



Water, Energy, Transport

Energy efficiency

The challenge

In many developing countries and emerging economies increasing affluence and growing population numbers are causing demand for energy to rise sharply. This results in bottlenecks in the energy supply, an increasing financial burden on the state, the economy and private households, and a growing burden on the environment through the increased use of fossil resources. For these reasons, decoupling economic development from energy consumption is an important goal of sustainable energy management.

Energy efficiency is an integral element of sustainable energy management if energy consumption is to be reduced. The global potential for reducing energy consumption is enormous: it amounts to about 30 per cent in OECD countries and as much as 30 to 50 per cent in developing and transition countries. To achieve energy efficiency, the necessary conditions must be actively put in place by policy-makers. Efficiency must, however, be implemented where energy is 'consumed': in power generation and distribution, in buildings, industry, private households, community facilities and transport.

Our approach

A sustainable response to the complex challenges of energy efficiency requires an integrated approach that addresses a number of levels simultaneously. GIZ therefore adopts a multi-level approach that involves all the key stakeholders: ministries and local government bodies at the macro level but also associations, service providers, universities and scientific and academic institutes and in addition energy users such as businesses and private households at the micro level.

Working with all the stakeholders, GIZ analyses the existing situation, identifies the potential for increasing energy efficiency and looks for ways in which this potential can be utilised and implemented with the partners.

Our policy advice helps to create an enabling environment that promotes energy efficiency. GIZ's worldwide links with banks and financing agencies, the private sector and specialist institutions help our partners identify appropriate and affordable technical solutions and ways of financing them.

An important element of our work is the creation of knowledge platforms that facilitate access to information and the ongoing exchange of know-how between all stakeholders.

Our services

We offer a diverse range of services tailored to the requirements of partners and target groups. Our services cover the following areas:

- **Advice on energy policy**, such as advice on drawing up a sustainable energy policy, adjusting the legislative framework and designing implementation strategies
- **Capacity development** in energy-related institutions, in areas such as organisational development, creation of management structures, energy planning
- **Training** of energy specialists in all areas and sectors, including energy auditors for local authorities and industry
- Development and support of **promotion programmes**
- Planning and implementation of **pilot and model projects**



- **Technology transfer**
- Setting up **networks** and **platforms** for the exchange of information and expertise
- Designing **information campaigns, disseminating knowledge and expertise**
- **Developing service markets** in the energy sector, for example by setting up consulting agencies and competence centres.

The benefits

The benefits for policy-makers, industry and civil society are clear: energy-efficient action almost always gives rise to an ecological and economic win-win situation. In economic terms, the reduction in expenditure on energy imports is an advantage; the money saved can be put to good use elsewhere. Energy supply security is increased – this contributes to political and social stability and improves the investment climate, particularly for foreign investors. Lower costs for industry increase competitiveness and job security. New areas of work and new service markets are created. The cost burden on private households is reduced. This particularly benefits the poorer sectors of the community, who frequently spend a disproportionately large proportion of their income on energy. And we all benefit from the positive impacts on the climate and environment that result from lower greenhouse gas emissions and reduced natural resource consumption.

Energy efficiency – key to a sustainable future!

An example from the field

Since 2003 GIZ has been implementing the Indo-German Energy Programme in India on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), working with the Bureau of Energy Efficiency (BEE) which forms part of the Indian Ministry of Power, the Central Electricity Authority (CEA) and other partners. As part of this programme GIZ supports the Indian partners in developing the Energy Efficiency Act, which has been in force since 2001, and in implementing measures designed to increase energy efficiency in industry, in consumer appliances and in thermal power plants.

After 5 years' close cooperation with the partners the results are impressive:

Indian companies have now invested more than 1.4 billion euros in measures that directly increase energy efficiency. This saves energy worth 150 to 300 million euros – every year! Almost 8,000 certified energy managers and auditors help businesses identify further opportunities for increasing energy efficiency, thereby making a crucial contribution to the sustainable impact of the project.

Emissions trading is flourishing. Indian CO₂ emission rights worth 160 million euros have so far been sold to foreign buyers.

The legislative conditions for the promotion of energy efficiency have also improved significantly. The first implementation decrees are now being passed and are breathing life into the Energy Efficiency Act. Energy labelling is now being applied to electricity-consuming products such as pumps, motors, air-conditioning units and refrigerators, making it easier for customers to base their purchasing decisions on energy efficiency criteria.

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