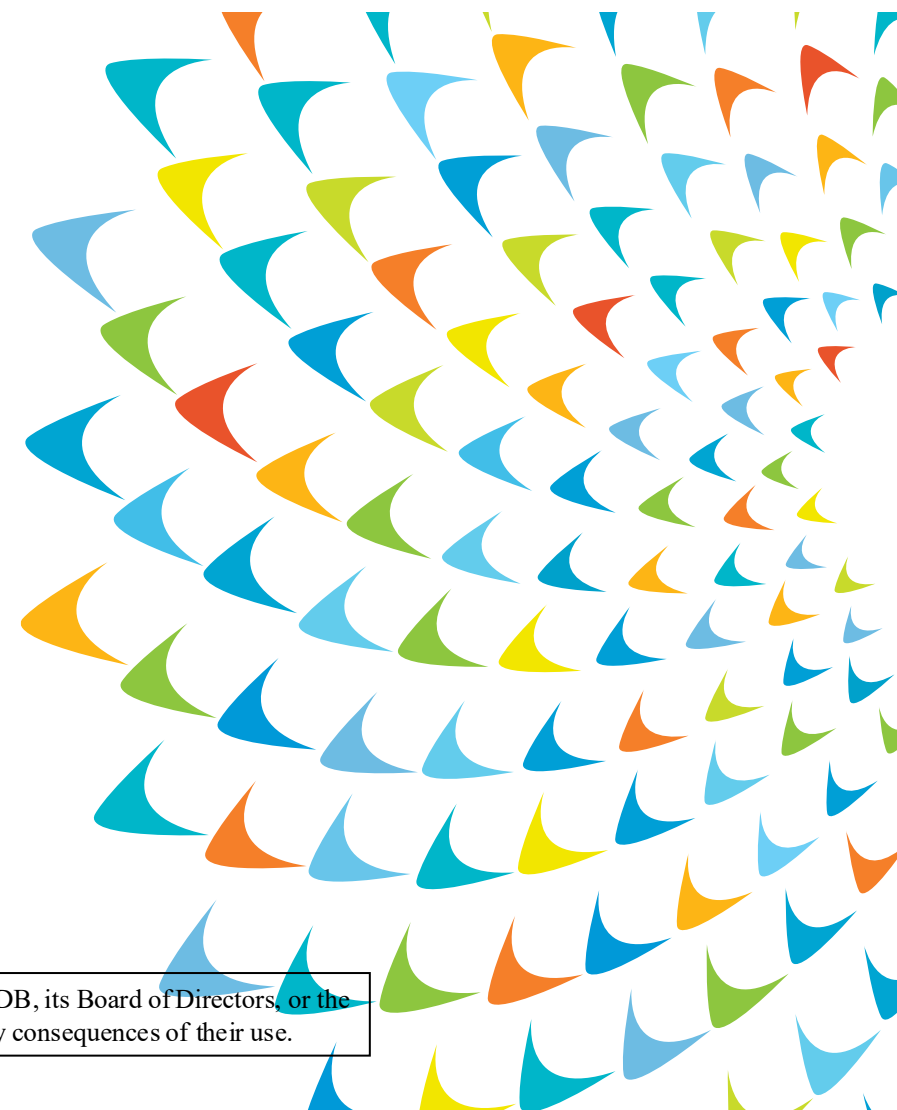
Session 3.1: Embedding Equity in Energy Policy Frameworks

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What do you think is the biggest barrier to reducing women's reliance on solid fuels?

- Lack of affordable clean energy options
- Limited decision-making power of women
- Social norms and traditional gender roles
- Insufficient infrastructure and access
- Lack of awareness about health impacts



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Energy transitions are not gender-neutral

- Women face substantial and specific challenges from the use of solid fuels.
- The persistence and prevalence of traditional gender roles in many societies mean that women and girls are often responsible for gathering and managing solid fuel supplies.
- Globally, this amounts to a daily average of two extra hours spent gathering biomass, and three extra hours of cooking, preparation and tending to the fire for heating.
- This entrenches existing gender inequalities, limits educational and employment prospects, and increases women's physical security risks when gathering and transporting biomass.
- Household air pollution (HAP) carries particularly severe health consequences for women, who generally spend more time performing domestic tasks and in residential spaces.
- Women and children account for 60% of premature deaths from HAP, and indoor pollution is the third most prominent cause of early mortality for these groups globally.
- Women also face lower incomes and education levels, higher rates of unemployment and more constrained labor force participation, and limited decision-making power with respect to household finances and fuel selection.



Energy poverty

Evidence (rural People's Republic of China)

Female-headed households

- Higher level of energy poverty than male-headed
- Less likely to access clean energy for cooking and heating than male-headed
- Menopausal women (especially rural) are more vulnerable to energy poverty than non-menopausal women.
- Lower personal income is a mediator between menopause and energy poverty.

Solutions

- An increase in per capita education reduces energy poverty
- Both male and female benefit from education
- Social participation, support, trust, and urban living moderate the relationship between menopause and energy poverty.

Policy Implications

- Although both male and female-headed households benefit from education, the latter are the most vulnerable to energy poverty, thus should be prioritised
- Improve rural energy access and affordability for midlife and older women in rural areas

Source: <https://doi.org/10.1016/j.eneco.2025.108369> ; <https://doi.org/10.1016/j.eneco.2026.109270> ; <https://doi.org/10.1016/j.eneco.2024.108029>



Electrification Drives Women's Empowerment and Girls' Education

Evidence (Rural Bangladesh)

Women Employment

↓ Time in domestic work & caregiving

↑ Participation in agricultural work

↑ Leisure time (time savings)

↑ Role in household and agricultural decision-making

Evidence (Rural Pakistan)

School participation

↓ Dropout rates by 17 percentage points

Stronger impact for girls than boys

Years of education

↑ years of schooling by 1.62 years.

Stronger impact for girls than boys

How does this happen?

Electricity → access to appliances & irrigation pumps → Time savings + higher productivity → Women employment & education

Source: <https://doi.org/10.1016/j.eneco.2025.108827> ; <https://doi.org/10.1016/j.eneco.2025.108599>



What role do you think women may play in the clean energy transition?

- Primarily beneficiaries of clean energy
- Important contributors/drivers of adoption
- Both beneficiaries and drivers
- Not sure



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Women are not just beneficiaries—they are key agents shaping energy transition outcomes

Evidence (Sri Lanka)

Female-headed households (FHHs)

- More likely to use cleaner cooking than male-headed households
- BUT strong differences within female-headed households:
 - ◆ De-facto (male absent)
 - Better access to cleaner energy
 - ◆ De-jure (widowed/divorced)
 - ↑ Use of transitional fuels (less clean)
 - ↓ Access to clean cooking and lighting

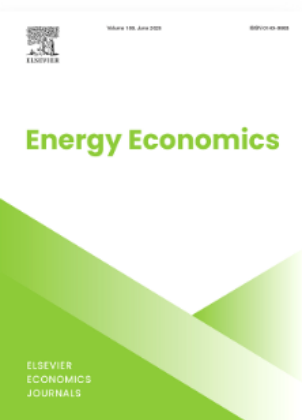
Evidence (Central Asia)

- Women's empowerment through employment represents a driver of clean energy prioritization

Policy implications

- vulnerable group - de-jure female-headed households (due to affordability)
- Women empowerment (through employment) can drive clean energy transition

• Source: <https://doi.org/10.1016/j.eneco.2025.108344> ; <https://doi.org/10.1016/j.eneco.2024.108104> ; <https://doi.org/10.1016/j.eneco.2024.108079>



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