KfW Development Bank

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Access to Energy

Challenge Energy Poverty

According to the International Energy Agency (IEA), there will still be 674 million people worldwide without access to energy in 2030. Around 2.8 billion people rely on firewood, charcoal and plant residuals for cooking and heating. Schools, health centres as well as small and medium-sized enterprises are also often lacking access to electricity. This energy poverty has dramatic consequences for healthcare, education and quality of life for all those affected. It reduces development opportunities because lacking access to modern and reliable energy supply can hamper economic and income generating activities. That is why the IEA describes access to energy as the bridge between economic growth, human development and environmental sustainability.

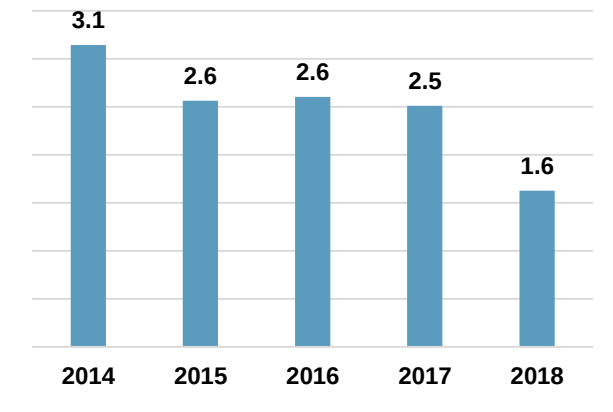
Context

Energy poverty is particularly severe in rural areas, where in many cases fewer than 5% of all households have access to electricity. In this context, women generally suffer more than others from a lack of access to modern energy because they are responsible for the daily household. Without modern energy, this is particularly exhausting and unhealthy. However, also in rapidly growing cities in most of the developing and emerging economies, energy utilities often fail to keep up with the high rates of population growth despite rising investments in energy infrastructure. Furthermore, there is often not enough electricity to cover the rising demand from industry, small and medium-sized enterprises as well as the urban middle class because the power plants and grids are neither developed nor built appropriately. As a result, power cuts and fluctuations in voltage are no exception. The economic costs of this undersupply can add up to several percent of the annual country's gross domestic product (GDP).

It is therefore important to invest in efficient electricity generation assets. Furthermore, the development and extension of central grids, as well as the construction of isolated mini-grids and individual energy supply solutions are substantial for the energy supply. Solar Home Systems (SHS) are one example for modern approaches. In addition, potentials in energy efficiency must be exploited along the whole supply chain including the efficient use of energy. Modern energy is indispensable for households, social facilities like hospitals, schools and for productive purposes and it helps improving the life of people.

Political decision makers have recognised the overarching importance of energy for the improvement of living conditions and included energy as one of the SDGs (Sustainable Development Goals) in September 2015. In addition, the United Nations has declared 2014 – 2024 the "International Decade of Sustainable Energy for All". The hope is that this will encourage govern-

Number of people gaining first or improved access to modern energy supplies 2014 – 2018
Total: 12.4 Mio.



Source: own data

ments, the private sector and non-governmental organisation to give the issue of access a more prominent role than before.

The KfW development approach

KfW Development Bank supports the German Federal Ministry for Economic Cooperation and Development (BMZ) in reaching its energy access objective: Until 2030 additional 100 million people shall be given access to modern energy services – through electricity and sustainable cooking and heating energy. In 2018, 1.6 million people gained first-time access to modern energy through KfW energy projects. In total, approximately 12.4 million new accesses were established since 2014.

KfW supports projects that supply people with direct access to modern energy, for example through Solar Home Systems, biogas plants, isolated mini-grids or connections to the national power grid. KfW also finances the construction or modernisation of power plants and the power grid infrastructure. Those measures do have an impact on improving energy access, because only a stable grid with sufficient electricity can cover the actual demands of the entire population. This is supposed to ensure that households already connected to the grid, but de facto without electricity due to frequent break downs, have enough power for their specific purposes.

KfW also places particular emphasis on ensuring that many productive electricity users, such as small shops, mills, etc. and social institutions like schools, kindergartens and hospitals benefit from these measures.

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Contact
KfW Group
KfW Development Bank
Competence Centre Climate and Energy
Palmengartenstrasse 5-9
60325 Frankfurt / Main, Germany
Telephone +49 69 7431-3633
Jan.Andreas@kfw.de

Many villages in the province of East Nusa Tenggara can only be reached by boat and now have access to a reliable electricity supply via solar PV-based mini grids. Photographer: Simon Erhard.

1000 Islands Indonesia - Rural electrification through renewables

Compared to its neighbouring countries, Indonesia is still characterised by a relatively low rate of electrification. In particular, there are large regional differences within the country. The greatest challenge in achieving the electrification targets is in East Indonesia.

KfW is therefore supporting an electrification programme in two phases. As part of the first phase of the programme, the expansion of power supply in remote areas in Eastern Nusa Tenggara Province will be financed by solar PV systems. These feed into local, small, self-contained island supply grids (mini grids). KfW has granted a loan of EUR 65 million to the state-owned energy supplier PLN for this purpose. Secondly, the considerable potential for hydropower in Indonesia is to be exploited. A low-interest development loan of EUR 115 million will finance up to nine smaller hydropower plants between 1 MW and 20 MW on the islands of Sulawesi, Papua and Kalimantan (Borneo).

Already in the first phase, around 20,000 households gain access to a reliable power supply for the first time. In the second phase, further households in the remote target regions can be connected to the grid by reliably providing additional installed capacity of at least 35 MW at hydroelectric power plants.