

# Energy and Qualitative Growth

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An adequate and reliable supply of energy is vital in order to combat poverty and bring about sustainable development. Consequently, the energy sector is one of the most important areas of Financial Cooperation (FC) promotion. In 2011, the allocation of around 1.31 billion euros was approved for energy projects, which constitutes about 30% of total FC grants.

The FC's aim in the energy sector is to contribute to economically, ecologically and socially sustainable growth in developing and emerging countries via the improved supply of energy. The ultimate aim is thus the promotion of development processes in the energy sector that lead to qualitative growth.

In light of climate change and the negative environmental impact of conventional energy generation, the criterion of ecological sustainability plays a prominent role in the energy sector. This is why KfW Development Bank's support focuses on the financing and transfer of modern technologies in the fields of renewable energies and energy efficiency. New energy sector projects approved in 2011 alone will lead to estimated savings of 2.5 million tons of CO<sub>2</sub>e per year.

FC energy projects also contribute to socially sustainable development by improving living and working conditions, educational opportunities and health and by facilitating sustainable economic growth.

## A modern energy supply as a key to qualitative growth

The objective of KfW's involvement in the energy sector is to contribute to macroeconomically efficient, climate- and environment-friendly supply and use of energy in partner countries. Even at the conception

stage for each project, there is a detailed examination of how the three target dimensions of a qualitative growth process (sustainable economic, ecological and social development) can be integrated in the best possible way. This represents a challenge, since in each specific case the country's economic development requirements must be weighed up against more long-term sustainability goals in the fields of climate, environmental and resource protection.

FC projects in the fields of energy efficiency and renewable energies make an important contribution to qualitative growth. KfW finances a large number of different energy projects in its partner countries, from small solar home systems and power plants based on regenerative energy sources to transmission and distribution networks and measures to improve the energy efficiency of end users or efficiency in electricity and heat production. The development of ecologically sustainable energy supply structures in partner countries is regarded here as the long-term basis for sustainable social and economic development.

## Ecologically sustainable development and climate protection are high-priority goals

According to information from the International Energy Agency (IEA), the global demand for primary energy will increase by around one third between 2010 and 2035. The biggest part of this rapid rise and the associated increase in global CO<sub>2</sub> emissions will be ascribed to developing and emerging countries. In view of this growth trend and accelerating climate change – the consequences of which must primarily be borne by the world's poorest people – KfW is actively supporting the development of environmentally friendly energy supply systems. In 2011, 70% of new FC funding in the energy sector went to renewable energies. Wind and water power,



KfW Entwicklungsbank promotes forms of renewable energy such as solar energy.

Source: KfW image archive/photothek.net

solar energy, modern bio-energy and geothermal energy are being promoted. This invariably takes into account aspects such as the availability of local resources, the priorities of the partner country's energy policy and the macro- and microeconomic cost of technologies. A further 30% of new FC funding in 2011 was allocated to the financing of measures to increase energy efficiency. These include the rehabilitation of power stations and (state-of-the-art) power network optimisation as well as energy-saving measures in buildings and in domestic, industrial and commercial energy and heat consumption. In 2011, renewable energies and energy efficiency accounted for 45% of all new environmental and climate protection funding, i.e. all FC projects which contribute to environmental and climate protection in partner countries.

An annual saving of 2.5 million tons of CO<sub>2</sub>e is predicted for these new energy sector projects (2011). Furthermore, this will reduce the emission of environmentally toxic SO<sub>2</sub>, NO<sub>x</sub> and particle emissions, which will further protect ecosystems and human health. Renewable energies and energy efficiency measures also reduce the use of natural resources such as fossil fuels and traditional biomass, and thus make a contribution to environmental protection and the maintenance of water supplies and biodiversity.

## Contribution to sustainable social and economic development

Access to affordable energy for poor population groups, measures to improve the existing energy supply in the form of high availability

and voltage quality in electricity supply, and energy-saving measures contribute directly and indirectly to meeting basic needs and economic growth.

Currently, around 20% of the global population, i.e. 1.3 billion people – especially in sub-Saharan Africa and Asia – lack access to electricity. 2.7 billion people rely on the inefficient (and extremely harmful to the health and environment) use of traditional biomass such as wood, lignite and manure for cooking. In order to be able to achieve the United Nations' Millennium Development Goal to reduce extreme poverty by 2015, 395 million people must be supplied with electricity and another billion must be provided with clean energy for cooking. This will require an annual investment of 41 billion US dollars between 2010 and 2015, or 0.06% of global gross domestic product<sup>1</sup>. Numerous KfW projects are helping with electrification. Examples are projects in Nepal (biogas from cow manure for cooking and lighting), Bangladesh (solar home systems for 750,000 people) and Uganda (the improvement of an isolated stand-alone network and the construction of small hydroelectric plants).

Supplying poor sections of the population with modern energy directly increases quality of life and promotes socially sustainable development. Access to energy safeguards the basic livelihoods, creates equal opportunities and social integration, and improves educational and income opportunities. Women enjoy above-average benefits from a reduced workload in rural areas in particular. The supply of drinking water and agricultural harvest yields are improved through the use of electric water pumps and health centres can be supplied with electricity. The replacement of traditional biomass with other fuels also leads to a reduction in health risks. The World Health Organization (WHO) estimates that each year more than 1.45 million people die prematurely

due to flue gases from burning traditional biomass indoors.<sup>2</sup>

Expanding and improving the electricity supply of companies allows industrial and handcraft machines as well as computers and telecommunications systems to be operated. Due to the frequently extremely inefficient use of energy in partner countries, measures to increase energy efficiency lead to financial savings in energy costs. Productivity and competitiveness increase. Permanent jobs and income are generated when existing branches of industry expand and new branches of industry are established. Needs can be sustainably met and poverty can be reduced as a consequence of economic development.

### **Sustainable economic development is also encouraged through the reduction of energy imports.**

FC energy projects not only contribute to climate and environmental protection; they also counteract political and economic dependencies and supply risks. Measures relating to renewable energies and energy savings reduce the need for fossil fuels and thus decrease a country's dependency on imports and mitigate the price risks resulting from the increasing scarcity of global oil and gas resources. A country's independence from the import of raw materials protects foreign currency stocks, counteracts government debt and thus makes a long-term contribution to price and economic sustainability. There is a reduced risk of international and civil wars over raw material sources and trade routes.

### **Qualitative growth – a specific guiding principle for KfW project design**

KfW's guideline for environmental, social and climatical impact assessment (the "Sustainability guideline") is authoritative when it comes to planning and implementing energy sector projects. An in-depth examination is

carried out if, during analyses at the start of the project design phase, potentially major environmental, social or climate risks are ascertained. Thus, from the very start, each project is designed so that its potential for reducing greenhouse gases is exploited to the greatest extent possible, negative environmental and social impacts (e.g. the necessity to relocate people or make incursions into natural conservation areas) are minimised and suitable systems for monitoring greenhouse gas emissions are developed.

It is also ensured that the energy projects are economically viable (sustainable) in the long term. In addition, a check takes place to determine whether routine plant operations can be permanently financed under the conditions which prevail in the partner country, e.g. subsidy policy for fossil fuels.

An important KfW objective is the initiation of ecologically sustainable development processes which have a long-term effect beyond local project level in the partner countries. In addition to financing, the transfer of innovative, environmentally friendly energy technologies is therefore an important concern. For example, KfW is supporting a 125 MW solar power station in the Union State of Maharashtra (Sakri). This is the first major photovoltaic plant of this type in India. The explicit aim of the project is to promote the development of energy supply systems in order to move towards the greater use of solar energy in India. ■

### **Further information**

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<sup>1</sup> See OECD/IEA, Energy Poverty, How to Make Modern Access Universal, 2010, page 7

<sup>2</sup> Ibid, page 13







