

3 GOOD HEALTH AND WELL-BEING



LPG use helps to support good health and well-being through the prevention of non-communicable diseases in adults and pneumonia in children.

According to the World Health Organisation (WHO), air pollution kills seven million people prematurely each year. More than half of these die from Household Air Pollution (HAP), a result of the large disease burden related primarily to the use of polluting fuels for cooking, heating and lighting. This is the greatest environmental health risk in the world today.

Around three billion people still rely on solid fuels and kerosene for cooking. Reducing smoke emissions from household energy activities decreases the burden of disease associated with HAP and improves well-being, especially for women and children who bear the brunt of poor energy access.

For several important health outcomes such as child pneumonia, lung and cardiovascular disease, exposure to fine particulate matter (PM_{2.5}) and carbon monoxide (CO) needs to be reduced to very low levels to achieve health benefits. The majority of solid-fuel cooking interventions promoted over the years have not come close enough to these levels.

One of the targets under SDG 3 is to “end preventable deaths of newborns and children under five years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-five mortality to at least as low as 25 per 1,000 live births” by 2030. Dr. Maria Neira, Director of the Department of Public Health, Environmental and Social Determinants of Health at WHO, has said that “the best vaccination against pneumonia is ensuring that kids don’t breathe dirty air at home.”

WHO data compiled from across the globe show that around 90% of all people breathe air contaminated with pollutants. Air pollution kills over seven million people every year due to the related disease burden. Children are especially at risk of pneumonia from breathing in polluted air.

The WHO's Indoor Air Quality Guidelines for household fuel combustion recommend the rapid scaling up of clean and modern cooking fuels such as LPG, gas and electricity in lower and middle income countries to reduce the burden of disease associated with HAP. LPG delivers significant direct health benefits from substantially reducing exposure to HAP from burning of solid fuels and kerosene, and can be scaled up at a rapid pace if the right policies, regulations and enabling conditions are in place.

Reduced emissions from the use of Autogas as a transportation fuel also have a protective role for health, especially in many urban environments where ambient air pollution levels are high.

BOTTLED GAS FOR BETTER LIFE – COOKING WITH LPG FOR BETTER HEALTH

Hundreds of lower income families in Cameroon and Kenya now breathe cleaner air and have better health, thanks to a microfinance programme launched in 2017 by GLPGP together with local microfinance and banking institutions, and LPG marketers.

The *Bottled Gas For Better Life* initiative addresses the challenge of upfront costs preventing many families from switching to LPG for cooking. Short-term microfinance loans of US\$80-\$100 are provided to families to purchase an LPG “start-up kit” including a double burner LPG stove, a filled LPG cylinder, and accessories.

Most programme participants had been using firewood as their main cooking fuel. Switching to LPG for everyday cooking eliminates smoke exposure in the kitchen, supporting better well-being and health, particularly for women and children.

The University of Liverpool, UK conducted an independent study of the programme's pilot phase in Cameroon, evaluating the extent to which overcoming the upfront cost barrier encourages households to adopt LPG, and how this affects their use of time, well-being and health.

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Dr. Maria Neira, Director, Department of Public Health, Environmental and Social Determinants of Health, World Health Organisation

The study included HAP measurements in households before and after LPG adoption, measuring PM_{2.5} in kitchens and inhaled by primary cooks. PM_{2.5} is responsible for most of the disease related to HAP.

LPG consumption by participants measured over six months was nearly five times Cameroon's national average showing sustained LPG use after initial adoption. PM_{2.5} exposure levels decreased significantly. Exposure in primary cooks reached

“When you cook with firewood, smoke enters your eyes. My children cough because of the smoke. When you cook with gas, you feel nothing.”

Woman who adopted LPG for cooking through *Bottled Gas for Better Life*, Cameroon



(Image: University of Liverpool)

No more smoke and bending over: cooking with LPG compared to cooking with biomass

levels below the WHO's indoor air pollution Interim Target-1 ($35\mu\text{g}/\text{m}^3$), confirming LPG's health protective role. Significant reductions in headaches (46% to 9%), eye problems (66% to 8%), cook burns (25% to 3%) and child burns (9%

to 0%) were also observed after families adopted LPG through the loan programme. Over time, scaling up LPG use for clean cooking is expected to lower the mortality and disease rates attributed to household air pollution.

Switching from biomass to LPG for domestic cooking fuel use in line with Cameroon's National LPG Master Plan target for 2030 is projected to save 19,000 lives.