Sustainable Development in action
United Nations Commission on Sustainable Development
BACKGROUNDER | MAY 2006

Energy for All

A quarter of the world's people—1.6 billion—have no electricity to power an electric light, a toaster or an alarm clock, let alone a television, air conditioner or computer. And in an age where spacecraft are exploring the surface of Saturn, 2.4 billion people are still cooking and heating their homes with basic energy sources, such as charcoal, wood, biomass and dung.

Access to modern energy services is improving, with electrification rates reaching close to 90 percent in most developing regions, except for South Asia—about 40 percent of households have electricity—and Africa, where electricity reaches just over 20 percent of households. In 25 years, if current projections by the International Energy Agency hold, there will still be 1.4 billion people without electricity, 584 million of them in sub-Saharan Africa.

» Energy issues, such as the rise in oil prices have direct and immediate consequences.

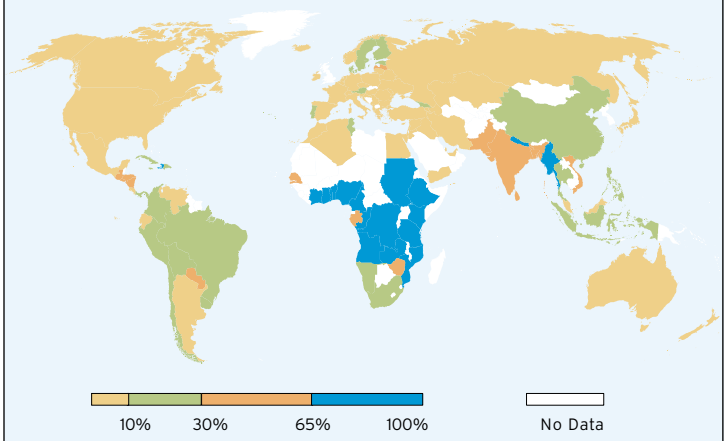
» "Like every non oil-producing country, we are struggling to cope with the escalation of oil prices on the world market," Jamaica Prime Minister P.J. Patterson said in a speech to his country last November. "The increases in energy costs are most clearly and immediately reflected in the high price of gasoline at the pumps and in our light bills. All indications are that the problem is not likely to go away in the foreseeable future."

Energy for sustainable development is essential to allow more people a chance to attain higher standards of living, and it is essential if internationally agreed targets for reducing poverty are to be achieved. But as higher standards of living are achieved, there will be greater demand for energy, from both sustainable and non-sustainable sources. The challenge is to expand development opportunities using clean energy.

Ensuring access to modern energy sources is a major issue for the UN Commission on Sustainable Development as it meets this year from 1-12 May. The Commission, which looks at best practices, policies and strategies for overcoming obstacles to sustainable development, is considering energy access within the context of the interrelated issues of energy for sustainable development, industrial development, atmosphere and air pollution and climate change.

Energy is a prerequisite to economic development, according to the International Energy Agency, and this economic development, in turn, stimulates demand for more and better energy services—a virtuous cycle that is necessary for people to move out of poverty. To meet the Millennium Development Goal of halving

Biomass as a Share of Total Primary Energy Supply



Source: World Bank, World Development Indicators, 2005.

extreme poverty in the world by 2015, the IEA calculates that 500 million more people would need to have access to electricity and 700 million would need to switch from unsustainable biomass by 2015.

A Health and Development Problem

The lack of modern energy services is a major impediment to health, as well as to development. Indoor air pollution from burning traditional fuels is a major factor that causes the respiratory illnesses that kill almost two million children under the age of five every year. And hours each day of what would be otherwise productive time is spent by women and children collecting firewood and biomass. In many areas, the quest for firewood and fuel is responsible for wide scale deforestation.

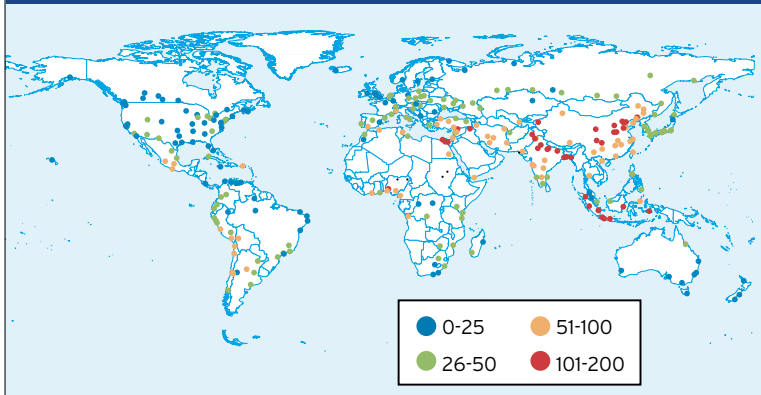
» Ugandan President Yoweri Kaguta Museveni told the World Summit on Sustainable Development in Johannesburg in 2002 that poverty and ignorance played a large role in the destruction of the environment.

» "The peasants destroy the biomass in search of wood fuel; this exposes the top soil to wind and water erosion of the soil; it also causes the silting of the floors of the water bodies. These are two sides of the same coin: underdevelopment and over-utilization; under consumption and over consumption."

Two-thirds of the world's economic growth will take place in developing countries over the next 25 years. To fuel this development, a stable supply of affordable energy is necessary. Although some developing countries have sufficient supplies of oil, gas and coal, most developing countries, including the poorest, rely on fossil fuel imports. For countries that face high debt repayment burdens and weak export earnings, high energy costs pose a particularly acute problem.

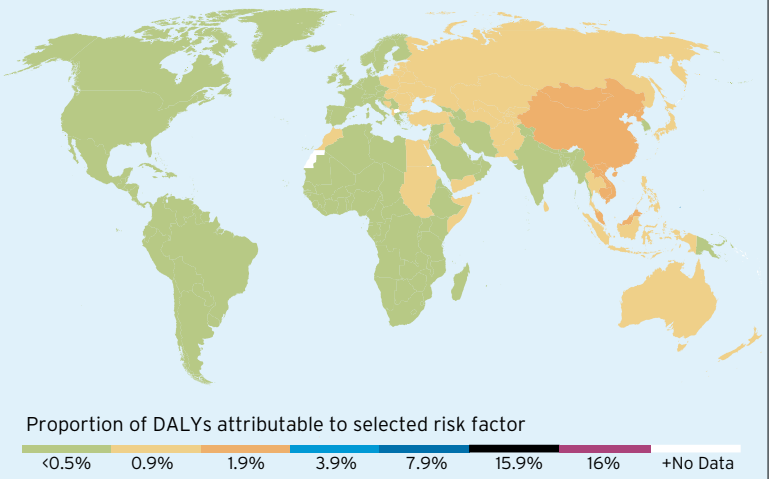
This growth has occurred as developing countries, primarily in Asia, have experienced rapid industrialization. But not all growth in developing countries has been due to an increase in heavy manufacturing. Much of India's growth over the last 15 years has come from services and agriculture. In fact, rapidly industrializing developing countries have posted much higher growth in the export of computer, communications equipment and other high technology goods than developed countries.

Particulate Matter (Micrograms per m^3) 1999



Note: Particulates refers to PM10.
Source: World Bank, World Development Indicators 2005, and World Bank Air Pollution in World Cities database.

Urban Air Pollution



Source: WHO, World Health Report, 2002.
Note: Disability Adjusted Life Years (DALYs) is a measure of disease burden which incorporates both mortality and morbidity.

Getting on the Grid

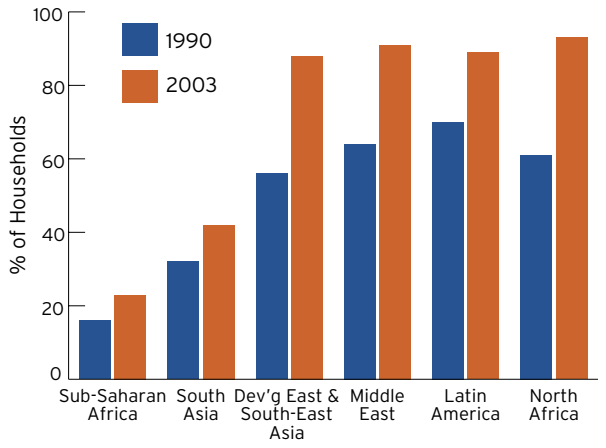
The poor, who buy charcoal, fuelwood and kerosene in smaller amounts at higher unit costs, and often use inefficient cooking technologies, tend to spend a larger share of their incomes on energy services than people in higher income groups.

But providing electricity and clean energy to the world's unserved and underserved regions, most of which are found in rural areas of the world's poorest countries, can be a difficult and expensive undertaking. In areas where villages are close together, such as in India, the price of installing a transmission line is about US$2,000 per kilometer, but in Mali, that price tag for the same line would be $18,000.

Expanding electricity supplies to keep pace with the needs of industry poses a major challenge for rapidly industrializing economies. National grid electricity service is often intermittent and many industrial establishments, faced with costly power interruptions, are forced to invest in their own generating capacity, using polluting and less efficient diesel generators. The problems are often compounded by regulatory frameworks that discourage private investment in electricity production.

Confronting the challenge of electrification requires a number of government actions, including enacting proper regulations, addressing issues of privatization, attracting sufficient investment and reworking tax structures that can serve as a barrier to energy access. Conservation and greater efficiency are also important—worldwide, about 65 percent of the energy used for electricity generation is lost as waste heat.

Electrification in Developing Regions



Source: IEA, 2002 & 2005.

Efforts to move ahead

- Not all electricity has to be produced locally—wider, cross border grid connections could help distribute electricity from presently unutilized hydropower sources, particularly in Latin America and Africa.

- To improve energy access for the poor, a European Union Energy Initiative, announced at the 2002 World Summit on Sustainable Development, recently committed €220 million for energy access in the African, Pacific and Caribbean regions, leveraging resources from the private sector, financial institutions, civil society and end-users.

- United Kingdom Finance Minister, Gordon Brown suggests that the World Bank develop a $20 billion facility for developing economies to invest in alternative sources of energy and greater energy efficiency. "The developed world has a responsibility to help developing economies meet their energy needs in an environmentally sustainable way."

- Many developing countries are already looking to renewable sources of energy, including in small island states, where the importation of fuel is often prohibitively expensive—on many Pacific islands, where about 70 percent of the population of these countries lack access to modern energy services, petroleum products often cost 200-300 percent more than international prices. As a result, many island states are exploring greater use of biofuels, such as ethanol in the Dominican Republic and Jamaica. Buses in Vanuatu and tugboats in the Marshall Islands have been converted to run on coconut oil. In Kiribati, 1,710 solar home systems have been installed on 18 islands to provide solar lighting in remote areas.

- In Morocco, a joint venture between the government's National Electricity Office, Electricité de France, Total and Tenesol, a solar photovoltaic

technology manufacturer, is attempting to provide remote Moroccan villages with electricity access through solar power installations. Using locally run companies that provide rural services, including electricity, water, gas and telephone services, the programme is outfitting homes with a solar power system using equipment tailored to the main requirements of rural households, such as lighting, fans and audio-visual appliances.

» China has accounted for much of the global success in extending the reach of electrification since 1990. China's diversified approach to the challenge has included small hydropower. These systems of less than 50-megawatt capacity now account for one third of all hydropower in China and have served more than 500 million people over time, many of whom are now served by grid connections. In addition to hydropower, about 250,000 households in China use wind, solar photovoltaic, and hybrid renewable systems.

» Starting at the local level, there are a number of options that can reduce indoor air pollution and increase efficiency, such as improved cookstoves for fuelwood, compressed gas stoves and biogas digesters that create methane from waste products. The use of liquified petroleum gas, mostly propane, has increased by 2.1 percent between 1999 and 2004.

» The Partnerships for Cleaner Fuels and Vehicles, launched at the Johannesburg Summit, consists of representatives from governments, international organizations, industry, and non-governmental organizations (NGOs). Its aim is to reduce vehicular air pollution in developing countries through the elimination of lead in gasoline and the phase down of sulphur in diesel and gasoline, as well as the adoption of cleaner vehicle technologies. The partnership chalked up a notable recent success when sub-Saharan Africa was declared lead-free on 1 January 2006.

» Many developing countries have taken the lead on energy issues. In Brazil, a leader in ethanol production, flex-fuel cars that can use both ethanol and gasoline now account for half of new auto sales. Brazil is also exporting can-derived ethanol production technology to a dozen developing countries. China is among a number of countries that have adopted ambitious fuel efficiency standards for automobiles. At least 45 countries have adopted specific targets for integrating renewable energy sources into their energy mix.

The Commission on Sustainable Development is the United Nation's high-level forum responsible for ensuring follow up to the World Summit on Sustainable Development, and monitoring progress towards achieving internationally-agreed development goals.

For more information on CSD-14, including the full press kit and schedule of the session visit: www.un.org/esa/sustdev/csd/csd14/csd14.htm

All graphs are from "Trends in Sustainable Development, " published by the UN Department for Economic and Social Affairs. The full report can be found at http://www.un.org/esa/sustdev/publications/trends2006/index.htm.

CSD-14 will be webcast live at www.un.org/webcast

Media representatives without UN credentials who wish to attend CSD meetings should contact: Media Accreditation & Liaison Unit, UN Department of Public Information, Fax: 212.963.4642 Tel: 212.963.2318

For media queries regarding the CSD, please contact:
Dan Shepard
UN Department of Public Information
Development Section
Tel: +1 212 963 9495
Fax: +1 212 963 1186
Email: mediainfo@un.org

Produced by the United Nations Department of Public Information—May 2006