“Energy for the Earth. KfW Development Bank’s commitment.”
KfW Development Bank’s commitment
KfW has been supporting the German Federal Government in implementing its development policy goals for more than 50 years within the framework of Financial Cooperation (FC). We combine financing know-how with development policy expertise. On behalf of the German Federal Government, and primarily the Federal Ministry for Economic Cooperation and Development (BMZ), we promote and support programmes and projects that mainly involve public sector players in developing and emerging countries. We help our partner countries to create better living conditions, while protecting the climate and the environment at the same time. Our commitment starts with the conception of the project and continues with the implementation through to the final performance review. In 2015, we committed EUR 6.7 billion worldwide to 307 new projects.

Would you like to find out more?
We are convinced that transparency can improve development cooperation. To this end, we make our data available online: our transparency portal www.kfw.de/transparenz provides information about the origin, use and impact of both the public funds and KfW’s own funds used for development – for each country and each project. Our website www.kfw-entwicklungsbank.de also offers updated background information on development policy topics and our projects, as well as standard contracts and our guidelines on subjects such as awarding contracts, assigning consultants and fighting corruption.
Energy – fuel for development

**Development needs energy**

Whether in businesses or in hospitals, in food manufacturing, homes and schools, for heating, cooking or cooling, for communicating or for transport purposes – energy is always a key factor in modern economies as well as in developing countries. Yet around 1.1 billion people still have a shortage of this fuel for development purposes; they do not have access to modern energy. Around three billion people rely on traditional biomass to prepare their food, which has inevitable consequences on their health, the environment and the climate. In the new Sustainable Development Goals (SDGs) catalogue the community of states is therefore focusing on the topic of energy for the first time. Indeed, by the year 2030, all people shall be ensured access to “affordable, reliable, sustainable and modern energy”. This is essential for eliminating poverty in the long term.

However, according to the forecast made by the International Energy Agency (IEA), the global energy requirements will continue to rise by around 37% by the year 2040 as a result of the increased industrialisation in many countries. To prevent this growth from impacting on the environment and the global climate, steps must be taken to gradually convert to renewable energies and far greater focus must be given to energy efficiency than before. The former has already seen impressive results over the last few years. Ten years ago, hardly anybody would have thought it was possible to increase the share of renewable energies to close to 20% of the global energy consumption within such a short period of time.

**Ensuring continuous supply**

Because the supply of renewable energies fluctuates depending on the weather, however, adapted electricity supply systems are also required – through better storage and grids, for instance. Electricity in particular often cannot be obtained in the areas where it is needed most, such as in the strong economic centres, which is yet another reason for investing further in the grid infrastructure. This is a key prerequisite to compensating different weather conditions across the regions and alleviating location-related fluctuations, thereby creating a high security of supply that is on a par with the use of fossil fuels.

While many countries have focused heavily on expanding renewable energies over the last few years, they have not yet done enough to equip the grids accordingly and invest in storage. This is a major task on a global scale.

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Energy efficiency – fuel of the future

Far more than half of the primary energy used around the world is lost during the production, transportation and consumption of energy. Avoiding these mostly unnecessary losses is a major opportunity for using energy more efficiently. Given this state of affairs, energy efficiency is a crucial component for better and sustainable energy supply. Even in poorer regions of the world, the potential here is so important that the IEA refers to it as the “most important source of energy”. Consequently, the international community has made a number of decisions in the last two years – most recently at the climate summit in Paris – in order to highlight the importance of energy efficiency and to considerably increase the level of efficiency as quickly as possible.

On behalf of the German Federal Government, KfW Development Bank operates in all these areas around the world. Over the last couple of years, it has increased its total commitments in the energy sector – from around EUR 1.3 billion in 2011 to EUR 1.8 billion in 2015. While renewable energies dominated five years ago, the ratio has since reversed in favour of energy efficiency, and the financing of energy-efficiency projects equated to more than half of the overall commitments in the energy sector. With commitments of almost EUR 9 billion over the last five years, energy is the most important area of promotion at KfW Development Bank. For this reason, KfW is one of the largest financiers of modern, sustainable energy systems worldwide.
Renewable energies – continuing the success

The unimpeded victory of renewable sources
The year 2014 was a record year for renewable energies. During these 12 months alone, the global installed output of renewables increased by 8.5% to 1,700 GW, representing a rising trend. This equates to 20 times the electricity generation output in Germany on a cold winter’s day. In many countries, renewable energies have since become firmly established and are an important and growing element within the energy mix. The costs – which have fallen considerably over the last few years – are also important in this respect, making renewable sources ever more competitive.

KfW is playing a major part in the success story of renewable energies. Through a targeted promotion policy, it has supported hundreds of projects both within Germany and abroad, thus often providing a strong incentive for more widespread distribution. In many countries, FC-financed promotion programmes have helped with the breakthrough of alternative energy sources. When they are ready to launch on the market, wider expansion can be driven forwards through local or private players. In so doing, KfW is using its promotional funds as an incentive to encourage development without entering into competition with the private sector.
Morocco: power from the desert
One example can be seen in Ouarzazate, Morocco. On behalf of the German Federal Government, KfW is co-financing a solar park – one of the largest and most modern in the world. A total of almost EUR 900 million is being invested in four solar power stations there. Noor 1, “Noor” being Arabic for “light”, is already in operation. In a region that is otherwise just desert, there are now more than 500,000 mirrors facing the sky over an area equivalent to 650 football fields. The other three power stations will be built over the coming years, collectively providing an output of 580 MW and supplying around 1.3 million people with environmentally friendly electricity. Compared with conventional electricity generation, the solar power station prevents emissions of at least 800,000 tonnes of CO₂ each year.

The development is positive overall. The share of renewable energies must now continue to grow quickly on a global scale in order to supply a great many more people with energy – and in order to meet the international climate goals. Indeed, in Paris, the community of states decided to limit the long-term temperature goal with regard to global warming to 1.5 degrees (with a maximum of 2 degrees). This can only be achieved through more renewable energies.

Savings of up to 85% can be achieved
In the industrialised countries, energy can be used more efficiently by an average of more than 20%. In developing and emerging countries, there is even a potential to save up to 85% depending on the sector and the level of development. This very much depends on the energy intensity – the energy consumed for each unit of generated gross national product. In many developing and emerging countries, it is much higher than in the industrialised nations. Consequently, there is a particularly high potential of using energy more efficiently.

Apart from reducing energy consumption, increased energy efficiency has many further positive effects – first and foremost in terms of climate protection. This is of particular relevance in poorer regions, because according to all forecasts climate change will be most noticeable there. Every unit of CO₂ prevented is therefore not only an achievement in the fight against global warming, but is also a contribution towards the future sustainability of developing and emerging countries.

Energy efficiency also increases a country’s security of supply, can improve its import balance, reduce its dependency on the global market, increase productivity, create growth and – last but not least – help to fight poverty. According to the IEA, the “co-benefits” of energy efficiency are under-appreciated by far.
Mexico: energy-efficient housing

Similarly to its role in Germany, where KfW is considered one of the pioneers of energy efficiency, KfW Development Bank promotes using energy more sparingly in developing and emerging countries, too. For example, in Mexico, where it has launched the “EcoCasa” programme together with the Mexican Government and on behalf of the German Federal Government to build more energy-efficient houses. Three energy-efficiency standards are promoted through the EcoCasa programme. The programme beneficiaries are low- to medium-income households. Builders and companies that modernise living spaces can receive soft loans or direct grants. This creates an incentive for using modern technologies such as façade claddings, thermal insulation and solar panels. The completed new buildings require at least 20% less energy than traditional buildings. By the year 2020, more than 37,000 energy-efficient housing units will have been built – creating sustainable living space for the country’s ever-expanding population.
Supply – opening up access

Natural resources are available
Nowadays, there are many human beings who still do not have access to modern energy, most of whom live in Africa and Southern Asia. The clearest evidence of this is a night flight over Africa. The view over this huge continent at night-time highlights one thing: the dark of night with no lights, which is not the case in Europe or North America. Access to energy is a particular problem in Africa; around 600 million people are considered to be “energy poor” in this part of the world. They cook using wood or dung, and lighting is provided by candles and oil lamps. Africa has sufficient natural resources to supply the entire continent with environmentally friendly electricity. Hydropower alone would suffice; yet it is only used in the order of about 10% up to now. There is also huge potential for geothermal energy, wind energy and – of course – solar energy. If these sources were tapped into, Africa would look forward to a truly “green” future.

Bangladesh: “mini power stations” for the rural population
The same applies in Asia, where – even today – rural areas especially are cut off from the energy supply. Take Bangladesh, for example. In all, around a third of the population still does not have access to a modern electricity supply despite the ambitious expansion policy; the numbers are far higher in rural areas. As the large-scale expansion of the grids would be both expensive and time-consuming, the government is relying increasingly on individual and alternative solutions such as small biogas plants or solar home systems for remote regions.

Around four million “mini power stations” have been installed over the last few years through a programme that is co-financed by KfW on behalf of the German Federal Government. More than 400,000 of them were installed with FC support. This number is set to increase to six million by the year 2020. These simple yet robust systems provide power for electric lighting and, depending on their size, can also enable the operation of radios, televisions and fans, plus the charging of mobile phones. Their average price ranges between EUR 80 and EUR 300 depending on the size. Households that do not have enough money to invest themselves can obtain a small loan for this purpose.

The long-term goal is, however, to connect all people to an electricity grid. If this cannot be financed or is not possible, small local energy systems represent an interesting alternative and interim solution. KfW supports projects at all levels to overcome global energy poverty. It finances projects that create direct access for people and also promotes indirect contributions towards an improved energy supply – for instance through the construction or modernisation of power stations and electricity grids.
Infrastructure: expanding grids and storage facilities

Ways to enable a reliable energy supply
Germany is not the only nation to understand that insufficient grids and a lack of storage can represent considerable limitations for the further expansion of renewable energies. Unlike with fossil fuels which – when available – are always ready to use, the sun does not shine all the time, the wind sometimes blows more and sometimes less, and river levels fall during dry periods. However, in order to guarantee a reliable energy supply in the long term, this requires high-performance grids and storage systems that balance out the differences between regions and countries.

Both large-scale and small-scale solutions are suitable in this respect. One variation is the Norwegian pumped-storage power station, also known as “Europe’s battery”. Its underwater connection to the rest of the European electricity grid could become a key component in future for supplying modern power to the continent. A similar concept can also be envisaged for Morocco, which – in addition to solar energy – relies heavily on wind power and one day could supply sustainable electricity to Europe via the Gibraltar Strait. Or between different countries in the Caucasus that are on the verge of merging together to form a regional interconnected energy grid. Likewise, from Nepal to India where there is huge potential for hydropower in particular. However, in order for this to be possible, the grid infrastructure must be expanded accordingly.

India: “green corridors” for renewable energies
KfW is therefore involved in many countries, not only in the generation of electricity but also through investments in the transmission of electricity, such as in India. Energy hunger in India remains unabated and will continue to increase over the next few years, especially as around a quarter of the 1.2 billion population still does not have access to a modern electricity supply. In total, KfW, on behalf of the German Federal Government, provides around EUR 1 billion to the subcontinent for these green corridors to enable sustainably generated electricity to be fed into the national grid and transported to the country’s large economic centres. As a result, the proportion of renewable energies is set to rise considerably over the next few years.

KfW is providing around EUR 1 billion of financing to expand renewable energies in India.
How successful is the breakthrough?

**It requires a global “green economy”**

By the end of the climate summit in Paris at the end of 2015, it became clear that an international energy turnaround is required in order to supply all human beings with this basic material of economic life, without jeopardising the climate goals. The task now involves the sustainable production of the additional energy the world needs in order to drive economic development and to reduce poverty. Economic growth must no longer be a burden on the environment and the climate; instead, what we need is a global green economy.

The process is already under way. The course has already been set, as demonstrated by the rapid increase in renewable energies. However, there is still a long way to go until this transformation – seemingly the biggest of its kind since industrialisation – is complete. According to the specifications of the Intergovernmental Panel on Climate Change, the net CO₂ emissions must be close to zero by no later than half way through the century, meaning that fossil fuels will play an increasingly minor role. Until then, significant investment is still required in sustainable energy systems, grids and energy efficiency. Primarily with the latter, we are still waiting for a major breakthrough. This requires more vigorous commitment from all players, from the individual states through to the private sector, from the municipalities to the consumers: a “new deal” for energy efficiency.

**KfW is a driver behind the international energy turnaround**

According to UN estimates, the conversion to a low carbon footprint will cost several hundreds of billions of dollars each year. KfW is contributing towards this; through its promotional programmes, it is pushing the idea of an international energy turnaround on a global scale - an option which will not be possible without decoupling economic growth from CO₂ emissions. Or, as the UN Secretary-General Ban Ki-moon says: “There is no Plan B, because there is no Planet B”.
Responsible banking

KfW is one of the world’s leading promotional banks. It applies its decades of experience to improving economic, social and ecological living conditions at home and abroad on behalf of the German Federal Government and the federal states.

KfW Development Bank is responsible for part of KfW’s international business, in which its two subsidiar­ies KfW IPEX-Bank and DEG are also involved. While KfW IPEX-Bank is active in international project and export finance, DEG provides financing and consulting to private companies investing in developing and emerging countries.

Photos
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