

How fossil fuel and electricity can save millions of lives by reducing air pollution exposure

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The various credible estimates of the global burden of disease from use of biomass and coal as household cookfuels range from ~3-4 million premature lives lost per year due to the exposures to air pollution in and around the household, primarily as products of incomplete combustion. Globally being the largest single environmental health hazard, the highest per capita impact is in Sub-Saharan Africa, followed by South Asia, and then SE and West Asia, including China. Although closely linked to poverty, waiting for poverty alleviation to reduce the burden has stalled in spite of economic development in many countries. Unfortunately, there are now more people using such fuels than anytime in human history. The second approach has been to try to burn solid fuels more cleanly such that high household air pollution exposures are eliminated, but this too has not worked to reduce health impacts substantially. In just the last year, however, major new efforts have been undertaken in several countries to address this problem through innovative policies to extend access to Liquefied Petroleum Gas (LPG), clean cookfuel, to hundreds of millions of the poor. In addition, the advent of innovative, efficient, and inexpensive electrical cooking appliances combined with growing electrification is leading a handful of countries to consider a leapfrog approach to the cookfuel problem, i.e., to skip the gas phase entirely and go directly to full electric cooking. These two approaches also can help reduce ambient air pollution in those countries, such as India and China, where household fuel use is responsible for 25-33% of health-damaging ambient pollution in recent estimates. A brief history of the problem, summary of the health impacts, and discussion of current approaches to solutions will be discussed.