WHO recognizes that air pollution (including household and ambient sources) is a critical risk factor for noncommunicable diseases, causing an estimated 24% of all adult deaths from heart disease, 25% from stroke, 43% from chronic obstructive pulmonary disease and 29% from lung cancer.

In Nepal, household air pollution is one of the leading risk factors for ill health, causing around 24,000 deaths each year (WHO country estimates of burden of disease from household air pollution for 2016). In addition, household air pollution accounts for around one-third of ambient air pollution in the country (Kim, B. M., Park, J. S., Kim, S. W., Kim, H., Jeon, H., Cho, C., Yoon, S. C. (2015). Source apportionment of PM10 mass and particulate carbon in the Kathmandu Valley, Nepal. Atmospheric Environment, 123, 190–199). The use of clean household energy solutions can reduce this health burden and has the potential to improve livelihoods and reduce climate change.

WHO has therefore conducted a demonstration project promoting smoke-free kitchen communities in urban Nepal. Besides extensive communication activities to raise awareness for the issue of household air pollution including a global video and local community interaction events, the project involved the development of an economic tool enabling policy-makers and programme managers to calculate the costs and health impacts associated with implementing various fuel
and stove interventions. The tool is part of the Clean Household Energy Solutions Toolkit (CHEST) supporting health sector professionals and policy-makers in implementing the recommendations found in the WHO Guidelines on indoor air quality: household fuel combustion.

During a 2.5 days' training workshop in Dhulikhel, 26 key stakeholders were trained in using the tool. The workshop was organized by WHO in partnership with the Government of Nepal and facilitated by the expert group from Duke University developing the tool as well as colleagues from the WHO headquarters. Participants included representatives from the national Government, local researchers, professionals working in the health system, and development partners working on health and energy issues. During several hands-on sessions, participants were trained in using the economic tool through individual and small group work exercises. They further developed and presented policy briefs summarizing the results of their calculations and providing evidence-based recommendations for policy action. Representatives from the Ministry of Health and Population in Nepal provided feedback on the policy briefs and noted the usefulness of such tools to support evidence-based policy decision-making.

While the tool was piloted for use in Nepal, a contextualization process will allow for its future application in any other low- and middle-income country, making it a valuable resource for health systems around the world to gain a better understanding of the true costs of household air pollution.