



Schweizerische Eidgenossenschaft
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Eidgenössisches Departement für
Umwelt, Verkehr, Energie und Kommunikation UVEK

Bundesamt für Umwelt BAFU
Internationales

Global Environment Facility

Approach and Experiences



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Key Questions of the Presentation

- How does the GEF work?
- What does the GEF do in the area of renewable energies?



Overview

- (1) GEF: The Financial Mechanism of Environmental Conventions
- (2) Facts about the GEF
- (3) The GEF Arrangement at the International Level
- (4) The Project Cycle
- (5) GEF and Renewable Energy
- (6) The Swiss Role in the GEF
- (7) Useful Links



GEF: The Financial Mechanism of Environmental Conventions

- United Nations Framework Convention on Climate Change (UNFCCC)
- Convention on Biological Diversity (CBD)
- Stockholm Convention on Persistent Organic Pollutants (POPs)
- UN Convention to Combat Desertification (UNCCD)

- The GEF is also associated with many global and regional multilateral agreements that deal with international waters or transboundary water systems.
- As such, the GEF helps fund initiatives to assist developing countries in meeting the objectives of the Conventions.



Facts about the GEF

- Established in 1991
- Since 1994 a permanent, separate institution with the World Bank as the Trustee
- 178 members, i.e. recipient and donor countries
- Mandate: Provision of Global Environmental Benefits based on country needs
- Provides 8 billion USD to developing countries and economies in transition between since 1991 leveraging 34 billion USD in Co-financing
- Agencies implementing GEF projects and programs:
World Bank, UNDP, UNEP, FAO, IFAD, EBRD, UNIDO, Development Banks (IaDB, ADB, AfDB)



The Project Cycle

- 1) Elaboration of project concept document by country and agency
- 2) CEO's clearance of the project concept document
- 3) Council Approval of the Work program
- 4) CEO's project endorsement and Agency approval
- 5) Implementation supervision, monitoring and evaluation by GEF Secretariat



GEF and Renewable Energy: Facts

From 1991 to 2007, the GEF approved grants totaling more than USD 800 Mio. for approximately 150 projects that promote the transfer of renewable energy technologies in developing and transition countries

Areas of intervention:

- Off-grid Photovoltaics
- Solar Water Heaters
- On-grid Photovoltaics
- Wind Power
- Geothermal Energy
- Waste to Energy
- Mini- and Micro-Hydro Power
- Biomass Cogeneration
- Heat from Biomass
- Biomass Gasification for Electricity



GEF and Renewable Energy: Countries supported

TABLE 1. Energy-efficiency technologies and countries supported by the GEF

Energy-efficiency technology	Countries supported
Efficient lighting (compact fluorescent lamps, efficient street lighting, light-emitting diodes, etc.)	Argentina, Bangladesh, Brazil, China, Czech Republic, Egypt, Ghana, Hungary, Indonesia, Jamaica, Kenya, Latvia, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, Slovakia, South Africa, Thailand, Uruguay, Vietnam
Energy-efficient appliances (refrigerators, air conditioners, washers, dryers, cookers, stoves, etc.)	Argentina, Bangladesh, Brazil, China, Cuba, India, Indonesia, Kenya, Mongolia, Pakistan, Russia, Thailand, Tunisia, Vietnam
Energy-efficient building design	Belarus, Bosnia-Herzegovina, Brazil, Bulgaria, China, Cote d'Ivoire, Czech Republic, Kyrgyzstan, Lebanon, Mauritius, Morocco, Senegal, Tunisia
Energy-efficient building materials (windows, doors, perforated bricks, straw bales, etc.)	Bangladesh, Bosnia-Herzegovina, China, Mongolia, Pakistan, Poland
Industrial energy-efficiency technologies (steel, brickmaking, cement, ceramics, textile, foundry, rubber, wood, cokemaking, tea processing, food processing, pulp and paper, charcoal production, etc.)	Bangladesh, Belarus, Bulgaria, China, Costa Rica, Cote d'Ivoire, El Salvador, Honduras, Hungary, India, Iran, Macedonia, Malaysia, Morocco, Nicaragua, Panama, Philippines, Poland, Tunisia, Vietnam
District heating systems	Armenia, Belarus, Bulgaria, China, Croatia, Czech Republic, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Slovenia, Slovak Republic, Ukraine, Poland, Turkmenistan, Romania, Russia, Uzbekistan
Power generation (rehabilitation) and distribution	Brazil, China, Ecuador, Guinea, India, Philippines, Sri Lanka, Syria
Cogeneration (including heat recovery for power generation from industrial processes)	China, Czech Republic, Ethiopia, Kenya, Malawi, Swaziland, Tanzania, Uganda, Sudan, Russia
Energy-efficient motors	Bangladesh, China, India, Indonesia, Poland, Thailand, Pakistan, Vietnam
Energy-efficient boilers	China, Poland, Russia
Energy-efficient CFC-free chillers	Brazil, Colombia, India, Thailand



GEF and Renewable Energy: Example

Transformation of the Rural Photovoltaic Market in Tanzania

Lessons learned from earlier projects (critical factors)

- **Importance of technical quality of Solar Home Systems**
- **Need to raise awareness of the technology**
- **Importance of system maintenance and business infrastructure**
- **Need for sustainable financing**



GEF and Renewable Energy: Example

Transformation of the Rural Photovoltaic Market in Tanzania

Project Brief

- **Objective:** Aims at reducing Tanzania's energy-related CO2 emissions by introducing photovoltaic (PV) as a substitute for fossil fuel (kerosene) utilized for lighting in the rural areas remote from the electricity grid
- **Approach:** Promote solar home systems in the rural market through
 - policy support
 - awareness raising
 - private sector development
 - microcredit
- **GEF Grant:** 2.3 Mio. USD Co-Financing: 4.7 Mio. USD
- **GEF Agency:** UNDP
- **Executing Agency:** Ministry of Energy and Minerals



GEF and Renewable Energy: Example

Transformation of the Rural Photovoltaic Market in Tanzania

Results so far

- **Removal of taxes and VAT** on all PV components
- **Standards and code of practice** established
- **Rural Energy Agency** and Rural Master Plan developed
- **PV awareness raised** among key government decision makers at district level through seminars
- **PV curriculum adopted** by the Vocational Education and Training Authority of Tanzania
- **Technicians trained** in installing and maintaining the systems
- **Financial models** for supply-chain and consumer financing are being developed to increase the number of companies and consumers that request financing for their PV investments



The Swiss Role in the GEF: Role as a donor

GEF-4 Contributions: Amounts in Special Drawing Rights (SDR)

Switzerland is one of 32 members of the GEF Council (Board of Directors) together with Azerbaijan, Kyrgyzstan, Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan

1	USA	218
2	Japan	208
3	Deutschland	201
4	UK	172
5	Frankreich	129
6	Kanada	89
7	Schweden	76
8	Niederlande	75
9	Italien	73
10	Schweiz	47 (= 88 Mio. CHF)
11	Belgien	42
12	Dänemark	35
13	Australien	31
14	Finnland	29
15	Norwegen	24
16	Österreich	22
17	Spanien	18



Useful Links

- GEF Homepage: www.thegef.org
- The GEF on Climate Change:
http://thegef.org/interior_right.aspx?id=232
- The GEF brochure on Transfer of Environmentally Sound Technologies:
http://thegef.org/uploadedFiles/Publications/GEF_TTbrochure_final-lores.pdf
- Latest (2008) GEF Report to Climate Convention (UNFCCC) with detailed project descriptions:
<http://unfccc.int/resource/docs/2008/cop14/eng/02r01.pdf>