



**SmokeFree
Homes**

NEPAL

**Technological and socio-economic solutions
to reduce indoor air pollution in Nepal**

1.9.2023-31.12.2026



The Smokefree Homes Nepal project is part of the Academy Programme for Development Research DEVELOP2 and funded by the Ministry for Foreign Affairs.

Background

- Residential biomass combustion (RBC) is one of the major causes of indoor air pollution in the Global South.
- Many rural Nepalese households use traditional stoves, leading to harmful particulate and gaseous emissions.
- These emissions pose serious health risks, particularly to women and children, contributing to over 18,000 deaths annually in Nepal.
- Emissions also have significant climate effects for example, black carbon particles emitted from Nepal transform easily to the central Himalayas causing melting of ice.

Main objectives

- Clarify the emission levels of Nepalese cooking stoves.
- Find the most effective, techno-economic, and socially acceptable measures to reduce emissions and lower the exposure for indoor air pollutants.
- Develop mitigation models and emission inventories
- Produce information for the assessment of health and climate effects imposed by RBC emissions in Global South.

For more information visit the websites

QR-code
for the
project
website



QR-code
for the
DEVELOP2
website

Project website: <https://uefconnect.uef.fi/en/group/technological-and-socio-economic-solutions-to-reduce-indoor-air-pollution-in-nepal/>

DEVELOP2 website: <https://www.aka.fi/en/research-funding/programmes-and-other-funding-schemes/academy-programmes/development-research--develop-2-20232026/>

1st measurement campaign

- The experiments were performed in the small-scale combustion simulator at the University of Eastern Finland during May-October 2024
- Various appliances were tested, including traditional and improved cooking stoves from Nepal and camp stoves
- Water Boiling Test protocol was used, and the emissions and indoor air quality and exposure were measured

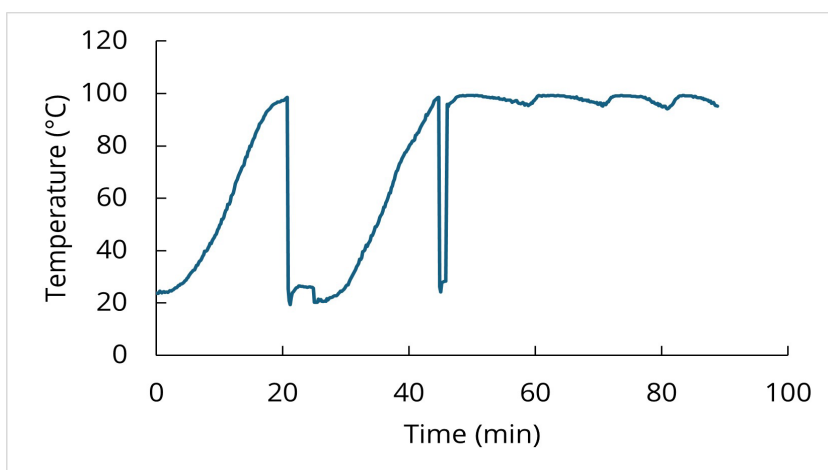


Figure. Real-time temperature curve of water

Save the date: 17th October 2024 Workshop in Kathmandu and online

This workshop will cover the following key topics:

- **SmokeFreeHomes Nepal:** Overview and impact
- **Emissions:** Measurement methods and results of first measurement campaign
- **Health and Environment:** Indoor and outdoor air quality
- **Policy and Decision making:** Emission inventory and challenges and opportunities implementing improved cooking stove solutions

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