Financing Development

D+C supplement/June 2014
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KfW Photo archive/Photographer: Florian Kopp

Climate protection in emerging countries

KfW Director Opitz: "Germany acts as role model"

Brazil: Less deforestation in Acre state

India: Building more energy efficient houses

“It is not just about money, solutions matter, too”

The governments of the large emerging countries such as Brazil, China and India are interested in modern, clean and efficient energy technology for a variety of reasons. Germany is accepted as a model in this respect as KfW Director Stephan Opitz explains in an interview.

Why are emerging countries important in climate policy?
According to the most recent estimates by the Intergovernmental Panel on Climate Change (IPCC), worldwide emissions of greenhouse gases have increased by around a third since the Earth Summit at Rio de Janeiro of 1992 where the UN Framework Agreement on Climate was signed. Emerging markets account for the largest share of this growth – with China in the lead. This is a consequence of the rapid growth there that can be considered a great success story. Economic growth has lifted many people out of poverty. The middle classes are growing. Consumption patterns have changed. However, this unfortunately has consequences for the climate.

Are the governments of such countries interested in climate-friendly energy technology?
Yes, they are and for several reasons, and many of their plans are very ambitious. Climate change mitigation is probably not the primary goal. In emerging countries the question of reducing dependence of imported fossil fuels is at least as important. They also want to increase their competitiveness. They know that the market for modern technologies in the renewable energy and energy efficiency sector is growing fast and they want to keep pace. Furthermore, they are battling with environmental problems. Air pollution is a huge problem in Chinese and Indian cities that is causing widespread concern. Of course, we also seek to promote the climate change mitigation projects that we finance. When, as now before the World Cup in Brazil, a stadium roof is equipped with solar panels, this draws attention and increases awareness of the potential in the country. This is more important than the newly acquired power generation capacity of around 1.5 MW.

Is climate change mitigation at the expense of the poor?
No, not at all. Modern, clean and efficient energy supplies are a key prerequisite for sustainable growth and hence for combating poverty. The use of domestic, renewable energy sources and increased energy efficiency is good

Policy objective climate change mitigation

On his first official visit in his new office at the start of 2014, Gerd Müller, the German Federal Minister for Economic Co-operation and Development signed agreements in New Delhi with the Indian finance minister for credits with a value of EUR 900 million. A central issue in the partnership is climate change mitigation.

“Without emerging countries like India, China or Brazil, we will not reach the international climate targets,” says Müller. “These countries are therefore our most important partners in mitigating world climate change.”

In order to keep global warming under an average of two degrees Celsius, the Ministry believes that industrialised countries must cut their greenhouse gas emissions by between 25 and 40 per cent by 2020 compared with 1990. The developing and emerging countries must achieve a reduction of 15 to 30 per cent – whereby the countries with relatively strong economies must make an especially large contribution.

http://www.bmz.de/de/was_wir_machen/themen/klimaschutz/klimapolitik/index.html

for any economy. On the other hand, attempts to combat poverty may be at the expense of climate change mitigation if countries rely on coal because it offers an economical and reliable source of electricity and heat. Ultimately, however, I would not overdramatise the conflicts between goals: Many emerging countries want to diversify their energy supplies and are trying to cap the growth in demand. In this case, climate protection and development go hand in hand.

Is the German "energy turnaround" policy finding an international resonance? Is our experience transferrable?
Yes, the German experience is valuable. We sense a lot of interest. Thus the German term "Energiewende" is increasingly being adopted in English. Our partners are aware that KfW is also involved with this issue domestically and knows what it is talking about. This creates trust and credibility. Most developmental organisations only have foreign experience. We are the only promotional bank that is financing the switch to renewables both at home and abroad. As a consequence our partners trust us to give them competent support – such as in the development of a solid funding system, a complex power supply network or in the financing of a new plant.

How do you support emerging economies in changing to renewables?
We work closely with state development banks. We advise them, share our experience, refinance them with our credit lines and in some cases assume specific risks by means of, for example, guarantee funds. This package is very effective. The involvement of the private sector is also important. For this reason, the KfW subsidiary DEG finances investments by companies involved in climate change mitigation. For example in Chile – a country in which the role of renewable energy sources is set to increase significantly. There, DEG is financing the development of a solar park in the Atacama desert. A German company is also contributing its expertise to this project.


KfW Photo archive/ Photographer: Florian Kopp

All ready for the World Cup: The stadium roofs of the Brazilian World Cup venue Belo Horizonte have been equipped with large scale solar systems financed by KfW.

Is it a good idea to fund projects in large emerging countries, which themselves play a huge role in the world economy, with development resources from the German national budget?
We usually extend loans to emerging countries on behalf of the German government. To this end, we borrow funds on the capital market at the especially favourable conditions that we obtain as a German state-owned bank. In some cases, we receive funds to subsidise the interest rate from the Federal budget. In other cases, we simply pass on our interest rate advantage. Therefore funds from the state budget only play a subordinate role in our work in emerging countries. Besides the financial support, our partners also appreciate our professional project preparation and implementation. It is not just the money, it is also our competence in implementing solutions.

Is the greatest interest in renewable power generation or in increasing energy efficiency?
Energy efficiency is very important. However, energy efficiency projects are often small-scale and complicated to implement. Many factors have to fall into place at once. This makes it more difficult to make energy efficiency attractive, especially at the demand end, i.e. in households and companies. Another point is that in many partner countries, fossil fuels are still subsidised – this means of course that consumers or companies lack the economic incentive to reduce energy consumption. There is still a lot to be done in this area. But I am sure that the funding of energy efficiency will get just as much political attention in future as the promotion of renewable energies. After all, the most economical power station is the one that does not have to be built. //

Questions by Hans Dembowski.


KfW

Stephan Opitz
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Bonus for early movers

The Brazilian rain forest is being protected by an innovative programme – "early movers" get special funding.

KfW Group/Photographer: Karl-Heinz Stecher

Extensive grazing causes deforestation.

The federal state of Acre is not one of Brazil's best known areas. It is somewhat off the beaten track, in the west of the country, bordering Peru. Nonetheless, Acre now and again hits the headlines. In forest protection, for example, the federal state is one of the "pioneers", says Karl-Heinz Stecher of KfW Development Bank "and not just in Brazil but also beyond".

Even at the end of the 1980's, Acre gained a sad notoriety for the murder of Chico Mendes, the forest conservationist. The rubber tapper and union leader got in the way of powerful interests in the cattle and lumber industries and paid for it with his life. His case attracted international attention at the time. But since then a lot has happened in Brazil's most westerly state: Since 1998 the state government has constantly developed forest protection and new institutions, stricter laws and a comprehensive system for promoting environmental services (SISA – Sistema Estadual de Incentivos a Serviços Ambientais).

Above all, it has created alternative sources of income for small farmers and rubber tappers, and designated more areas as conservation zones. About half of the state's rain forest is now under strict protection and the rate of deforestation has continuously fallen for some years. As Acre has made considerable efforts in relation to forest conservation, the state counts as an "early mover".

KfW Development Bank now provides special assistance to such early movers on behalf of the German government. Since 2012, Acre has been receiving compensation for documented emission reductions, i.e. for unfelled forests. This innovative approach is being pursued in connection with REDD (Reducing Emissions from Deforestation and Forest Degradation) that is a result of the UN climate negotiations.

Accordingly the programme is named the "Global REDD Programme for Early Movers" (REM) and rewards early starters in forest protection. Its example should inspire other heavily forested areas to act. In order to prevent misuse the payment is made on the basis of emission reductions that have already been achieved that are calculated on the basis of a very conservative carbon analysis. In this way, climatically harmful CO_2 emissions are to be reduced by 2015 by 13 million tonnes, including Acre's own contribution. At the same time, the basis of subsistence for many small farmers/forest farmers and biological diversity are maintained.

However the state government in Rio Branco cannot do whatever it likes with the money from the REDD programme; it has to channel it directly back into forest protection by reforesting felled areas or supporting the local farmers in finding alternative sources of income such as fish farming. "This is done according to clear criteria for distribution of benefits," says Stecher, "so that the local population also benefits." Thus in addition to the production of nut oil, there is a condom factory, for example, that buys natural rubber at subsidised prices. Sources of income other than the sale of timber are important in the fight against illegal felling. Chico Mendes, who would probably have approved of this peaceful use of the forest, is not forgotten in Acre. There is now a prize named after him. One of the persons honoured in his name is none other than Karl-Heinz Stecher. He received the prize in 2013 because he made "a decisive contribution to saving our tropical forests" according to the Brazilian presenter of the prize.

The German federal government would like in future to extend the successful REM programme to Ecuador, Colombia and Asian countries. Something that Chico Mendes would also have approved of. *Friederike Bauer* //

Creating new standards

Energy-efficient construction in India saves raw materials and helps the climate.

India is now one of the world's largest energy users and originators of CO_2 emissions. The economy devours energy at an ever increasing rate, while the Indian middle classes also contribute to increased consumption as a result of their economic success. The Indian government wants to manage the available resources more carefully. One possibility, as in Germany, lies in buildings: Insulated walls, modern windows, heating and cooling systems can save a lot of energy. The International Energy Agency (IEA) estimates that 40 per cent of total energy consumption in India is down to the building sector.

And according to "Germany Trade & Invest", the Indian construction sector is set to grow by an estimated 10 per cent p.a. in the short term. KfW project manager Corinna Peters therefore believes that "it is logical and can have an enormous effect to apply the efforts here".

However, these "concealed fuels" which IEA likes to talk about in connection with energy efficiency have to date attracted little attention in India. There are many reasons for this: relatively low electricity prices, an only just emerging market for energy-efficient products and a lack of efficiency standards.

KfW is now working to change this situation and is applying its long-term experience in promoting such projects in Germany. In order to develop a similar system, along with the Fraunhofer Institute for Building Physics (IBP) and "The Energy and Resource Institute" (TERI) in New Delhi, KfW Development Bank has adapted an existing analytical model to Indian conditions.

When supplied with the appropriate data, the program immediately calculates how a newly planned building differs from the Indian average and how much energy can be saved by a certain measure – such as by installing a different kind of air-conditioning system or using another building material. KfW Development Bank has also made available on behalf of the German Federal Government a EUR 50 million credit line to the National Housing Bank (NHB), which for its part offers home loans for energy-efficient building via commercial banks. Buildings which are at least 18 to 30 per cent – depending on conditions and type – below the standard energy consumption are certified; loans for these buildings can then be submitted by commercial banks to the NHB for refinancing. The analytical model exported from Germany calculates whether the new dwellings fulfil these conditions. Some 22,000 dwelling units have now been certified, 2,000 have been financed with a soft loan.

KfW Group/Photographer: Silke Hermes

KfW funds energy-efficient construction – here in Bangalore/India.

KfW Development Bank will now support the NHB in developing and introducing a label for energy-efficient housing construction so that the scheme becomes widely known in India and established in the housing market. The so-called "KfW efficiency home" is well established in Germany and highly coveted on the German property market. "Other donors are now taking an interest in the NHB and KfW approach," says Corinna Peters. "They have seen that it works." *Friederike Bauer* //

Concentrated solar power

In the West of India, hundreds of thousands of solar modules form the largest solar power station of its kind in South Asia and one of the largest in the world. The huge construction project was completed in a record time of only seven months. Since March 2013, the solar power station, named after the nearby city of Sakri, has been supplying 200,000 households with environment-friendly electricity, thus avoiding 150,000 tonnes of CO_2 emissions each year. This corresponds to the emissions of around 40,000 cars. KfW Development Bank is supporting the project that annually generates 180 million kilowatt-hours of energy, with a EUR 250 million loan. Sakri is the first large-scale photovoltaic project in India to be connected to the grid and a trailblazer for the development of solar energy in the sub-continent. "KfW is supporting the power station on behalf of the German Federal Government as a strategic investment in renewable energies," explains project manager Franz Haller. *(feb)*

With the power of the sun

In sunny regions solar thermal power stations are an important option for environment- and climate-friendly power generation. In South Africa, a plant is now being built that will have the world's longest storage capacity for thermal energy.

Up to now, South Africa has largely covered its energy needs with coal-fired power stations that are harmful to the climate. However, the government is looking for alternatives and in 2011 established a programme to fund the generation of up to 3,750 MW of power from renewable sources. Part of this programme is the "ACWA Power Solafrica Bokpoort CSP Power Plant" that is presently being built in one of the most underdeveloped regions in Western South Africa.

CSP stands for concentrated solar power and is also referred to as a solar-thermal power station. It converts solar power into thermal energy with which electricity is generated. The new South African power station will have a net power generation capacity of 50MW and will be able to supply an estimated 21,000 households. With its capacity to store energy for more than nine hours, the plant will be able to compensate for consumption peaks.

The CSP Bokpoort project complies with all national and international environmental regulations and standards. The British magazine "World Finance" selected the facility as the "Solar Deal of the Year 2013". The power station offers other advantages beside clean power generation: It is attracting additional investment to the region and, according to the investors, it will employ around 900 persons during the construction phase.

The power station, which is due to come on stream in mid-2015, will create 60 permanent jobs. Six partners are financing CSP Bokpoort, including the Saudi energy group ACWA and the Lereko Metier Sustainable Capital Fund (LMSC), which invests in clean technologies in Southern Africa. Along with the Netherlands development funder FMO, the KfW subsidiary DEG – Deutsche Investitions- und Entwicklungsgesellschaft is participating via LMSC and a direct investment. The DEG closely examined the power station project and LMSC before deciding to invest. The financing structure and management, the sales channels and selection of transactions were analysed, says Anne Keppler, investment manager Equity & Mezzanine in the DEG local office in South Africa. "We are not a passive investor that sits back and waits for the long-term cash flow," she explains. "We are careful to see that the economic and developmental goals are comprehensively observed."

The South African power station can supply

21,000

households with power

DEG's mission is to support entrepreneurial initiatives in developing and emerging countries so as to contribute to sustainable growth and better living conditions for the local population. One of the focuses is on financing clean, renewable energy sources. *Sabine Balk* //

Jesús Vázquez Serrano

As here in a KfW project in Morocco, in solar thermal power stations the solar radiation is concentrated with concave mirrors and used to create thermal energy by heating a fluid.

Public transport for 30 million people

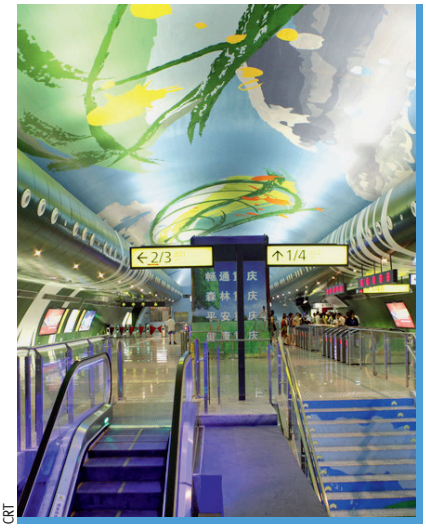
Chongqing wants to become a model city for public transport in China. In the coming decades, a network encompassing several hundred kilometres of track is to be created for underground and suburban trains.

Based on the area of the administrative district, Chongqing with almost 30 million inhabitants is the largest city in the world and extends over an area that is nearly as big as that of Austria. Like many of the world's megacities, this metropolis is facing a collapse of its transport system.

The city council is therefore pushing forward with the development of the public transport system. The city's topography is a challenge due to the great differences in altitude and the slopes that in some cases drop steeply to the banks of the Yangtze, requiring tunnels and underground tracks.

The city is attempting to create a coherent transport system. For planners it is not just a question of creating an efficient mass transit system in the urban core where around 10 million people live. The Greater Chongqing area is also to be integrated in the system. It is important that all modes of transport are integrated with each other, says Shen Xiaoyang, Chief Executive of the operator Chongqing Rail Transit (CRT): For the inner city, trams and underground railways are the right solution.

For the connection with the surrounding area, Shen Xiaoyang is considering something along the lines of German suburban railways. On behalf of the German Federal Government KfW Development Bank is supporting Chongqing's public transport with a loan of EUR 200 million as this contributes to environmental protection and conservation of resources. Specifically, CRT has been extended a loan for the 36 km extension of underground line 1 between the city centre and the western suburbs. Two thirds of the monies have already been disbursed. These will co-finance the purchase of control components, station equipment and tracks. A study commissioned by CRT for the extension of the track network with German-style suburban railways has been financed. KfW Development Bank would welcome this extension as special German know-how could be contributed. *Sabine Balk* //



CRT

Underground railway in Chongqing.

Loans for climate change mitigation

The industrial giant China is battling with massive environmental problems. The country is therefore investing increasingly in climate and environment protection. One way KfW Development Bank is supporting this is by helping the Export-Import-Bank of China (Exim) to establish two credit lines for climate protection measures. Exim is one of China's largest development banks. One credit line will subsidise funding for the development of renewable energy sources, the other will support industry in investing in modern technologies for improved energy efficiency. The condition for obtaining a loan is that the investment will result in an approximately 20 per cent energy saving. KfW Development Bank has made a total of EUR 75 million of funding available to Exim. This included around EUR 8 million that the German Federal Ministry for the Environment provided from funds under the Climate Protection Initiative. The condition for the funding was however that "Exim generously supplemented the loan from Germany with funding from its own resources," says Jochen Meyer-Lohmann, the project manager. It was thus possible to make a total investment volume of around EUR 1.3 billion available. The loan programme funds have now been completely disbursed and put to practical use. *(sb)*

Profile of Şekerbank

Şekerbank is a pioneer: As a well-established SME bank in the Turkish market, Şekerbank introduced the country's first "green loan" – with great success.

When Şekerbank introduced the "EKOkredi" in 2009, its management was already confident that the first private loan scheme for financing environment-friendly projects would be positively received nationwide. After all, no comparable commercial products were available at the time on the Turkish market. In only five years, more than 50,000 property owners, hotel operators and owners of small businesses have taken out an "EKOkredi" from the Şekerbank, above all to refurbish buildings to make them more energy efficient. "Turkey's energy demand has tripled in the last 20 years. However, we depend on imports for almost 70 per cent of our energy needs. Energy-saving measures are the obvious answer," says experienced banker, Gülfer Tuncay, who heads Şekerbank's "International Banking" unit in Istanbul.

In order to promote the use of renewable energy and increase energy efficiency in this dynamic emerging economy, KfW Development Bank– on behalf of the German Federal Government and along with the Development Bank of Austria (OeEB) and the European Union – has supported the "EKOkredi" with specialist advice and a development loan of EUR 20 million – obtained from KfW's own funds procured on the capital market. By branding the product as "eco-credit" and a broadly based advertising campaign, it was possible to convince the Turkish public both of the economic benefits of such investments as well as of the environmental sense of the green loan. The partnership with IZODER, an association of 225 companies that are specialised in building insulation, is also innovative. These companies make their customers aware of the "EKOkredi" programme; and of course benefit from the investments.

When audited at the end of 2013, the project received top marks. Marion Kneesch, head of the KfW Office in Ankara, is excited about its success: "The Şekerbank has done more than carve out and develop a market niche. The EKOkredi has also motivated other Turkish banks to offer green loans of their own." Does the Turkish government support environmental financing with suitable policies? Gülfer Tuncay still sees room for improvement: "The laws for promoting energy efficiency and the use of renewable energy sources are in place. However, the government could do even more. The next step would be tax breaks for tax payers who invest in renewable energy or energy efficiency." *Steffen Beitz* //

Private

Trailblazer in the area of "green loans": Gülfer Tuncay of the Turkish Şekerbank

Imprint

Responsible: Alexandra Albin, KfW Development Bank
Editing: Dr. Hans Dembowski, Sabine Balk, Steffen Beitz

Graphic design and typesetting: Nina Hegemann
Publisher and printer: Frankfurter Societäts-Medien
P.O. Box, D-60268 Frankfurt, Germany
This supplement is printed on PEFC-certified paper.