Brief for GSDR 2015

Towards a Universal Energy Access: a multistakeholder path for a global change

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Introduction

Universal Access to Energy, after a troubled path that started with the identification of the Missing Millennium Development Goal during the Rio+20 Conference and the launch of the Sustainable Energy For All initiative (SE4ALL) by the UN, will finally be included among the new Goals for sustainable development, expected in September 2015.

Energy is a key condition to guarantee access to clean water, sanitation, schooling and business in developing countries, and represents a key factor for growth and development.

Currently, about 1.3 billion people have no access to electricity, some 18% of the world population, geographically concentrated in Sub-Saharan Africa, South and South-East Asia, and to a lesser extent in East Asia, Latin America and Eastern Europe. The worst conditions are observable in Sub – Saharan Africa, where only 290 out of 915 million people have access to electricity and the total number without access is rising (IEA 2014).

At the same time, more than 2.6 billion people – 38% of the world population - rely on traditional cooking methods based on the use of biomass which generates negative impacts on social and health households' conditions: the World Health Organization (WHO) estimates that over 4 million people die prematurely from illness attributable to household air pollution from cooking with solid fuels and more than 50% of premature deaths among children under 5 are due to pneumonia caused by particulate matter inhaled from household air pollution (WHO 2012).

This is the current situation, but forecasts might not look any better. Without new policies and efforts, 800 million people in rural areas are likely to be unlit in 2030 and an additional 200 million will rely on solid fuel (Pachauri et al. 2013*)*; even in the New Policies Scenario of the World Energy Outlook, close to 1 billion people will still be without access to electricity and 2.5 billion people will lack access to clean cooking facilities in 2030 (IEA 2013).

These data call all the actors and sectors involved in fighting energy poverty to make bigger efforts to achieve the goal of universal access to energy. According to the SE4ALL Advisory Board the financial dimension of the effort needed is estimated in a $45 billion annual investment to reach the goal by 2030, an amount which overtakes the current spending by $36 billion (Gulati, 2014).

Scientific Debate

A strong commitment in improving access to energy is necessary, but not only in financial terms: there are different aspects related to the issue which have to be analyzed, in order to identify effective initiatives and interventions. Significant debate exists about how to go forward, and whether the models already put in place can be extended universally or have to be changed and renewed.

In this paragraph three of these issues are discussed.

The first of these issues is the importance of the quality of energy for growth and development. In

a 2005 World Bank Enterprise Survey in India, one third of Indian business managers named poor electricity supply as their biggest barrier to growth[1]. A 2014 study by Chakravorty et al. on a representative panel of about 10,000 rural households in India shows that grid connection increased non-agricultural incomes of rural households by about 9% during the study period (1994-2005); more important, it shows that a grid connection and a higher quality of electricity (in terms of fewer outages and more hours per day) increased non-agricultural incomes by about 28.6% in the same period. This highlights the importance of a high quality power supply, as the potential benefits of electricity are not completely realized by only connecting households to the grid. The importance of energy quality is also confirmed by a study on Indian textile plants, conducted by Allcott et al. in 2014. This analysis underlines the impact of the (high) number of "power holidays" occurring in India[2], estimated in about 5% in terms of reduction in revenues and more than 1% in output production.

The relation between low electricity quality and growth seems to be quite clear but, at the same time, more links have to be examined in depth, i.e. the one among increased electricity demand generated by rapid economic growth and an increased number of shortages, or the relationship among poor institutions and insufficient power supply which also reduces productivity.

[1] 2005 World Bank Enterprise Survey in India http://www.enterprisesurveys.org/data/exploreeconomies/2006/india

[2] In the summer of 2012, in India 600 million people remained unlit for two days. Under normal circumstances, however, the Indian government estimates that shortages currently amount to about 10% of demand at current prices, and many consumers can rely on electricity only a few hours a day.

Energy quality is related to the ability of energy systems to make energy available and to ensure the presence of important features, such as reliability, affordability and sustainability. This is the second issue, and it is particularly true for rural areas of developing countries, generally with a scattered population and geographically difficult to access. In fact, electricity main – grid connection in rural areas is generally limited to towns and villages along major roads and the supply, when available, may cost even ten times more than in urban areas (Kaygusuz, 2011).

Home and Community Based Systems (HBS) make energy supply possible for isolated areas and allow to better respond to local characteristics and needs; this kind of alternative energy systems relies on Renewable Energy Technologies (RETs), such as photovoltaic, wind and micro – hydro.

A third aspect is related to the way access to energy projects and programs are funded, in particular on the alternative choice between national and international subsidy plans or microcredit. For example, in terms of reduction of people relying on biomass for domestic use, a 2030 scenario shows that microfinance alone will not be sufficient and subsidies alone will reduce the number by one-third. Neither of these policies alone is sufficient for achieving the target of universal access. Scenarios that combine fuel price support with grants or low-cost financing for stove purchases are the most effective in achieving universal access to modern cooking fuels and stoves by 2030. In fact, for most poor consumers a relevant barrier to adoption is represented not only by the cost of better fuel but also by the upfront cost of buying new stoves (Pachauri et al. 2013).

Issues for consideration

The examples and studies mentioned above show that the forces that influence the process of

improving access to energy are numerous and different: i.e., financial mechanisms, policies, the choice of adequate technologies, the need for more investment, new research and intervention methodologies. All this consequently calls for the intervention of a wide number of players.

The approach to the issue of energy poverty thus requires a multistakeholder process, where coordination and cooperation among sectors and actors are drivers for finding and designing new and more effective policies and interventions, in order to go beyond the "silos strategies" implemented so far (eds Bonan, Colombo & Russo 2014).

In this context, research has the role of providing in-depth studies and analysis on those aspects related to access to energy which still lack an adequate amount of data and which might have a crucial role in driving decision making processes and interventions in public institutions, private for-profit and not-for-profit organizations and Non Governmental Organizations.

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