

Innovation and Technology

Solutions for pressing problems

Innovations drive developments forward – they help overcome poverty and boost competition. Furthermore, they are a key factor in making climate change more manageable. KfW Development Bank promotes innovations and appropriate technology in its partner countries.

Current situation

Nowadays mobile phones are in widespread use even in remote African villages. People use them for banking, to look up market prices and to forge new business relationships. More than half of the African population already owns a mobile phone. Modern information and communication technologies have had an impact on the daily routine of people in developing and emerging countries for some time now. These technologies often pave the way for further innovative solutions that contribute to the eradication of poverty and are necessary in order to succeed on the world market. However, the pace of technological advance varies significantly. While mobile phone technology has achieved a great deal, other technologies, such as those involving the climate, environment and production methods, still have a way to go. Innovative approaches are needed so that people around the world can use them, and they must be deployed in a targeted manner to resolve pressing problems, like ensuring food security and providing energy.

Precisely the poor can benefit from improvements in technology, for example when a water supply is established for all, meaning that everyone can enjoy clean water at affordable prices. The promotion of social entrepreneurship is an important tool for KfW Development Bank when it comes to developing innovations or

adapting technologies to the local context.

Above all, the reality that resources are becoming scarcer makes it clear that we urgently need to implement technology and boost innovative capacity. For example, in arid regions, technology can be used to ensure more economical use or improved treatment of process water, or to boost agricultural productivity in areas plagued by hunger.

Innovation and technology also play a central role in increasing the economic capabilities of developing and emerging countries. Global competition is tough: countries now need much more than the traditional location advantages, like low wages or resource wealth, if they are to succeed in earning a place for themselves in the international division of labour. In the future, competitiveness will be increasingly dependent on whether countries are able to add value further up the production chain. This requires the capacity to innovate. Demands for technological expertise have increased in traditional sectors as well, such as farming. Consistently high product quality and the implementation of standards, such as for food safety, are necessary in order to succeed on the world market, and this is barely possible without technological advances.

The KfW development approach

Technology, innovation and the enabling frameworks for their use are becoming increasingly important in development cooperation. However, employing technology and innovation in response to global challenges such as poverty and climate change makes sense only if people in developing and emerging countries can use them. KfW Development Bank therefore supports its partners in the use of modern technologies and their adaptation to local conditions. It finances a wide range of innovative technologies, from simple applications to complex solutions.

Another key concern of KfW is strengthening the competitiveness of partner countries and supporting them in creating and preserving jobs. Once again, innovation

and technology are vital here. KfW relies above all on the innovative abilities of its partner countries. A professional training project in Indonesia shows trainees how to use new technologies, to ensure that qualified and technologically literate professionals can continue to develop technologies independently in the long term and adapt them to local conditions. In India, social entrepreneurs are offered loans at favourable interest rates to allow them to bring their innovative ideas to the market. This kind of innovation is often an important source of employment.

Furthermore, new technologies are laying the groundwork for the green economy. In order to facilitate a low-carbon development path, economic growth and environmental impact need to be decoupled. This kind of development can only be achieved by using environmentally sound and efficient technologies, and more innovative ideas and methods. In environmental protection and the conservation of resources, KfW can draw on decades of development experience in Germany, for example in the area of energy efficiency. KfW's portfolio also includes the use of computer software to protect the Brazilian rainforest and the technologically intelligent use of the sun for efficient and sustainable energy production in Morocco.

Technology has already set many things in motion. But there are limits to the amount of ecological stress that the planet can withstand, and in the coming years humans will be faced with new challenges, requiring new technological approaches. KfW will continue to exploit the vast potential of innovation and technology, whether in using intelligent transport systems to cope with urbanisation or helping to prevent disasters with the aid of geoinformation systems.



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An innovative form of energy: Using geothermal energy requires modern technology. Source: KfW photo archive / Rüdiger Nehmzow

East Africa – Energy from the earth

In East Africa an enormous source of energy lies below the earth's surface. Just 1,000 metres below the surface hot steam can be found that can power turbines. For this energy to be exploited, the layers of water vapour have to be tapped into. The drilling is a complex, risky and expensive endeavour. Without guarantees, banks are unwilling to finance such risky projects.

KfW has therefore worked with the African Union to establish the Geothermal Risk Mitigation Facility (GRMF). The GRMF funds up to 80 % of the costs of geological surveys and up to 40 % of the costs of exploratory drilling. Funding is awarded through a formal bidding process. The Federal Ministry for Economic Cooperation and Development (BMZ) and the EU have contributed a total of EUR 50 million to the fund. Additional donors have now begun to show interest in this financing instrument.

If the drilling proves successful, vast sources of energy can be tapped. This is also an environmentally friendly process as no fossil fuels are used. East Africa's potential is estimated to be 15,000 megawatts. This is ten times greater than the combined capacity of all power plants in Kenya today.