Household Air Pollution

Stories of Global Progress

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The Issue

Negative impacts and costs of household air pollution

2.1 billion people still cook with polluting fuels (wood, charcoal, coal, kerosene, etc.)

WHO, 2025

2.9 million deaths each year
(including more than 309,000 children under 5 years of age)

WHO, 2025

~50% of global anthropogenic black carbon from household combustion

CEDS, 2021

~12% of global ambient PM2.5 attributable to household air pollution

Chowdhury et al., 2023; McDuffie et al., 2021

Global Progress to Date

Positive movement in reducing the burden of household air pollution

36% decline in HAP deaths globally since 2000

WHO, 2024

~900M people gained clean cooking access since 2010

IEA Tracking SDG 7, 2025

More than half of those still cooking with polluting fuels are already connected to the grid.

The sector must focus on appliances and affordability—not electrification alone.

2024

IEA Summit on Clean Cooking in Africa

$2.2B in financing mobilized

2025

AQMx Sectoral Guidance launched at UNEA-7

A practical playbook for governments and practitioners on expanding access to clean cooking energy

Sources: WHO (2024); HEI / State of Global Air (2024); IEA Tracking SDG 7 (2025); IEA Universal Access to Clean Cooking in Africa (2025); CCAC AQMx Sectoral Guidance (2025).

Two Stories of Progress

Kenya & Nepal

Kenya

A national strategy comes together

- Electricity access: ~20% (2010) → ~75% today
- Kenya National eCooking Strategy (KNeCS), 2024
- PAYGo & on-bill financing

National strategy creates the cross-sector coherence—energy, environment, finance—that unlocks scale.

Nepal

Integrating e-cooking into grid expansion

- Electricity access: <70% (2010) → >90% today
- AEPC + NEA + EnDev + MECS partnership
- National goal: 2.1M e-cooking households by 2035

Tariff design, appliance efficiency, and cultural fit determine whether the transition sticks.

Sources: CCAC AQMx Sectoral Guidance (2025); Government of Kenya MoEP, KNeCS (2024); MECS / GIZ EnDev; AEPC / NEA Nepal.

Key Takeaways

Lessons to ensure success

1 Near-exclusive use is what delivers health benefits.

Fuel stacking—using a clean stove alongside the traditional one—erodes many of the benefits. The binding constraints are affordability and reliable supply, not technology.

2 Geopolitics reshape access in real time.

The Iran oil shock has surged LPG prices and pushed rural households back to charcoal and wood. Indonesia and parts of India are responding by accelerating electric cooking.

3 Clean cooking lives at multiple crossroads.

Energy, health, environment, gender—no single ministry, or single discipline, fully owns it. Cross-sectoral integration is the hardest institutional ask.

4 Institutional kitchens & PUE: an underused entry point.

Schools, hospitals, restaurants, and food vendors anchor electricity demand and build public confidence. Household conversion follows.