

# FIRST WHO GLOBAL CONFERENCE ON AIR POLLUTION AND HEALTH

IMPROVING AIR QUALITY, COMBATting CLIMATE CHANGE – SAVING LIVES

Clean household energy access: igniting the  
transition for protecting public health,  
livelihoods and environment

## Key messages

- » Clean household energy access must be at the top of the global energy and health agendas.
- » Household air pollution (HAP) is the world's single biggest environmental health risk.
- » Clean energy access is essential to unlocking progress across all priority areas in the Sustainable Development Agenda, and to achieve the climate targets outlined in the Paris Agreement.
- » 3 billion people must gain access to clean cooking solutions and 1 billion must gain access to electricity by 2030 to achieve SDG 7.
- » The current pace of progress remains far too slow to meet the 2030 goal. Increased financing is needed to close this energy access gap.

**BREATHE  
LIFE**

## Introduction

Smoke is the single biggest environmental health threat in the world – and it's found in the home. Over three billion people burn wood, dung, coal and other polluting fuels to meet their daily cooking needs. One billion people lack access to electricity and mostly rely on smoky kerosene lamps to light their homes.

Lacking access to cleaner alternatives, people depend on these polluting energy sources to feed their families and heat their homes. In a cruel irony, these acts of survival pose serious risks to health. **Exposure to smoke produced by cooking fires kills 3.8 million people each year.**

Bringing clean, safe, modern energy to the hundreds of millions of households that currently lack it can transform lives, economies and the global environment. SDG 7 – “ensure access to affordable, reliable, sustainable and modern energy for all” – reflects the widespread recognition that ending energy poverty must be a top priority on the global development agenda.

Inefficient household energy use is also a significant source of short-lived climate pollutants (SLCPs), such as methane and black carbon, which contribute significantly to ambient air pollution and climate change.

It is increasingly clear that universal clean household energy access will eliminate enormous health burdens, save millions of lives, and reduce emissions that contribute to climate change. However, making it happen will require a coordinated effort to overcome the persistent barriers of access, affordability, and availability of clean energy.

## Why it matters

Household air pollution is one of the leading causes of disease and premature death in low and middle-income countries. It is also one of the leading killers of children worldwide: nearly half of all deaths from pneumonia in children under five are due to exposure to HAP.

There is emerging evidence that HAP exposure increases the risk of other important health problems, such as asthma, ear and upper respiratory infections, tuberculosis, nose and throat cancers, cervical cancer, low birth weight and stillbirths.



**HAP is the single largest cause of COPD in women worldwide, accounting for almost half a million deaths each year.** Women and girls in these households often spend many hours per day collecting and processing fuel, limiting time for income generation, education and rest. Members of households that rely on polluting fuels and devices also suffer a higher risk of burns, poisonings, musculoskeletal injuries and accidents

## Challenges and gaps

**Progress toward universal access to clean energy remains far too slow.** Today, roughly the same number of people cook with polluting fuels and devices as 30 years ago. Progress in access to clean energy has been outpaced by population growth. If the current trajectory continues, 2.3 billion people will lack access to clean cooking in 2030. Most them will be in sub-Saharan Africa, where 670 million people will also still lack electricity.

To accelerate this transition, several barriers must be overcome. **Clean energy needs to be affordable, available or accessible.** The household fuels and technologies that most people in high-income countries use – gas stoves, electric lights, and central heating – are simply unavailable or unaffordable to many in LMICs. However, **relying on polluting energy imposes very heavy costs** – to health, economies and the environment. Governments must take these health and other costs into account as they design national energy policies.

In many countries, there is little coordination between energy, health, environment and other relevant ministries and stakeholders. A lack of data and evidence about the fuels and technologies used in different settings hampers efforts to track progress and design more effective policies. Fuel and broader energy subsidies are often misdirected and fail to target the populations in most need of assistance, especially in rural areas. A lack of infrastructure for liquefied petroleum gas (LPG) distribution and slow rates of expansion of electrical grids in rural settings exacerbate the issue. Public and policy-maker awareness of the health risks of HAP exposure, and of the multiple benefits to climate, social and economic of clean and efficient energy is limited.

The global community must significantly increase its efforts to remove these barriers to accelerate the clean energy transition. Technology advances and falling costs are bringing clean energy within reach of more households – especially in the off-grid solar lighting sector – but significant policy and finance gaps remain. The current level of investment in technology research and development for clean cooking and other household energy services is a small fraction of what is required. For example, financing requirements for universal access to clean cooking solutions are estimated to be US\$4.4 billion per year up to 2030. The current level of funding is only US\$240 million.

Data gaps must also be addressed to inform effective, targeted interventions. More research is needed into the adoption and sustained use of energy interventions, including user preferences, behavior change and the complex economic and social factors that play a role in decision-making. There is a lack of data on household energy. More data is also needed on how its use affects women and children. Better understanding of gender roles and household economics can inform policies to stimulate more widespread, sustained uptake of clean stove and fuel solutions.

## Priorities and opportunities

Addressing HAP is also crucial to meeting global climate change goals. Inefficient household fuel combustion contributes to some 25% of global black carbon emissions. Black carbon is the second largest contributor to climate change after carbon dioxide, is a major driver of glacier retreat in mountainous regions and the Arctic, and also disrupts regional climate systems such as the South Asian Monsoon. Switching to very low-emission cookstoves and fuels, replacing kerosene lamps with electric lights, and using passive design principles to reduce fuel consumption for space heating would result in significant reductions of both carbon dioxide and SLCP emissions.

**Achieving the SDG 7 target of universal access by 2030 will require accelerating action along two parallel tracks.**

**Track 1: “making the clean available”** – boosting policies and programmes to make energy solutions that are clean enough to reduce negative health impacts at the point-of-use more widely available. These include targeted initiatives, subsidies and market-based approaches to expanding access to electricity, LPG, biogas and ethanol fuels.

**Track 2: “making the available clean”** – developing cleaner-burning stoves and devices that use widely available fuels. For many people, these are important transitional technologies leading to health and environmental improvements through reduced emissions, although not as clean as gas and electricity.

More cross-sector coordination is needed to develop, tailor and target interventions to specific settings and populations. **Health sector leadership is critical for ensuring programmes achieve sustained adoption of truly clean energy.** By convening and coordinating key stakeholders and actors, supporting rigorous monitoring and evaluation, and communicating with the public and decision-makers, the health sector can speed up the energy access transition. The health sector can support efforts to craft health- and evidence-based energy policies, address data gaps, and expand awareness of the cultural and other factors that impede wider, sustained use of clean household energy.

### The way forward: what is being done

New, coordinated efforts to standardize definitions of what is considered “clean” for health have helped to clarify which energy solutions are worthy of investment and deployment.

New global strategic partnerships reflect the consensus that household energy is a “nexus” issue, interconnected with other global priorities such as health, gender equality, equitable economic development and environmental protection.

Government-led policies, programmes and investment are achieving change. India has instituted programmes to subsidize access to LPG for cooking for millions of poor households while Rwanda is actively promoting biogas for household energy. Entrepreneurs in Africa and Asia have spurred a fast-growing shift from kerosene to off-grid solar lighting, demonstrating how to build and rapidly scale market-based approaches to clean household energy provision.

The 2014 *WHO Guidelines for Indoor Air Quality: Household Fuel Combustion* provide health-based emission targets for fuel and stove combinations, including acceptable levels for PM<sub>2.5</sub> and carbon monoxide emissions. This is an important tool for effective policy and planning in energy and health, and support greater access to clean fuels. WHO has also developed a clean household energy toolkit (CHEST), enabling policy-makers and health professionals to apply the guidelines. The WHO Global Household Energy database on household cooking, heating and lighting is a unique resource publicly available to countries, UN agencies, researchers and other stakeholders to monitor progress in transition to cleaner fuels and stoves.

Cleaning up the 21<sup>st</sup> century hearth is an opportunity – for health, for climate, and for economic development – that we simply cannot afford to pass up