

The UNEP Sustainable Energy Programme

THE 21ST CENTURY CHALLENGE

Two of the greatest global challenges of the 21st century are to change the way energy is generated, distributed and used, and to supply modern energy services to the billions of people who currently do not have them.

Today's energy systems rely heavily on fossil fuels that cause a wide range of serious local, national, regional, and global environmental impacts. Global climate change and air pollution are two immediate challenges highlighting the link between energy use and the environment. At the same time, the lack of modern energy services - energy 'poverty' - hinders the economic and social development of billions of people.

THE SOLUTION: SUSTAINABLE ENERGY

To address these challenges, UNEP is working to help countries create sustainable energy systems where the production, delivery and use of energy support human development in all its social, economic and environmental dimensions.

The fundamental goal of UNEP's Energy Programme is to create a longer term, environmental dimension within energy sector decisions. UNEP's activities help decision makers to improve their understanding of the link between the energy choices they face and broader sustainable development issues. The Programme's emphasis is to increase the human capacity to create opportunities for development while significantly reducing the harmful effects of energy production and use.

Working with a wide range of partners, UNEP helps countries develop and implement the tools to analyze energy policies, climate change mitigation options, energy sector reforms, industrial energy efficiency, and the environmental implications of transport choices. Strategies that improve the analysis of energy policy are complemented by tools that help decision makers achieve practical solutions to energy challenges.



Photos: Courtesy NREL

A special focus is helping financial institutions improve their understanding of investment opportunities in the renewable energy and energy efficiency sectors. This focus is built on UNEP's history of cooperation with banks and insurance companies with UNEP partner, the *Basel Agency for Sustainable Energy (BASE)* instrumental in this effort.

UNEP's efforts are primarily directed at developing countries, and much of our work is done jointly with institutes involved in energy, environment and development challenges. We are now strengthening this informal network of 'centers of excellence' to build a tighter global community of sustainable energy practitioners, including a structure where creative solutions to energy/environment problems are more easily shared.

One of UNEP's strengths in the energy field is the UNEP Risoe Centre on Energy, Environment and Sustainable Development (URC). URC's international group of scientists, engineers, and economists provides technical and analytical support to UNEP and partners in developing countries. URC supports research by local institutions, coordinates projects, disseminates information, and implements a full in-house research programme in close collaboration with an international and multidisciplinary community of sustainable energy and development practitioners. A similar collaborative arrangement has been started with the *U.S. National Renewable Energy Laboratory (NREL)*.

PROJECTS AND ACTIVITIES

RENEWABLE ENERGY

- *The Rural Energy Enterprise Development Initiative (REED)* is helping the private sector to deliver affordable energy services based on clean and renewable energy technologies. REED pro-

programmes are currently running in Brazil, China, and five African countries.

ENERGY EFFICIENCY

- *The Energy Management and Performance Related Energy Savings Scheme (EMPRESS)* aims to build a market for a proven energy management tool, *Monitoring and Targeting (M&T)*, for industrial and commercial clients in the Slovak and Czech Republics. The Project couples M&T support with private sector financing.
- UNEP is investigating with the World Bank ways to overcome financial sector barriers to lending for energy efficiency projects in Brazil, China, and India.
- A GEF-funded effort is helping National Cleaner Production Centers integrate energy efficiency into their mainstream Cleaner Production programmes.

ENERGY POLICY

- UNEP is helping governments in Sub-Saharan Africa with power sector reform, energy sector finance, energy subsidy reform, promotion of rural energy enterprises and climate change policy.
- UNEP is coordinating the implementation of a *Global Network on Energy for Sustainable Development (GNESD)* to promote sustainable energy through coordinated programmes of policy analysis, practical advice, targeted research and promoting investment.

ENERGY FINANCE

- The *Sustainable Energy Finance Initiative (SEFI)*, a joint activity of UNEP Energy, UNEP Finance Initiative and BASE, provides information to financiers and facilitates new approaches to sustainable energy finance.
- The *UNEP Indian Solar Loan Programme* has partnered with Canara Bank and Syndicate Bank, two of India's largest finance institutions to offer loan programmes for solar home systems. These credit facilities buy down the initial risks of lending to this sector.
- With the support of the Italian Ministry of Environment and Territory, UNEP is supporting the *MEDREP Finance Programme* – part of a WSSD initiative to promote increased investment in the southern Mediterranean renewable energy sector.
- Guidelines on environmental due diligence for renewable energy investments are being developed through BASE.
- UNEP is also developing new risk management tools for the renewable energy sector.

TRANSPORT

- UNEP manages the *Mobility Forum*, a platform with major automotive manufacturers for discussion and joint activities, including a study on challenges in road transport and the environment;

a campaign on environmentally responsible driving behavior; and development of indicators for sustainability reporting specific to the automotive sector.

- UNEP is also working with the aviation industry to improve environmental performance through conferences and follow-up activities.

PUBLICATIONS

UNEP has a wide range of publications, including:

- *Natural Selection: Evolving Choices for Renewable Energy Technology and Policy*;
- *Technology without Borders: Case Studies of Technology Transfer* in collaboration with the International Energy Agency (IEA) and the Climate Technology Initiative (CTI); and
- *Managing Technological Change, an explanatory summary of the IPCC Working Group III Special Report Methodological and Technological Issues in Technology Transfer*.
- The joint UNEP/OECD publication *Phasing Lead out of Gasoline – An Examination of Policy Approaches in Different Countries* describes successful programmes to eliminate the use of lead in gasoline.
- *Natural Selection: Evolving Choices for Alternative Fuels* gives an overview of alternative fuels and vehicle technologies as well as policy frameworks to support them.

For a complete list of UNEP's publications and more information on energy activities, visit the UNEP and UCCEE websites at: <http://www.uneptie.org/energy/publications> and <http://www.uneprisoe.org/publications>.



UNEP's REED Programmes are helping to develop clean energy entrepreneurs in Africa, China and Brazil.

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