



Electricity access still insufficient in developing countries

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Despite massive gains in global access to electricity over the last two decades, governments and development organizations must continue to invest in electrification to achieve critical health, environmental, and livelihood outcomes, according to new research published by the Worldwatch Institute for its Vital Signs Online publication.

Between 1990 and 2008, close to 2 billion people worldwide gained access to electricity. But the International Energy Agency (IEA) estimates that more than 1.3 billion people still lack access to electricity, while the United Nations estimates that another 1 billion have unreliable access. The UN General Assembly has designated 2012 as the International Year of Sustainable Energy for All, providing an opportunity to raise awareness of the extent and impacts of the electrification challenge.

"Modern energy sources provide people with lighting, heating, refrigeration, cooking, water pumping, and other services that are essential for reducing poverty, improving health and education, and increasing incomes," write report authors Michael Renner and Matthew Lucky. "It will be difficult to achieve a number of the UN's Millennium Development Goals without improving energy access." Among the UN goals, targeted at 2015, are combating HIV/AIDS, malaria and other diseases and eradicating poverty and hunger.

At least 2.7 billion people, and possibly more than 3 billion, lack access to modern fuels for cooking and heating. They rely instead on traditional biomass sources, such as firewood, charcoal, manure, and crop residues, that can emit harmful indoor air pollutants when burned. These pollutants cause nearly 2 million premature deaths worldwide each year, an estimated 44 percent of them in children. Among adult deaths, 60 percent are women. Traditional energy usage also contributes to environmental impacts including forest and woodland degradation, soil erosion, and black carbon emissions that contribute to global climate change.

Electrification varies widely between rural and urban areas in developing countries. In sub-Saharan Africa, the rural electrification rate is just 14 percent, compared with 60 percent in urban areas.

"As new approaches to electrification evolve - ones that don't rely on expensive regional or national grids but rather a diversity of locally available energy resources - we can begin to reach for the goal of access to electricity for all, rural as well as urban," said Worldwatch President Robert Engelman. "But access to electricity needs to be based wherever possible on low-carbon energy, since we need to preserve a climate conducive to health and well-being."

Improved cook stoves can play an important role in reducing energy poverty, enabling people to utilize more modern fuels or to use traditional fuels more efficiently. Improved cook stoves can double or triple the efficiency of traditional fuels, reducing indoor air pollutants. Consuming less fuel also saves time and money, leaving people with more disposable income and allowing them to invest more in their futures.

A growing number of governments, international agencies, nongovernmental organizations, and businesses are working to overcome energy poverty, focusing in particular on the use of renewable energy sources such as wind and solar. To date, 68 developing-country governments have adopted formal targets for improving access to electricity; 17 countries have targets for providing access to modern fuels, and 11 have targets for providing access to improved cook stoves.

According to the IEA, some US\$1.9 billion was invested worldwide in 2009 in extending access to modern energy services, such as electricity and clean cooking facilities. The agency projects that between 2010 and 2030, an average of \$14 billion will be spent annually, mostly on urban grid connections. But this projected funding will likely still leave 1 billion people, largely those who live in the most remote areas of developing countries, without electricity.

Average annual investments will need to rise to \$48 billion to provide universal modern energy access, the IEA reports.

Further highlights from the study:

The largest populations lacking access to electricity are in sub-Saharan Africa and South Asia. Combined, these two regions account for more than 80 percent of all people worldwide lacking electricity access; Latin America's electricity access is generally quite high, at 93.2 percent overall, but Haiti remains a regional outlier, with only 39 percent of its population having access.

The largest populations that rely on traditional biomass for energy are in the developing regions of Asia, with 836 million in India alone. Altogether, 54 percent of the population of developing Asia relies on traditional biomass fuels.