

# HOUSEHOLD AIR POLLUTION



The main cause of air pollution in households around the world is cooking and heating by burning unclean fuels, such as wood, coal, wastes or dung, in inefficient and polluting stoves. This is still practised in almost half of the world's households, and leads to the emission of fine particulate matter and noxious gases. There are numerous other forms of indoor air pollution, including radon, tobacco smoke, carbon monoxide, and formaldehyde, that require other sets of remedial actions in addition to those listed here.

Cooking on open fire polluting indoor and ambient air.

# KEY RISKS TO HEALTH



## 3.8 M

Around 3.8 million deaths are caused each year by smoky homes due to cooking or heating with inefficient fuels and technology combinations.



## 3 B

Some 3 billion people are still relying mainly on polluting fuels and technologies for cooking, heating and lighting, leading to high levels of household air pollution.

## Of the 3.8 million deaths (2016):



## 27%

were due to heart disease  
(1 031 000 deaths)



## 18%

were due to stroke  
(686 000 deaths)



## 54%

were due to chronic obstructive  
pulmonary disease (20%; 763 000),  
pneumonia (26%; 994 000 deaths)  
and lung cancer



Traditional way of making food; cooking on open fire in a rural village, near Khajuraho, India.

## WHAT ARE KEY ACTIONS FOR IMPROVEMENT?

Key actions to improve household air quality include the following (*WHO a*, *WHO b*):

**1.**

### **Clean fuels**

Provide access to clean fuels and technologies for all cooking, lighting and heating, as defined by the WHO guidelines for indoor air quality: household fuel combustion.

**2.**

### **Coal and kerosene**

Avoid use of unprocessed coal and kerosene, and the inefficient use of solid fuels, in the household.

**3.**

### **Prioritize fuels and technologies**

Prioritize fuels and technologies that offer substantial health benefits during the transition to clean energy.

**4.**

### **Exclusive use of clean energy**

Promote the exclusive use of clean energy for all cooking, heating and lighting activities.

**5.**

### **Innovations in financing**

Build a larger market ecosystem for clean and modern household energy solutions through innovations in financing, and business models for household consumers, stove designers, and distributors.

**6.**

### **National performance and safety standards**

Develop health-based national performance and safety standards for household energy fuels and technologies.

# MAIN WHO ACTIONS

WHO actions on household air quality include the following:

## Awareness

Raise awareness on the risk of household air pollution to health, which is often underestimated.

## SDG indicators

Report on SDG indicators 3.9.1 (mortality from air pollution) and 7.1.2 (proportion of population using clean fuels and technologies).

## Guidelines for indoor air quality

Provide support to countries and other stakeholders in implementing the WHO [guidelines for indoor air quality](#) (*WHO a*, *WHO b*) and the Clean Household Energy Solutions Toolkit (CHEST).

## Strategic and technical support

Provide strategic and technical support and build capacity at country and regional levels to develop and implement coordinated policies for clean household energy.

## Capacity of the health sector

Increase the capacity of the health sector to facilitate the use of clean household energy and integrate clean household energy interventions in public health programmes and campaigns.

## Household energy database

Monitor the global progress on clean fuels, as well as the health and livelihood impacts, through the WHO Household energy database and enhanced monitoring tools.

# SECTORAL POLICIES INTERACTING WITH HOUSEHOLD AIR QUALITY

Cooperation with the following sectors may be required to sustainably reduce risks to health:



Industry



Energy



Housing



Health

Further information: [www.who.int/airpollution](http://www.who.int/airpollution).

Source: <http://www.who.int/phe/publications/healthy-environments/en/index.html>, WHO, 2019