

# Financing Universal Access to Electricity

The recent emphasis on the provision of modern energy services as an important ingredient for development has improved finance availability for the goal of Sustainable Energy for All (SE4ALL). However, existing financial flows are still insufficient to meet the target of universal access of sustainable energy by 2030 and often ignore poor people, who cannot afford the service, or those renewable energy technologies that cannot offer high rates of return. Drawing on a large dataset of official development assistance (ODA) and private investment for electrification between 1990 and 2012, our research has looked at the factors that explain donor and private finance in the electricity sector of developing countries. What lessons can be taken and shared with policymakers to avoid past mistakes and target countries and technologies that have been neglected in previous efforts?

## How and why have private sector and donor contributions changed since 1990?

The post-Second World War era observed a shift from almost entirely domestic electric utilities to a worldwide movement of privatisation, liberalisation and restructuring of the sector. This restructure began in the 1980s and was accelerated in the 1990s.

Increasing participation of the private sector in developing countries was driven initially by the World Bank's shift towards attracting private investment instead of directly providing capital investment in the electricity sector. The private sector responded well to this approach, rapidly increasing investment in some specific countries. However, growth in investment did not always result in new infrastructure, as during the 1990s it consisted mostly of acquisition of public assets and concessions. Besides, the boom was relatively short-lived, ending with the 1997 Asian financial crisis, and it was ill-conceived for some regions, Africa in particular. The emphasis on a model of power sector reform based on unbundling the system to promote competition between generators and distributors was inappropriate for the very small systems of the region, which resisted reform or implemented it badly and insufficiently. This led to massive underinvestment in sub-Saharan Africa, in the so-called 'lost decades', which is reflected in the large electrification deficits we observe today.

Both ODA and private finance for electrification have seen a revitalisation since 2004. Most investment has been in new infrastructure.

Some of the factors contributing to this are a renewed emphasis within donor circles on the importance of energy for sustainable development, the increased use of blended finance models in multilateral agencies to leverage private investment, and the strong electricity infrastructure component of large stimulus packages enacted in China, India and Brazil during the 2008 financial crisis.

## What are the different motivations of private investors and donors?

Private sector investment in the electricity sector is strongly concentrated in a few countries. Half of it is captured by Brazil, India and China. It flows to countries with high income per capita, strong governance, large and low-cost renewable energy resources, unsubsidised energy markets and which have progressed in reforming their power sector through unbundling and privatisation. The private sector also shows a negative geographic bias towards sub-Saharan Africa. Investors are less likely to invest in the African electricity sector than in any other region for reasons unaccounted for by variables related to income, governance, power sector reform or developmental need.

The international public sector, represented by bilateral and multilateral donors, shows a broader distribution of funds among countries, with 11 countries capturing 50 per cent of these flows. Donors favour countries whose economies are growing quickly, have strong governance, and which have started a process of power sector reform. In addition, smaller countries tend to receive higher sums of aid per capita.

Somewhat surprisingly, electrification aid does not favour countries with high levels of poverty or large electricity access deficit, which indicates a shift in donor priorities towards covering basic needs such as health and nutrition in the poorest countries. During the early 1980s, critics asserted that rural electrification was too expensive, benefited the wealthier disproportionately and had no direct impact on agricultural or industrial development. From this viewpoint, rural electrification should only be implemented once other development programmes have created a fertile ground for income generation. The views of critics to the rural electrification efforts of the 1970s and 1980s seem to have had an impact in policymaking. Those views are contested by a perspective of electricity as an essential element of wellbeing beyond its income generation potential.

The private sector finance has consistently focused on generation, which is more amenable to private participation than other areas of electrification. By contrast, ODA's contribution to generation has gradually fallen over time, while its contribution to transmission and distribution, policy, education and research has increased. These trends reflect the shift towards the use of ODA as a catalyst for

private investment and for the provision of public goods and for areas which are unattractive for private investors.

### Are sustainability and equitable access priorities for private and donor investment?

Neither private investors nor donors show a clear preference for renewable generation over fossil fuel-based technologies. Instead, there is a relatively even spread of investments across generation technologies, with coal and hydro being the preferred sources, which suggests that the priority is to meet a surging electricity demand using whatever source is available.

The relationship between the amount of private investment and aid received and the provision of universal access to electricity is uncertain. Private investment does not necessarily translate into new electricity infrastructure, as it can relate to purely financial transactions. When new infrastructure is developed, it is often addressed at improving the quality of service for those already connected and to serve the industrial and commercial sector of growing economies. Economic growth can, of course, benefit the poor when appropriate redistribution channels are in place, but this would happen indirectly.

## Policy recommendations

- To enhance both foreign aid and private investment for electrification, developing countries need to reform their energy sectors, avoid pricing below cost recovery and improve knowledge about their renewable energy resources endowment. Reform to boost economic growth is also likely to attract further investment in electricity infrastructure.
- Aid has an important role to play to smooth the volatility of private investment. Aid can further distribute funds across countries, focus on the elements of the electricity system that are not attractive for private investors, and leverage private investment in those countries perceived as too risky, mainly in sub-Saharan Africa.
- If donors are serious about 'Sustainable Energy for All', they need to redirect aid to those countries which show the highest need and those technologies that contribute to the goals of improving energy efficiency and increasing the share of renewable energy in the global energy mix.



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## Further reading

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