

| SHARE OF HOUSEHOLDS WITHOUT ELECTRICITY OR OTHER MODERN ENERGY SERVICES |                  |                |
|---|------------------|----------------|
| Poverty   | Access to energy | Core indicator |

## 1. INDICATOR

**(a) Name:** Share of households without electricity or other modern energy services

**(b) Brief Definition:** Share of households with no access to commercial energy services including electricity, or heavily dependent on 'traditional' non-commercial energy options, such as fuelwood, charcoal, agricultural wastes and animal dung

**(c) Units of Measurement:** Percentage

**(d) Placement in the CSD Indicator Set:** Poverty/Access to energy

## 2. POLICY RELEVANCE

**(a) Purpose:** To monitor progress in accessibility and affordability of modern energy services including electricity.

**(b) Relevance to Sustainable Development:** Modern energy services are an essential component of providing adequate food, shelter, water, sanitation, medical care, education and access to communication. Lack of access to modern energy services contributes to poverty and deprivation and limits economic development. Furthermore, adequate, affordable and reliable energy services are necessary to guarantee sustainable economic and human development.

It is estimated that 2.5 billion people, or about one-third of the world's population, depend mainly on traditional biomass sources of energy; 1.6 billion are without electricity. About 300 million people have been connected to electricity grids or have been provided with modern biomass or other forms of commercial energy options since 1993. However, in the absence of adequate measures, the number of people with no access to modern energy services will remain stable or continue to grow as demographic growth outpaces electrification in some parts of the world.

**(c) International Conventions and Agreements:** None.

**(d) International Targets/Recommended Standards:** The Johannesburg Plan of Implementation (JPOI) of the World Summit on Sustainable Development held in 2002 includes the aim of improving access to reliable and affordable energy services. The JPOI also includes the commitment to support Africa's efforts to implement the New Partnership for Africa's Development (NEPAD) objectives on energy, which seek to secure access for at least 35 per cent of the African population within 20 years, especially in rural areas.

**(e) Linkages to Other Indicators:** This indicator is linked to the use of traditional fuels, to energy prices and to several indicators of the social dimension, such as income inequality, share of household income spent on fuel and electricity, energy use relative to income level, urbanization, etc. The indicator might indirectly reflect a related use of forest resources as fuelwood, which in turn could cause deforestation.

### **3. METHODOLOGICAL DESCRIPTION**

**(a) Underlying Definitions and Concepts:** Consumption of traditional fuels refers to the consumption of fuelwood, charcoal, agricultural wastes and animal dung. Total household energy use might comprise modern (commercial) energy as well as traditional (non-commercial) fuels.

Households choose among energy options on the basis of fuel accessibility and affordability, the household's socioeconomic characteristics and attitudes, and the attributes of the different fuels. Lack of access to modern energy services implies unsatisfied energy requirements or the use of traditional fuels. If electricity and other commercial fuels are available, income is the main characteristic that appears to influence a household's choice of fuel. Different income groups use different fuels, and the poor in many developing countries to a great extent meet their energy demand using traditional biomass fuels, either because of a lack of access to commercial energy services or because of limited disposable income. National shares of traditional fuel in total energy use do not accurately reflect this indicator, as the average figures may strongly differ from corresponding figures for each income group of the population. Therefore, the preferred indicator is the percentage of households or population with no access to modern commercial energy options, or heavily dependent on 'traditional' non-commercial energy options, such as fuelwood, agricultural wastes and animal dung.

**(b) Measuring Methods:** This indicator is defined by the share of households without access to modern energy or electricity and by the share of households that are heavily dependent on 'traditional' non-commercial energy options. Where possible, the share of households without access to electricity should be calculated separately from the share of households that rely on traditional fuels as their primary energy option for cooking and heating. The indicators should be calculated for both urban and rural households where this is relevant.

**(c) Limitations of the Indicators:** Availability of current and historic data may be a limitation. Heavy dependence on non-commercial energy is defined as relying on traditional fuels as the primary energy option for cooking and heating and is subject to interpretation. The 'access to electricity' could reflect different concepts, like the exact physical access to electricity (connectivity to the grid) or the financial access to electricity (ability to pay the electricity bill).

**(d) Alternative Definitions/Indicators:** An alternative indicator that may be useful is 'Per capita consumption of non-commercial or traditional energy'. However, this does not really capture the essence of the issue. Population rather than households could be used as reference in calculating this indicator.

#### **4. ASSESSMENT OF DATA**

(a) **Data Needed to Compile the Indicator:** The number of urban and rural households without access to electricity, those urban and rural households that are heavily dependent on traditional fuels, and the total number of urban and rural households in a specific country or a region.

(b) **National and International Data Availability and Sources:** The most important source of data on commercial and traditional fuel and electricity consumption is household surveys. The results of these surveys can be obtained from reports published by government statistical agencies. About two-thirds of the developing countries have conducted sample household surveys that are representative nationally, and some of these provide high-quality data on living standards. International agencies such as the United Nations Children's Fund (UNICEF) also carry out their own surveys of households.

Data on household fuel and electricity consumption by average population are available from the International Energy Agency (IEA) *Energy Balances of OECD Countries* and *Energy Balances of Non-OECD Countries*.

The United Nations Regional Commissions for Asia and the Pacific (ESCAP) and for Latin America and the Caribbean (ECLAC) publish data on access to electricity in their member countries in their electricity surveys (ESCAP) and statistical yearbooks (ECLAC).

(c) **Data references**

IEA: <http://www.iea.org/Textbase/stats/prodresult.asp?PRODUCT=Balances>

ESCAP: <http://www.unescap.org/esd/energy/information/electricpower/>

ECLAC: <http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp>

#### **5. AGENCIES INVOLVED IN THE DEVELOPMENT OF THE INDICATOR**

(a) **Lead Agencies:** The International Energy Agency (IEA) is the lead agency.

(b) **Other contributing organizations:** International Atomic Energy Agency.

#### **6. REFERENCES**

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