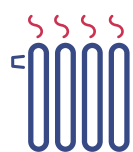


WHO CLEAN HOUSEHOLD ENERGY SOLUTIONS TOOLKIT (CHEST)

A step-by-step guide and tools to support the implementation of the WHO Guidelines for indoor air quality: household fuel combustion.



Credit: REUTERS/Akhtar Soomro



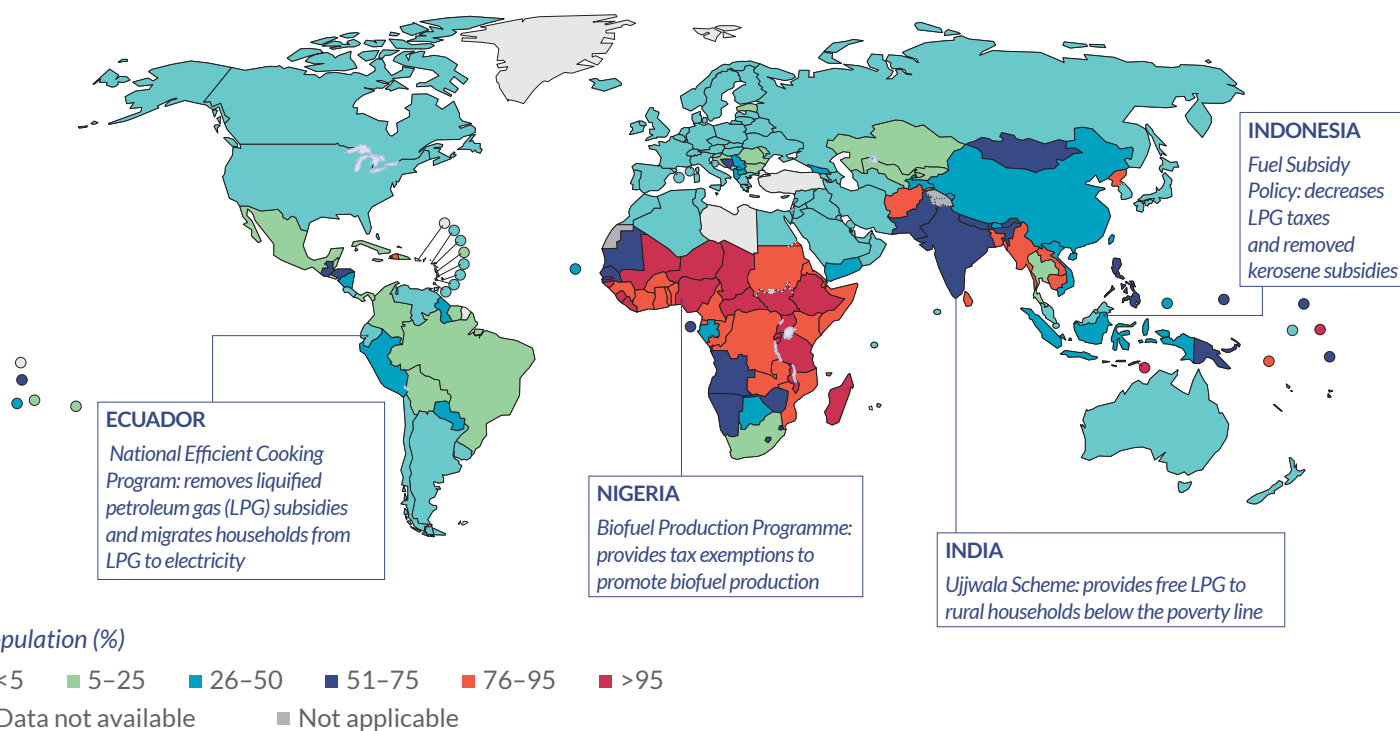
The Clean Household Energy Solutions Toolkit (CHEST) is designed to promote clean and safe interventions in the home. CHEST provides the tools for countries and programs to create or evaluate policies that expand clean household energy access and use. CHEST is an analytical framework that was created based on country needs and expert input. It contains tools to assess the current state of household energy use, air pollution and health impacts and provides guidance based on this information to facilitate the design of *policies that promote the adoption of clean household energy*.

Highlighted by the recent *WHO guidelines for indoor air quality: household fuel combustion* (the *WHO Guidelines*), household air pollution from inefficient fuel combustion is one of the most important global environmental health

risks today. Widespread use of polluting cookstoves causes some 4 million premature deaths annually among children and adults from respiratory illness, cardiovascular disease and cancer, as well as serious injuries from scalds, burns and poisoning. Globally, the issue is concentrated in low – and middle – income countries in Asia and Africa.

The *WHO Guidelines* are intended to inform and support decision-makers in health, energy, environment and other sectors to bring about the rapid transition to modern, healthy household energy. In particular, they provide practical recommendations to provide policy-makers with the information needed to ensure that efforts to increase access to clean and safe household energy deliver genuine and substantial health gains.

Global polluting fuel and technology use in 2014 (for low- and middle-income WHO Member States)



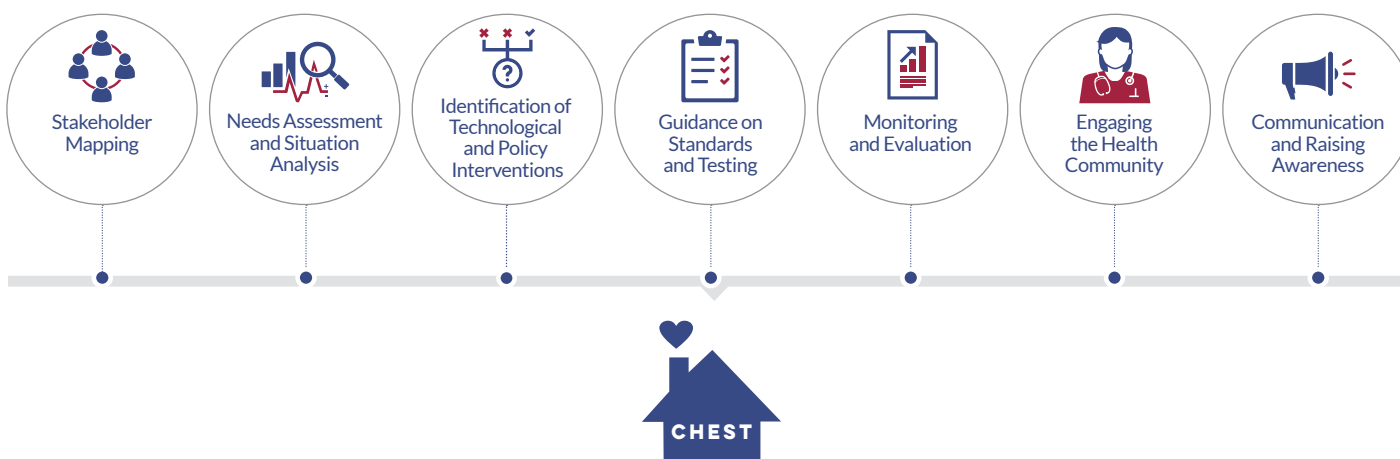
Why have a Clean Household Energy Solutions Toolkit (CHEST)?

- For over 3 billion people who rely on polluting fuels and technologies to meet their daily cooking needs, clean household energy solutions are necessary to protect public health.
- Investments in household energy solutions should be made based on understanding the country-specific options available and the actual health risks.
- Since clean household energy options and health risks are dependent upon the local context, CHEST offers flexible tools and approaches to assist decision-makers in different settings with development of strategies, programmes and policies that support the adoption of clean home energy.
- The CHEST manual and associated tools provide step-by-step guidance for mapping out current household energy use, related health impacts, and key stakeholders and uses an evidence-based approach to select technological and policy solutions.

The WHO Guidelines are designed to provide practical recommendations for the performance of fuels and technologies used in the home. The Guidelines provide emissions targets for different kinds of domestic appliances, for both carbon monoxide and fine particulate matter. The targets are the result of years of review of the health impacts of household air pollution emissions and careful examination of the levels by which emissions would have to be reduced in order to meet WHO guidelines for air quality.

Other key recommendations include developing strategies to accelerate clean and safe household energy use, and ending the use of unprocessed coal and kerosene as household fuels.

Clean Household Energy Solutions Toolkit Modules



The component modules of the WHO Clean Household Energy Solutions Toolkit (CHEST)

A step-by-step guide and tools to support the implementation of the WHO Guidelines.

✓ Completed
— Under Development



I. STAKEHOLDER MAPPING

Identify the key stakeholders and form a steering committee

— Mapping Stakeholders for Household Energy Policy



II. NEEDS ASSESSMENT AND SITUATION ANALYSIS

Complete a needs assessment and situation analysis for household energy

- ✓ WHO Guidelines for Indoor Air Quality: Household Fuel Combustion, 2014
- ✓ WHO Household Energy Database
- ✓ WHO Global Health Observatory
- ✓ WHO Household Air Pollution Measurement Database
- WHO Global Platform on Air Quality and Health Web Portal
- Country Profile Rapid Assessment Tools and Templates



III. IDENTIFICATION OF TECHNOLOGICAL AND POLICY INTERVENTIONS

Identify and assess intervention options

- ✓ Global Alliance for Clean Cookstoves: Clean Cooking Catalog
- ✓ HAPIT: Household Air Pollution Intervention Tool
- WHO Emissions Model
- WHO Policy Database



IV. GUIDANCE ON STANDARDS AND TESTING

Develop or apply existing standards and testing

- ✓ IWA Tiers of Performance (<http://cleancookstoves.org/technology-and-fuels/standards/iwa-tiers-of-performance.html>)
- ✓ International Organization for Standardization (ISO) Technical Committee 285: Clean cookstoves and clean cooking solutions
- WHO Practical Guidance for Applying ISO Standards



V. MONITORING AND EVALUATION

Create a monitoring and evaluation framework

- ✓ National Household Surveys
- A Catalog of Methods (2008), updates underway
- ✓ WHO Household Energy Use Survey Guide
- ✓ WHO Household Energy Use Catalogue
- ✓ WHO Household Energy Use Survey Questions: Interviewer Manual



VI. ENGAGING THE HEALTH COMMUNITY

Empower the health sector to tackle household air pollution

- ✓ Health Impact Assessment (HIA)
- Child Health and Air Pollution report
- ✓ UN Habitat and other education documents
- ✓ Videos on household air pollution and adverse impacts



VII. COMMUNICATION AND RAISING AWARENESS

Develop a plan to raise awareness and establish communications

- Training materials
- Communication materials



Action plan for Household Energy Policy
(to implement the WHO Guidelines at a regional or country level)



Credit: Corbis/Andrew Aitchison/In Pictures

Household Energy Survey Questions

WHO has finalized a set of standardized questions on household energy use for national and local level surveys and censuses, after consultation with a diverse group of stakeholders and extensive piloting. These **questions are essential to monitor SDG Indicator 7.1.2 on primary reliance on clean fuels and technologies**, as well as SDG 7.1.1 on the proportion of the population with access to electricity.

This set of harmonized questions was drafted in recognition of the need for refined questions to assess household energy used for cooking, heating and lighting. To account for use of multiple fuels and technologies, the surveys questions capture **all types of technologies and fuels used** in the home – both main and supplemental fuels.

These questions are available for download and are recommended for inclusion in national surveys and local projects to monitor SDG 7 and track progress towards clean household energy use.

CHEST Supporting the Sustainable Development Goals (SDGs)

WHO will be reporting data for three SDG indicators that are closely related to air pollution, health, and the Clean Household Energy Solutions Toolkit:

<p>3 GOOD HEALTH AND WELL-BEING</p> <p>GOAL 3: Ensure healthy lives and promote well-being for all at all ages.</p> <p>TARGET 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.</p> <p>3.9.1 Indicator Mortality rate attributed to household and ambient air pollution.</p>	<p>7 AFFORDABLE AND CLEAN ENERGY</p> <p>GOAL 7. Ensure access to affordable, reliable, sustainable and modern energy for all.</p> <p>TARGET 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services</p> <p>7.1.2 Indicators Proportion of population with primary reliance on clean fuels and technologies (for cooking and heating and lighting).</p>	<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p> <p>GOAL 11. Make cities and human settlements inclusive, safe, resilient and sustainable.</p> <p>TARGET 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, municipal and other waste management.</p> <p>11.6.2 Indicator Annual mean levels of fine particulate matter (e.g. PM_{2.5} and PM₁₀) in cities (population weighted).</p>
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Moving forward

Upon completion of the CHEST manual development, there are plans to pilot the CHEST manual and its accompanying materials/resources with in-country trainings in a number of locations. Piloting countries will be selected based on geographical location, household energy challenges (e.g. cooking, kerosene heating and lighting) and their current stage in the development and/or implementation of household energy policies. Upon completion of piloting, materials will be revised accordingly, and case studies from piloting experiences will be incorporated into the manual and country trainings. CHEST will then be finalized and disseminated more broadly.

Moving forward, CHEST will be a dynamic toolkit – additional data and adjustments will be included in future revisions and online materials.

More information

WHO's website on <http://www.who.int/airpollution/household/chest/en/>

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