MEASURING ENERGY ACCESS

A New Approach

Universal access to modern energy services by 2030 is one of the primary goals of the Sustainable Energy for All (SE4ALL) initiative, and essential for ending poverty and boosting shared prosperity. Achieving this goal, however, will require a concerted international effort, substantial new investment, the deployment of new technologies, and a wide range of interventions targeted to the needs and potential of the countries in question.

The success of such interventions depends, to a great extent, on the ability to assess the level of energy access in a selected area—both at the initial stage of investment planning, and later, for monitoring and evaluation purposes. Detailed baseline data can help facilitate policy formulation, investment strategies, and project design. Similarly, data can be used to evaluate the impact of projects, and assess the linkages between energy access, poverty, and other factors such as gender equality.

EFFECTIVE MEASUREMENT OF ENERGY ACCESS

But what does 'access to modern energy services' mean?

Will the goal be achieved if every household had electric lighting? Are four hours per day of electricity supply sufficient or is access defined by round-the-clock power? Likewise, what would qualify a household as having access to modern cooking solutions? Should every household cook with liquefied petroleum gas (LPG) or electricity? What about improved cookstoves using solid fuels (such as charcoal or wood)?

Up until now, access to electricity has been measured as having a connection or by use of electric lighting, while access to modern cooking solutions has been measured based on the use of non-solid fuels. However, these binary metrics fail to capture the multifaceted nature of energy access, and may not reflect the impact that many interventions have on improving access.

To help address these shortcomings, ESMAP is developing a new approach to measuring energy access, using a multi-tier framework. This method was first proposed in the Global Tracking Framework report, the baseline report for the SE4ALL goals, released in May 2013. **Under this approach, energy access is assessed through a combination of quantity of energy, as well as quality, duration, reliability, legality, affordability, convenience, and health and safety.**

The objective of the new approach is to reflect all aspects of energy supply in the measurement of access. All common types

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of energy sources (electricity, fuels, as well as fuel stacking) are included, and the measurement can be applied to all dimensions of energy use—household, productive, and community uses. It also enables the calculation of an index of access to energy, while allowing for disaggregated analysis, and highlighting gaps and opportunities for improvement.

New household energy surveys will be required to put this approach into use. Existing data on energy, often coming from omnibus household surveys, do not provide sufficient insight on the energy access status, while utility data or national level data on energy production and consumption do not reflect the experience of end-users.

TECHNICAL ASSISTANCE

As part of this effort, ESMAP is offering technical assistance to countries to carry out a multi-tier assessment of energy access in order to inform their strategies and programs to expand access.

Working with development partners, ESMAP will provide support for:

- The implementation of household energy surveys by providing standardized household energy questionnaires, (with modules on electricity, lighting, cooking solutions, productive and community use of energy) and assistance with survey administration and data cleaning.
- Energy access diagnostic assessment by applying the multi-tier measurement of energy access to household, productive, and community uses of energy. The diagnostic report will include gap analysis, highlighting deficiencies in energy supply performance and possible interventions.

In addition to supporting household energy surveys in selected countries, ESMAP will explore the prospects for carrying out global energy surveys using this new methodology, with a view to encouraging adoption of the multi-tier approach as a standard tool for planning, monitoring, and evaluation of energy access interventions.

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