



# Off-grid Energy for Rural Development in Latin America and the Caribbean Closing Workshop: Policy Brief

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The Smart Villages Initiative organised a workshop in Panama City on 2-3 May 2017 to discuss the challenges of, and opportunities for, rural electrification in Latin America. The workshop was the conclusion of the Smart Villages Initiative's engagement activities in the region and brought together significant actors in rural electrification with the aim of jointly developing recommendations to policy makers.

Countries in Latin America and the Caribbean have made substantial progress in increasing their rates of electrification in the last decades, and as a result, 95% of the population has access to electricity. However, this still leaves 30 million people with no access to modern energy services, and these mostly reside in remote, dispersed and isolated communities, with poor road access, infrastructure and connectivity. Frequently, off-grid communities also lack other basic services and resources, such as high quality health and education and access to clean water and sanitation. As a result, closing the gap in energy access in Latin America and the Caribbean requires addressing the most difficult, expensive and technologically challenging situations: the "last mile" in rural electrification.

Many countries in the region have also made significant progress in



the provision of clean and sustainable energy for cooking in recent years. However, the unsustainable use of biomass for cooking is still widespread, with detrimental effects to the environment and on human health due to indoor pollution.

Recommendations derived in the workshop for policy makers, development organisations and other stakeholders concerned with rural electrification are as follows:

1. Governments play a critical role in enabling the provision of modern energy services (electricity and energy for cooking) to rural communities not connected to the national grid. Since grid extension is economically not feasible for many remote rural communities, off-grid, isolated energy solutions need to be included in national rural electrification programmes. Legislation appropriate for off-grid solutions needs to be developed and enacted, ensuring it responds to the reality and needs of off-grid communities, both in terms of socio-economic and technology requirements. Appropriate public policies, long-term commitments, and region- and community-specific plans need to be developed. Governments also should take an active role in establishing and enforcing technology and service standards.
2. Access to modern energy services is a human right. Therefore, available public funding for rural electrification programmes should be prioritised to enable basic access for all households, as opposed to focusing on the communities that are most easily served and where returns to investments may be higher. Governments should promote public-private partnerships to provide for isolated and remote communities. An example discussed was the provision of solar home systems in remote areas of the State of Oaxaca, in Mexico.
3. Financing of rural electrification initiatives remains a key challenge, in particular in Latin America where most of the off-grid communities are located in remote, dispersed areas, often with difficult access. Because of the high costs of service provision and the typically low level of financial resources of the communities concerned, market forces alone cannot drive rural electrification in Latin American countries. The government has therefore a key role in creating an enabling environment for private sector companies to operate, which needs to include the “right to exist” for small and medium enterprises so as to allow new players in the sector. This includes simplifying administrative and bureaucratic processes for small projects. It is also important to develop new business models, and assess different tariff schemes. Pay-as-you-go, mobile phone payments, and smart micro-networks are transforming business models, indicating a gradual change from sales of electricity to the delivery of services.
4. ‘Smart subsidies’ should be considered to enable resource-poor households that cannot afford the upfront cost of equipment to access modern energy services. Subsidies on capital costs should be favoured over subsidies to operational costs, since the willingness to pay for electricity services by customers is key for a project’s sustainability. Subsidies may also be made conditional on attaining specific deliverables or level of service provision.
5. The sustainability of interventions needs to be a key consideration for rural electrification projects. Several stages need to be considered, starting from the design of the project which needs to take into account the needs and aspirations of communities and ensure their participation and ownership of the project. The active engagement of the community is also essential for the sustainability of projects during operation. Capacity building is critical. Community members need to receive adequate training not only to operate the technology, but also to maximise the benefits they can derive from having access to modern energy services.
6. In terms of technology, improvements in solar home systems in recent years have made the technology significantly cheaper, lighter and more efficient, especially if combined with energy saving appliances. Referred to as third generation systems, these offer an attractive option for providing basic energy services (two light points, a mobile phone charger, and a radio) to rural populations at scale.
7. With respect to micro-grids, there is less experience in Latin American countries. The management of individual electricity demands is very important, and may re-

quire establishing incentives to encourage use of the available energy during periods of generation surplus, storing unused energy independently for different users, and improving the energy use habits of users to increase efficiency through education. The establishment of community enterprises that use energy productively is the best way to guarantee the sustainability of mini-grids. Critical for sustainability is also reducing tariff collection uncertainty; and ensuring tariffs reflect real operating costs (including maintenance, replacement of parts and unfore-

seen costs). It is important to establish simplified financial planning and transparent contracts between the operator and users.

8. Although progress has been made in the provision of clean energy for cooking (Latin America has an active and fast-growing improved cookstoves sector), the use of firewood continues to be widespread in Latin America. However, significantly more investment in the sector is needed, and it is a priority to foster initiatives that include the creation of global and regional institutions and networks.

An enabling political environment is necessary to support the deployment of clean cooking technologies. In terms of financing, grants should be complemented by initiatives aimed to foster the development of the market. Mechanisms should be put in place to enable access to financing by users, including micro-finance. Awareness creation is critical, and complementary initiatives should be set up to develop skills and capabilities.

## Notes

We aim to provide policymakers, donors, and development agencies concerned with rural energy access with new insights on the real barriers to energy access in villages in developing countries—technological, financial and political—and how they can be overcome. We have chosen to focus on remote off-grid villages, where local solutions (home- or institution-based systems and mini-grids) are both more realistic and cheaper than national grid extension. Our concern is to ensure that energy access results in development and the creation of ‘smart villages’ in which many of the benefits of life in modern societies are available to rural communities.

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