



Fonds Français pour  
l'Environnement Mondial



# French Global Environment Facility



FINANCING ACTION COMBATING CLIMATE CHANGE



Fonds Français pour  
l'Environnement Mondial



# French Global Environment Facility

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# Toward for the global environment

(FRENCH GLOBAL ENVIRONMENT FACILITY)



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The FGEF's goals are to:

- promote the protection of the global environment in developing countries,
- encourage innovation,
- mobilize multi-actor partnerships.



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It subsidizes, through development operations, the preservation of the major equilibriums of our planet concerning:

- climate change,
- biodiversity,
- international waters,
- land degradation and desertification,
- persistent Organic Pollutants (POP),
- stratospheric ozone layer.

The FGEF is involved:

- in providing support for concrete achievements in beneficiary countries,
- in developing a learning approach and testing exemplary or innovative approaches,
- at the request of one of its five French institutional partners,
- in minority cofinancing,
- as an additional instrument for French foreign aid, as a part of Official Development Assistance.





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Created for an initial period from 1994 to 1998, it was extended for a second phase from 1992 to 2002, for a third phase from 2003 to 2006 and for a fourth phase from 2007 to 2010. The four-year funding for these phases was 67 million euros, and 70.2 million for the final phase.

Funded by the State budget, as a part of Official Development Assistance, it had 277.5 million euros for the 1994-2010 period. This is in addition to the French contribution to the Global Environment Fund (GEF).

At the end of 2009, 209 projects have been identified, 45 of which cofinanced with GEF resources.



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At the end of  
**2009**

**209** projects  
have been identified,

**45** of which  
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The FGEF is an instrument of French policy on cooperation and development which brings together themes dealing with the global environment. It promotes innovative and reproducible projects, supports multi-actor partnerships. It is part of the geographical priorities of French aid and contributes to France's influence.



# Priority to Africa and the Mediterranean



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## The projects' key figures, excluding ozone

After an initial starting period, the FGEF reached maturity in 2003.

From 2003 to the end of 2009, **106 projects** had been examined or were under consideration, representing a potential commitment of **120 million euros**.



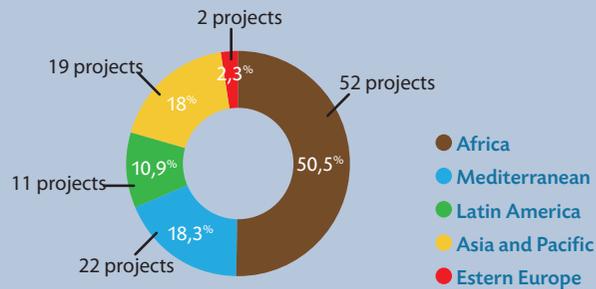
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The amount of the average FGEF subsidy is

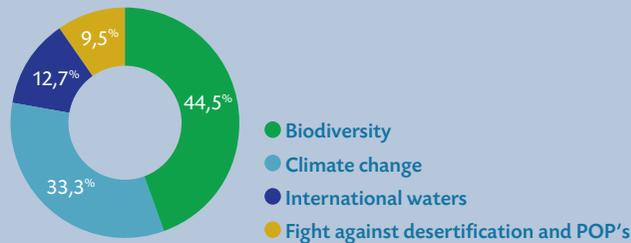
**1.1 million euros**

which accounts for **12%** of the project cost.

### BREAKDOWN BY REGION



### BREAKDOWN BY AREA



## The FGEF is supported by five French member institutions:

- The Ministries of:
  - Economy, Industry and Employment ,
  - Foreign and European Affairs,
  - Ecology, Energy, Sustainable Development and Sea,
  - Higher Education and Research.
- and The French Development Agency (AFD) which is also in charge of the management of the FGEF.



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# Addressing priorities of the global environment

## Climate change

**Global Warming** is the result of the greenhouse effect which in turn is due to an increase of GHG, especially carbon gas, in the atmosphere.

In keeping with the guidelines of the United Nations Framework Convention on Climate Change, the FGEF encourages projects that reduce the consumption of fossil fuels by:

- promoting renewable energy and energy that has a low output of green house gases,
- highlighting the value of using biomass,
- improving energy efficiency in energy consuming sectors,
- storing carbon in forests, the soil and underground.

## International waters

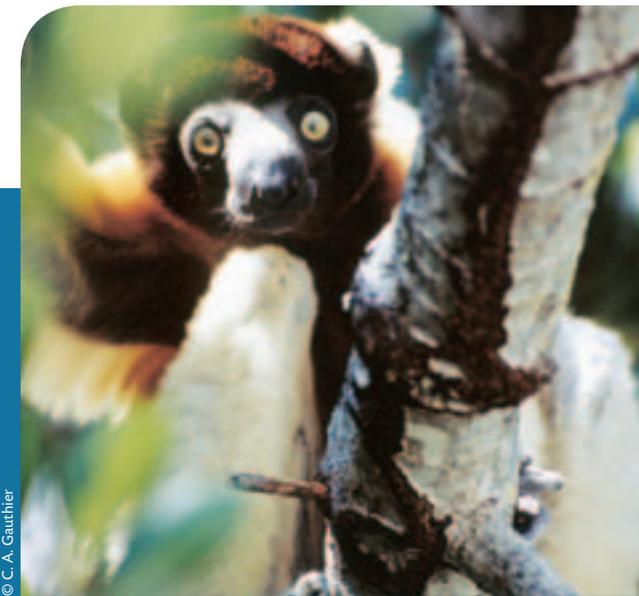
**International waters**, whether they be continental (surface or ground water) or marine, are often shared by several States or fall under no jurisdiction.

These waters are threatened primarily by over use (over fishing), pollution or coastal erosion.

The goal of the FGEF is to bring about a better management of international waters. It promotes projects that:

- make collaboration between States a priority,
- strengthen measurement networks and tracking systems,
- contribute to reducing sources of pollution.

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## Biodiversity

**Biodiversity** refers to all the genes, species and ecosystems found on our planet. Biodiversity is seriously threatened. In order to preserve it, projects funded by the FGEF seek to implement the main guidelines of the United Nations Convention on Biological Diversity. These projects deal with:

- the preservation of species and places,
- the traditional use of natural resources by local communities,
- the sustainable management of natural resources to serve economic and social development.

The projects must take into account the local populations, involve them in the protection of their environment and have them benefit from the resulting advantages.



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## ↳ Land degradation Desertification

Desertification is the result of climatic variation and human impact which leads to a deterioration of the ecosystems in arid zones. This phenomenon affects both biodiversity and the social and economic conditions of the local populations.

FGEF action in this area essentially targets the Saharan and Sahelian countries. Financial priority goes to projects at the local level which seek to strengthen the resilience of the ecosystems or to reverse the desertification process when possible, including the combat against deforestation and forest degradation. It supports agro-ecology in particular.



## ↳ Persistent organic pollutants (POP's)

There are 12 dangerous substances (pesticides, industrial chemical products and chemical sub-products) that have a long lifetime and which can migrate through land and water, often over great distances. As they accumulate in the food chain, they are ingested by living creatures and subsequently lead to immune problems and genetic defects.

Given the heavy impact of POP's on the environment and health, the FGEF has been supporting projects to eliminate these pollutants since 2004.

## ↳ Ozone layer

Stratospheric ozone is a protective screen which absorbs practically all of the ultraviolet rays produced by the sun, which are dangerous for life on earth. A significant reduction in the concentration of stratospheric ozone has been observed since the beginning of the 1980's. This phenomenon is due to man's production of substances that deplete the ozone layer, used in refrigerants, solvents, aerosols, insulating foam, pesticides and fire extinguishing gases.

Certain ozone depleting substances (ODS) have a high global warming potential (GWP). By eliminating these ODS, the Montreal Protocol has made it possible to avoid emissions' equivalent of 8Gt-eqCO<sub>2</sub>/year between 1990 and 2010.

The FGEF Secretariat, on behalf of the Ministry of the Economy, Industry and Employment, ensures the follow-up of the strategies and gives advice concerning the orientations suggested by the 196 Parties to the Montreal Protocol. It also represents France as Executive Committee member of the Multilateral Fund, which provides funding in the form of grant for projects which phase out ODSs in developing countries. The FGEF Secretariat therefore also participates in the subsequent international negotiations. From 1991 to 2009, the total of the French contributions to the Multilateral Fund have been 195 million US\$.

Lastly, it implements and manages projects presented by France to the Multilateral Fund by participating in project preparation (including seeking out partnerships and co-financing opportunities), providing equipment, technical assistance and training.



# A joint action instrument

## The FGEF is run by three bodies:

- the **Steering Committee**,
- the **Scientific and Technical Committee**,
- the **Secretariat**.



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## Interministerial Governance

The FGEF Steering Committee is made up of five institutional partners: the Ministry of the Economy, Industry and Employment, the Ministry of Foreign Affairs, the Ministry of Ecology, Energy, Sustainable Development and Sea, the Ministry of Higher Learning and Research and the French Development Agency, which is also in charge of managing the FGEF Secretariat. It is chaired by the representative of the Ministry in charge of the Economy (Treasury Directorate).

The Steering Committee makes decisions on:

- the general policy of the FGEF, primarily the geographical orientations, the focal areas and the Secretariat's budget,
- the timeliness of projects at the identification stage after receiving the opinion of the Scientific and Technical Committee,
- the financial commitment at the end of the appraisal phase.

The Steering Committee appoints the members of the Scientific and Technical Committee.



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## A rigorous process of analysis and evaluation

The FGEF has an independent Scientific and Technical Committee. The Committee is composed of 10 individuals renowned for their economic, environmental and social expertise in the areas covered by the FGEF:

- it makes recommendations at the project identification stage and observations at the commitment stage,
- it conducts and leads work (studies and seminars) dealing with the scientific, technical and socioeconomic aspects concerning the global environment,
- it participates, along with the member institutions and the Secretariat, in initiatives that seek to inform and raise awareness among French and international partners about the priorities of the global environment.



## A flexible and proactive management structure

The FGEF Secretariat is a light structure, comprised of 10 permanent staff members. It deals with:

- the appraisal and follow-up of projects financed by the FGEF, in collaboration with its member-institutions,
- the preparation and implementation of decisions made by the Steering Committee,
- the sectorial relations with institutional, scientific, economic and associative partners,
- the follow-up of the GEF, the Multilateral Fund of the Montreal Protocol and sectorial relations with bilateral and multilateral donors.



The FGEF Secretariat is attached to AFD's Strategy Division. For its own management, the FGEF uses the accounting, financial and human resources Departments of the AFD, as well as its network of local agencies.

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# The FGEF project cofinancing

## Eligibility criteria to receive FGEF financing

### In order to be eligible, and project must:

- have a significant, positive impact on the global environment,
- contribute to the economic and social development of the beneficiary country and populations,
- be innovative, and have a demonstrable, reproducible effect,
- ensure social, institutional and economic longevity after its completion,
- be implemented by an efficient and capable body,
- be primarily financed by other donors (including local ones), with the FGEF providing only minority funding,
- be consistent with French cooperation and development priorities.

### Are not eligible:

- programs limited to capacity building and research not related to development projects,
- recurring activities and institution or body operating costs.



FGEF eligible countries are all developing countries eligible for Official Development Assistance as defined by the OECD.  
65% of the resources go to Africa and the Mediterranean.



# FGEF project cycle

## 2 Identification

- identification file drawn up by one of the French institutional partners with the potential beneficiary,
- assistance from the Secretariat for the drafting and formatting,
- verification of project eligibility by the FGEF Secretariat,
- advice from the Scientific and Technical Committee and the Secretariat,
- authorization from the Steering Committee to undertake appraisal of the project.

## 1 Pre-identification

- drafting a summary sheet that presents the characteristics of the project: objectives, partners, indications in terms of content and cost
- a choice of 12 files and presentation reports to be considered for each of the three annual Steering Committees, carried out by the Secretariat in collaboration with the member institutions.

## 3 Ex-ante evaluation

- conducting an ex-ante feasibility study of the project with a detailed definition of the technical, economic and institutional conditions of the project's implementation and application points of the financing on the basis of the feasibility, the logistic framework,
- drafting a presentation report.

## 4 Commitment

- project approval by the Steering Committee, opinion provided during the meeting of the Scientific and Technical Committee and Secretariat,
- authorization from the Secretariat to commit the corresponding funds,
- signature of the financing agreement with the beneficiary.

## 9 Communication to third parties (CD, brochures)

Information concerning the project after completion or after the post-evaluation phase is conducted by the member institution with the support of the Secretariat and/or the beneficiary partners. This information might deal with a series of projects concerning the same theme or the same geographical area.

## 8 Lessons learned

- retrospective evaluations, seminars.

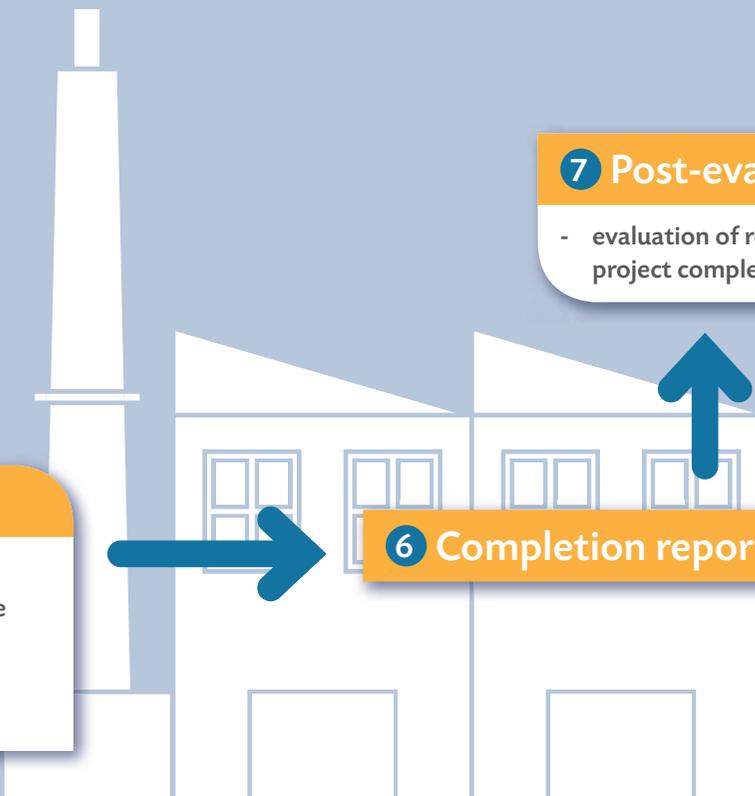
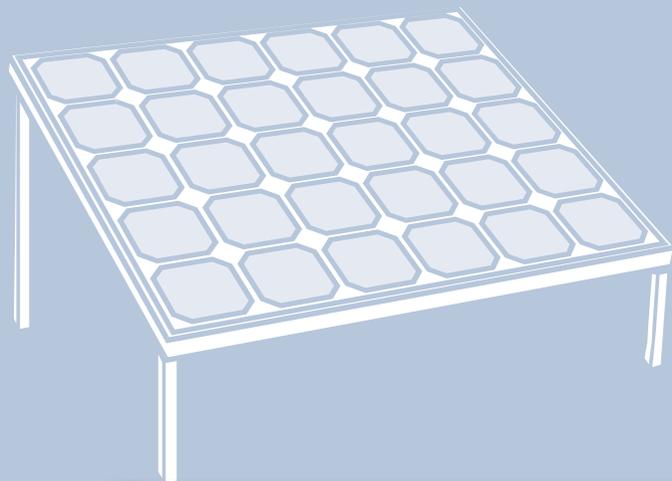
## 7 Post-evaluation

- evaluation of results and impacts after project completion.

## 5 Implementation

- implementation of the project by the grant beneficiary,
- follow-up and supervision by the French institution with the assistance of the Secretariat,
- possible mid-term review,
- management of funds by the AFD.

## 6 Completion report



# The FGEF strategy in the climate change

After 20 years of information raising awareness about the risks of climate change, it has become a major international political issue. It deals with crucial issues related to States' various degrees of responsibility, to dividing efforts between countries, to their politics and development modes, to the orientation of their research and to their technological choices. Solidarity between countries is a key element for efficiently combating climate change and finding appropriate responses to the foreseeable consequences of this change, especially in the poorest countries, which are also the most vulnerable.

Global warming is the result of an increase of the green house effect, due to the increase in green house gases (GHG's) released by human activity: energy, transportation, industry, housing, waste, agriculture and deforestation. Since the beginning of the industrial age, the concentration of GHG's in the atmosphere has increased by **35%**, and threatens to affect the living conditions in all areas of the world if nothing is done in the near future.

Aware of the problem, 189 countries ratified the United Nations Framework Convention on Climate Change in 1992. In 1997, 141 countries signed the Kyoto Protocol, which entered into force in February 2005. The industrialized countries in Annex I made a global commitment to reduce their emissions by at least 5% according to 1990 levels between 2008 and 2012, with each industrialized country achieving its own reduction objectives.

The FGEF encourages "mitigation" projects that seek to reduce or at least limit the consumption of non-renewable fossil fuels and GHG emissions by:

- promoting renewable energies and those that release low amounts of green house gases,
- highlighting the value of using biomass for energy,
- developing efficient energy production systems,
- improving the energy efficiency in energy consuming sectors (housing, transportation, industry, agriculture),
- storing carbon in forests, the soil and underground.

Since 2005, the FGEF has also been supporting projects that strengthen developing countries' capacities to adapt in the areas of surveillance, knowledge and resilience.



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**65 M€** of subventions  
for **51 projects**  
between 2003  
and 2009



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The FGEF encourages projects that are exemplary, innovative and reproducible. Its action consists in evaluating issues, establishing priorities, ensuring pilot projects' implementation, policy support, impact assessment and sharing of experiences.

Its experience in the area of innovation and as a lever encouraging progress (energy efficiency, reasonable consumption of fossil fuels) in these countries has made it possible for several institutions or partners to continue and to develop the actions initially undertaken by the FGEF. The most striking examples are the activities that AFD has been supporting since 2004 in China and the Mediterranean countries on energy efficiency in buildings or the development of wind farms in the cement production sector of the Maghreb countries.

In addition, the FGEF supports the dissemination of the project mechanisms identified in the Kyoto Protocol: the Clean Development Mechanism (CDM) and the Joint Implementation which make it possible to reduce GHG emissions at the lowest cost by facilitating the transfer of clean technologies and promoting solidarity between Northern and Southern countries.

Moreover, the new "REDD" mechanism (Reducing Emissions related to Deforestation and the Degradation of forests in developing countries) currently being developed will also contribute to financing the fight against the green house effect.

In the area of climate change, the FGEF is strengthening synergies with other areas of the global environment in which the FGEF is active, essentially protecting biodiversity, combating desertification and protecting the ozone layer.

From 2003 to the end of 2009, the FGEF climate change portfolio had 51 projects identified in about 20 countries: 20 in Africa, 12 in the Mediterranean, 3 in Latin America, 13 in the Asia/Pacific region and 3 in Eastern Europe, for an overall total of 64.9 million euros.



### PORTFOLIO BREAKDOWN OF CLIMATE CHANGE PROJECTS BY REGION



# The means to meet commitments

## Mitigation

to reduce and limit green house gas emissions



Mitigation through **reducing** emissions



Mitigation through using "carbon sinks" for **sequestration**

## Adapting

to an already significant impact



**Adapting** natural and human systems.

3 criteria: **sensitivity** (the degree to which a system is affected by climatic stimuli), **adaptability** (related to climate change) and **vulnerability** (degree of inability to adapt to adversity)



Mobilizing **specialized financing**

**Exerting a lever effect**



# Reducing and limiting green house gas emissions, **mitigation** (CO<sub>2</sub>, CH<sub>4</sub>, Nox, SF<sub>6</sub>, PFC, HFC...)

## MITIGATING BY REDUCING EMISSIONS

### Acting on the energy supply

#### Promoting renewable energies

Hydraulic, wind, geothermal and solar

#### Highlighting the value of renewable biomass

Wood energy, biogas (waste), biofuels

#### Developing efficient energy production systems

Natural gas and gas from liquefied oil, clean coal, capturing, mine gas, combined cycle, tri/cogeneration, interconnection

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## By promoting renewable energies and clean carbon energy

Today, most energy systems use fossil fuel (coal, oil and gas), which leads to heavy local pollution and a high release of GHG's. The FGEF seeks to replace these energies with renewable energies (wind, hydraulic, geothermal and solar).

### Dominique - Geothermal power Caribbean

**FGEF contribution:** 2 M€ - Total cost: 5.5 M€ - 2007.

**Partners:** local and national authorities, EDF, DOMLEC, AFD.

The first phase of the project consists of identifying an exploitable site to power the geothermal power plant capable of producing 50 MW, which will supply not only Dominique but also neighboring islands (Guadeloupe, Martinique).



### Morocco - Rural electrification and solar-powered pump

**FGEF contribution:** 1.6 M€ - Total cost: 19.4 M€ - 2003.

**Partners:** otal Energie Maroc/TEMASOL, National Office of Electricity (ONE), EDF Energie, KfW, AFD.

The project made it possible to widely develop, in the provinces of Khemisset, Khenifra, Khouribga and Settat, the first large-scale home solar power systems (16,000 sets of solar cells) and to provide a dozen collective solar-powered pumps. The installation, maintenance, credit and payment were done through a long-term management contract awarded to a private operator (10 years). The operator is currently managing more than 25, 000 subscribers per year, and doing so in a rural area.



## By demonstrating the value of renewable biomass

Agricultural activities in developing countries and transition countries are essential economic activities. Using biomass to produce energy could be a solution to take advantage of. As part of energy producing systems adapted to local situations, the FGEF is supporting the development of these uses.

### West Africa - Developing a vegetable waste carbonization facility

**FGEF contribution:** 0.6 M€ - Total cost: 1.5 M€ - 2003 - 2006.

**Partners:** Géocoton, ADEME, MAEE, Silos de Tourtoulou, CNAM.

This project plans to develop a semi-industrial rice ball carbonizer in the rice producing region of Rosso, in the south of Mauritania, in order to provide marketable household fuel available on local markets as well as electrical energy for shelling facilities.



### Lithuania - Setting up a regional wood-energy sector

**FGEF contribution:** 1.0 M€ - Total cost: 10.8 M€ - 2004 - 2009.

**Partners:** Lithuanian Ministry of the Environment, LITESKO, private Lithuanian partners (MEDJIVA, SKYDRINE), ADEME, MEEDDM.

This project made it possible to set up a new wood-energy sector in the south eastern area of Lithuania (Vilnius–Vilkasiskis–Marijampole), which will provide fuel to municipal heat centers using forest exploitation and wood processing by-products.



## By energy efficient systems

Many countries, due to their energy production systems, have a poor track record in terms of energy performance. This can be due to lagging investments or to situations that are not conducive to saving energy. The FGEF supports the development of new systems of the most efficient innovative energy producing systems (combined cycle, co-generation, wood-energy, etc...).

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### Morocco - Wood-energy in an urban location (improving hammam boilers)

**FGEF contribution:** 1.6 M€ - Total cost: 4.1 M€ - 2003 - 2008.

**Partners:** Ministry of Energy and Mines of Morocco, CDER and APEHC, AFD.

The project's goal was to improve the energy performance of about a hundred hammams and bakeries which use wood for fuel in different cities in the Kingdom of Morocco. This improvement was the result of the completion of a boiler modernization program that was carried out on a wide scale. Reasonable investments made it possible to reduce wood consumption by half in the hammams that were partners in the program. More than 150 boilers were improved, which had a significant effect in terms of reducing the amount of wood used per year, from 23, 000 tons to 17, 000. The project provided aid not only to the general contractors but also had a positive impact on the supply of the providers and boiler makers in particular. The return on investment is about 12 months.



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### Chiller replacement project in Africa (AFROC)

**French bilateral funding part of the MFMP:** 0.44 M€ - FGEF contribution: 0.75 M€ - Total cost: 5.3 M€ (including MFMP: 2.4 M€, private: 2.2 M€) - 2007.

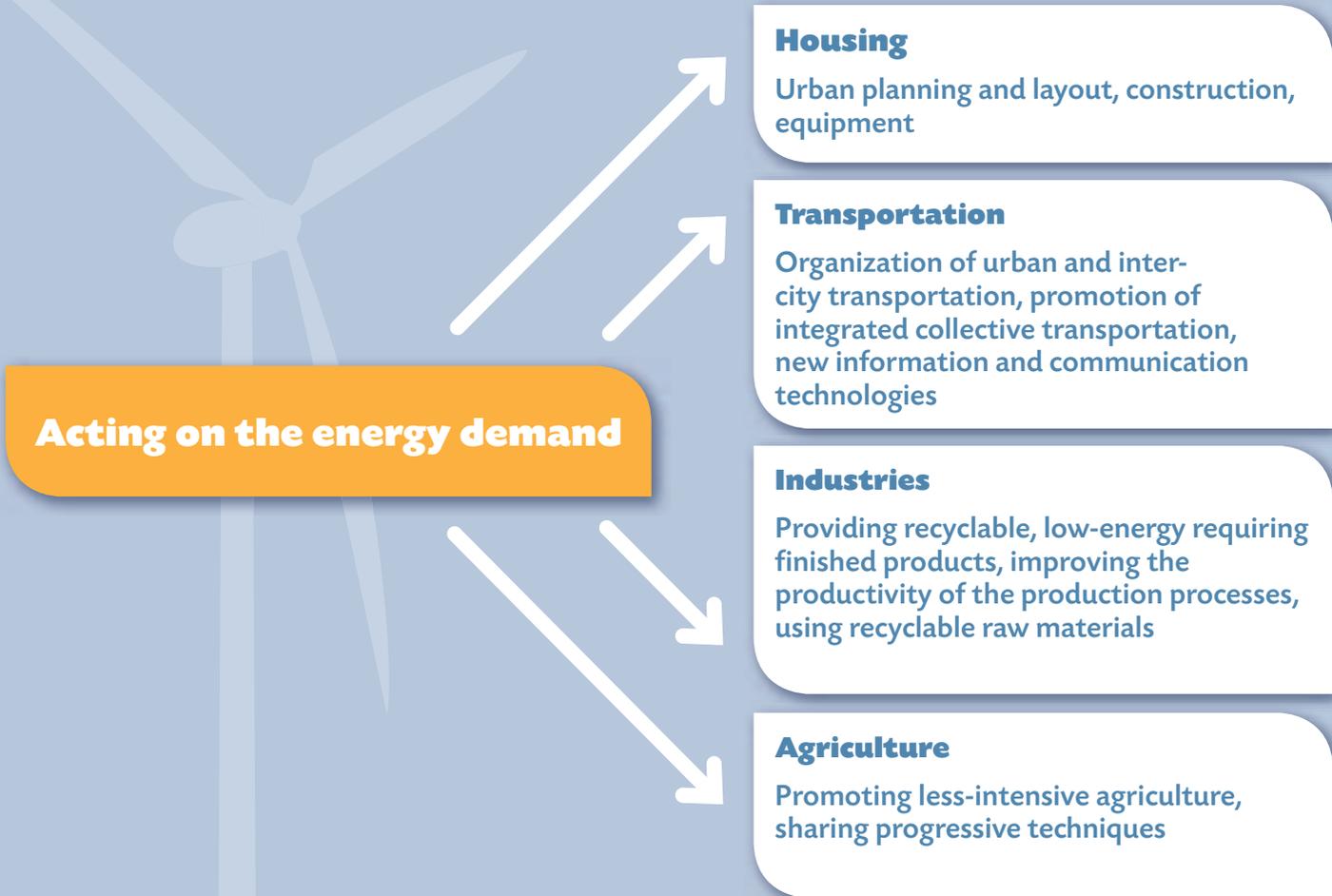
**Partners:** UNIDO, France, Germany, Japan.

**Countries:** Cameroon, Egypt, Namibia, Nigeria, Senegal, Sudan.

This project seeks to reduce the consumption of CO<sub>2</sub> producing fossil fuels and to eliminate CFC's, which are substances that destroy the ozone layer. The project will make it possible to replace 10% of the chillers in six African countries, which will subsequently lead to other equipment being replaced.

This project boasts a double impact on the environment by contributing to the fight against global warming and to the protection of the ozone layer.





## Acting on the energy demand

### Housing

Urban planning and layout, construction, equipment

### Transportation

Organization of urban and inter-city transportation, promotion of integrated collective transportation, new information and communication technologies

### Industries

Providing recyclable, low-energy requiring finished products, improving the productivity of the production processes, using recyclable raw materials

### Agriculture

Promoting less-intensive agriculture, sharing progressive techniques



© A. Mourrada

## In housing

In Southern countries, energy performance in residential and tertiary housing is not always the object of real optimization (design, choice of material, environmental quality, effective equipment, construction costs, ...).

The FGEF supports the improvement of energy performance in buildings through the search for innovative solutions adapted to local situations (regulations, standardizing equipment, pricing that is an incentive to energy savings, classifying buildings, building techniques, ...). A constant effort is made to improve local partners' capacity building, with qualified French expertise also being available.





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## Afghanistan - Spreading good energy efficiency practices in the public building construction sector

**FGEF contribution:** 1.35 M€ - Total cost: 12.9 M€ - 2006.

Partners: Afghan Ministry of the Environment, ADEME, GERES, MAEE, German Cooperation (GTZ).

The project's objective is the development of the implementation of energy efficiency measures in public buildings whose construction was financed by international aid. Between 2005 and 2008, 274 buildings, totaling 168, 225 m<sup>2</sup>, were improved. The cost overrun for insulation remained below the established limit of 12%. Energy needs can be reduced by 70% by using improved insulation. The improvement of the buildings also made it possible to avoid releasing 18, 000 tons of CO<sub>2</sub> into the atmosphere per year.

## Tunisia - Energy efficiency in the thermal regulation and construction sector

**FGEF contribution:** 1.9 M€ - Total cost: 10.3 M€ - 2002.

**Beneficiary:** ational Agency for Energy Conservation of Tunisia (ANME).

The primary result of the project was the enacting of policies concerning thermal regulation in buildings, which came about after a long experimental process that made it possible to define climatic zones and labels. The project made it possible to experiment with tools and concepts over approximately 50 pilot projects which validated simple and low-cost techniques. The technical improvements make it possible to forecast reducing energy consumption by 33%, and for some 60,000 new housing units, to substantially reduce the amount of green house gases released into the atmosphere. These standards are now applied to all new buildings.



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## China - Energy efficiency program in social housing construction

**Phase 1 (1999 – 2004) / FGEF contribution: 3.3 M€ - Total cost: 96 M€.**

**Phase 2 (2004 – 2009) / FGEF contribution: 2.7 M€ - Total cost: 297 M€ - 2005.**

**Chinese partners:** Provinces of Heilongjiang and Liaoning, City of Beijing, City of Shanghai, Chinese Ministry of Construction, promoters.

**French partners:** ADEME, MEEDDM, CSTB, Architectes thermiciens français – international partners: World Bank / GEF.

The FGEF, with the assistance of the ADEME and teams of French thermal architects, has been supporting an energy efficiency program for housing in China for the last ten years. Initial efforts focused on constructing nine social housing units in cold regions. The program made it possible to show that energy gains of 50% were possible for a cost overrun limited to between 5 and 7%. Since 2004, action themes have been broadened to include renovating existing housing units and housing in rural areas in cold regions as well as air conditioning in Shanghai. At the same time, work on standards, financial instruments and the dissemination of good practices has been carried out with the Ministry of Construction.



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In a favorable context, characterized by poor pre-existing insulation in buildings and highly pollutant energy products: the pre-diffusion operations made it possible to make direct substantial savings: 250, 000 MWh/year, or avoiding the release of 238, 000 tons of CO<sub>2</sub> equivalent/year into the atmosphere and avoiding the emission of the equivalent of 9, 520, 000 tons of CO<sub>2</sub> an expected building lifetime of 40 years. Identical programs, slated to be applied to millions of square meters, will make it possible to avoid releasing the equivalent of 23, 400, 000 tons of CO<sub>2</sub> per year.





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## ➤ In transportation

Developing and transition countries are undergoing strong urbanization. This growth, which is related to economic and social development, leads to new needs in terms of mobility. FGEF action seeks to develop integrated and sustainable transportation that uses clean carbon fuel with a low pollution output.



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### Vietnam - Study of an integrated and sustainable collective transportation project for the greater Hanoi area

**FGEF contribution:** 2 M€. Total cost: 178 M € - 2005.

**Partners:** City of Hanoi, Institute of Science and Techniques of Equipment and Environment for the Environment (ISTED), DGTPE, AFD.

The FGEF will examine the feasibility of an integrated collective transportation system combining bus and tramway networks in the downtown area of Hanoi. Separate systems for pedestrians and bicyclists will also be created.



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### Egypt - Aid to improve urban transportation in Cairo

**FGEF contribution:** 1 M€ - Total cost: 2.87 M€ - 2009.

**Partners:** The General Organization for Physical Planning (GOPP), the Egyptian Environmental Affairs Agency—EEAA and the authorities of the greater Cairo area.

The goal is to develop a collective, efficient, integrated, multimodal, hierarchical transportation network that is environmentally friendly. It aims at limiting the increase of automobile use by offering sustainable collective transportation solutions that are underpinned by Egyptian actors.



© P. Cheron

### Mexico – aid for converting mini-busses to natural gas in the Federal District of Mexico

**FGEF contribution:** 1.4 M€ - Total cost: 5 M€ - 2000 - 2004.

**Partners:** Federal District, EDOMEX, French Embassy.

The project seeks to encourage the use of Natural Gas Vehicles (NGV) by collective transportation operators in Mexico City. Seven hundred and seventy seven busses have been converted so far, along with two specialized service stations and the implementation of an aid and funding mechanism for the bus owners. The FGEF supported the creation of this new sector.



## ▸ In industry

Industry is often a major consumer of energy, water and other materials. In addition, certain processes produce a great deal of pollution and green house gases. The FGEF supports improving energy efficiency in these industries, limiting the GHG emissions as well as other emissions.



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### Morocco - Reducing energy and water consumption in the Sidi Bernoussi Zenta industrial zone of Casablanca

**FGEF contribution:** 0.83 M€ - Total cost: 1.94 M€ - 2004 -2009.

**Partners:** the Association of Economic Operators of the Industrial Zone (IZDIHAR), World Bank, GEF.

FGEF action deals with improving the energy efficiency of approximately 100 industrial businesses and the development of specialized energy efficiency and environmental protection services.

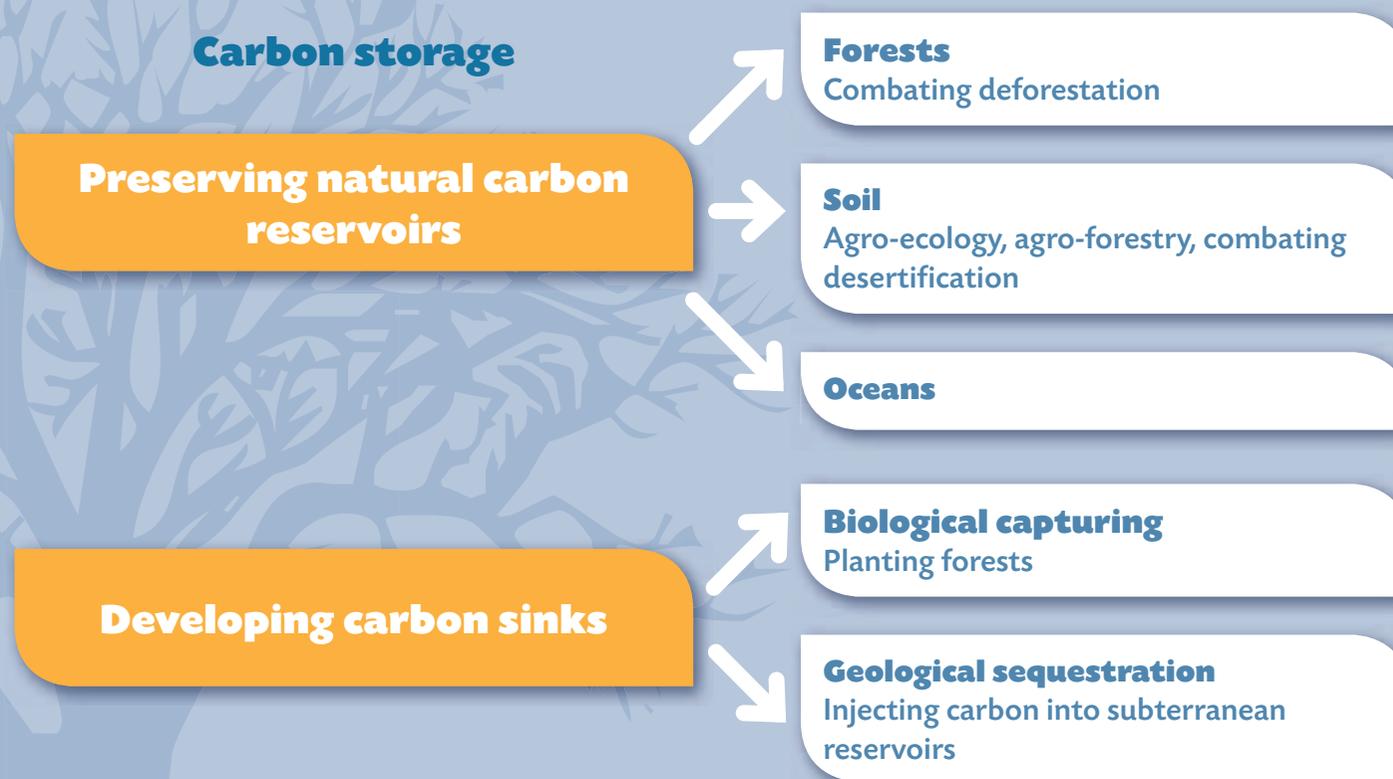
The project has four objectives:

- Economic: improving the business' and industries' productivity by lowering energy costs. The goal is to reduce fuel consumption by 25%, electricity consumption by 5% and water consumption by 20%;
- Environmental: reducing the CO<sub>2</sub> emissions produced by consuming energy;
- Social: supporting plans to absorb shantytowns and find new housing for their populations;
- Governance: building the Izdihar association's capacities to lead and promote actions, improve infrastructures, develop services in the industrial zone and share the experience in Morocco and other Southern Mediterranean countries.

In total, the project has generated 6.5 M€ in investment at the industrial zone level, making it possible to save 3.2 M€ year in terms of energy and water (average return on investment is 24 months). In terms of reducing CO<sub>2</sub> output, the investments have made it possible to reduce emissions by 16, 000 tons per year.



## MITIGATION BY SEQUESTRATION IN "CARBON SINKS"



### Preserving natural reservoirs

The biosphere and soil are major natural carbon reservoirs. The FGEF encourages their preservation through promoting sustainable management methods.





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## In forests

Tropical forests represent 7% of the exposed landmass, and contain more than 50% of the planet's biodiversity. They are victims of major degradation affecting more than 7 million hectares per year. Tropical forest ecosystem degradation is at the origin of 20% of green house gas released by man. To resolve this situation, the international community seeks to set up a new mechanism, which complements the projects which are eligible for Clean Development Mechanism (CDM) status, which will slow the degradation of tropical forest ecosystems (REDD). The FGEF supports the implementation of the REDD financial mechanism, such as CDM's, in developing countries.



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## Africa, Latin America - Clean Development Mechanism in the forestry sector applied to the case of sequestration

**FGEF contribution:** 2.3 M€ - Total cost: 7.62 M€ - 2008.

**Partners:** ENDA, CILSS, UMEOA, OAB, IFIA, COMIFAC, CATIE.

The objective of the CDM implementation project in the forestry sector is to simultaneously promote the fight against poverty and the fight against climate change by improving the conditions required for the presentation and the approval of forestry projects in the CDM in African countries. The project will make it possible for the concerned countries and communities to master the specific engineering of this new financial tool and to benefit from the income related to emissions reduction certificates.



The FGEF supported the creation of the CDM and voluntary carbon credit with the following forestry and/or biodiversity projects, which encourage carbon sequestration (for more info, go to [www.ffem.fr](http://www.ffem.fr)):

Project title	Country	FGEF subsidy in M€	Total cost	Year
Conservation and development sub-tropical mountain forests (Upper Bemejo ecological corridor)	Argentina	1	4.24	2004
Sustainable management of natural resources with the indigenous Mapuche communities	Chile	1.695	4.5	2003-2009
Biological corridor of the Purace and Cueva los Guacharos parks	Colombia	1.6	4.74	2002-2009





### ➤ In agro-ecology

This very broad term refers to a diverse series of agricultural techniques and practices developed over the last 30 years in various regions of the world: direct planting, planting on mulch, preservation tilling and numerous other variations, vegetable coverings and plant coverings. The final versions of these methods have the effect of preserving soil over the long term and also restoring the physical, chemical and biological conditions necessary to make it a veritable agricultural production tool, one which is balanced and which can be used over the long term.

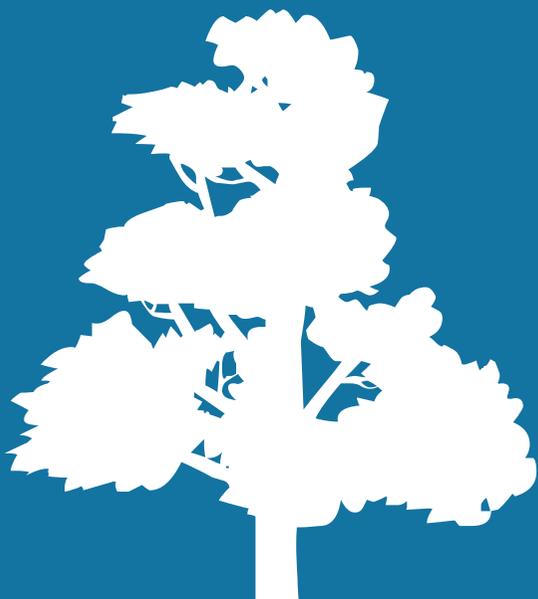
“Agro-ecology” thus includes all planting techniques that meet three major criteria: not working the soil, maintaining permanent vegetable cover on the ground and planting the seeds through this vegetable layer.



## Africa and the Mediterranean/Regional Development of agro-ecology and carbon storing in intertropical and Mediterranean agriculture

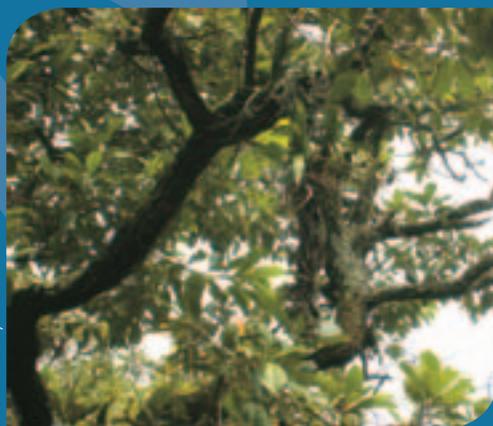
**FGEF contribution:** 2.69 M€ - Total cost : 3.2 M€ - 2008.

The main objective of this plan is to establish transfer and development mechanisms for agro-ecological techniques. It should make it possible to achieve adaptation projects of the agro-ecological techniques in several countries that represent the various contexts of developing countries, with a coordinated approach by French partners (CIRAD, IRD, NGO's,...) allowing for synergies the sharing of experiences.



The destruction of the tropical forest is at the origin of 20% of the green house gas emissions produced by man. Confronted with this situation, the international community has been negotiating a funding mechanism to reduce emissions related to deforestation and the degradation of forest ecosystems (REDD) since 2007, which is to be integrated into a future "climate" agreement which should take over from the Kyoto Protocol in 2012.

In the framework of its support for the preservation and the sustainable management of forest ecosystems, the FGEF supports the implementation of the new financial instrument by funding a specific program for the further consideration of forest planning as part of the REDD mechanism. This program is coordinated by the Center for International Forestry Research (CIFOR) and essentially deals with the countries of Central Africa and the Brazilian Amazon.



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## Central Africa / Brazil - Aid for the sustainable management of the forests in the Congo River basin and the Brazilian Amazon basin (REDD)

**FGEF contribution:** 1.2 M € - Total cost : 3.2 M € - 2006.

**Partners:** AFD, WWF, WCS and CI.

Current negotiations about the financing mechanism of the reduction of emissions related to deforestation and forest degradation (REDD) provide an opportunity to strengthen the sustainable forest management policies implemented over recent years in the countries of the Congo River basin and thus encourage development all the while making a significant contribution to the fight against climate change.

The project intends to make a contribution to forest planning within the framework of the REDD strategies in Central African countries, by developing the following orientations:

- pooling existing knowledge in the areas of evaluating carbon stocks;
- providing the elements necessary to assess the impact of forest management on carbon emissions;
- facilitating exchanges between the Amazonian basin and Africa on these issues;
- providing Central African negotiators with the means necessary to defend their positions during future climate negotiations.



# Adapting to reduce vulnerability to climate change

The impact of climate change is very broad: modified rain patterns, increasingly frequent extreme weather events, a rise in ocean levels, freezing crops, biodiversity vulnerability,... it is necessary to anticipate these kinds of phenomena and to develop strategies in order to adapt the different sectors concerned: environment, infrastructure, health, agriculture, energy, tourism.



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## Africa - Aid for the implementation of the climate change warning system ("VigiRisc")

**FGEF contribution:** 2 M€ - Total cost : 4 M€ - 2008.

**Partners:** regional African organizations, African Development Bank, regional and global meteorological organizations.

The goal of the project is to make it possible for African countries to adapt to the increase in climate change.

The specific goal is as follows: the capabilities of the African countries for the prevention of socio-economic risks and impact related to climate change are strengthened through warning products and services adapted to different sectors.

Climate change is first of all portrayed by increased climatic variability, and developing warning and observation systems can make it possible to allay the immediate concerns of decision makers, and participate in the adaptation effort in the sectors that are climate sensitive.



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## Indian Ocean - Capacity building in the area of adapting to climate change in the Indian Ocean

**FGEF contribution :** 1 M€ - Total cost : 3.6 M€ - 2009.

**Partners:** Indian Ocean Commission, French and international institutions involved in climate observation, Region of Réunion, ONERC (National Observatory of the Effects of Climate Change).

Then ultimate goal of the regional adaptation project is the establishment of regional cooperation between countries of the IOC in the area of adapting to climate change. Its objective is to strengthen the IOC's capacities and those of its Member States in the area of adapting over the short term, as well as developing long term projects and policies.



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The FGEF also supports the following adaptation projects: (for more info go to [www.ffem.fr](http://www.ffem.fr)):

Project title	Country	FGEF subsidy in M€	Total cost	Year
Mapping of the Maldives and climate change	Maldives	1.5	6.3	2009
Aid in adapting to climate change in the areas of agriculture and water	Africa/ Regional	1.2	3	2008
Adapting to climate change in the Quirimbas National Park	Mozambique	0.7	5.26	2005 2009



# Mobilizing and structuring specialized financing for energy efficiency and renewable energies

## Through specialized energy efficiency and renewable energy investment funds

Financing project investment is the weak link in developing energy efficiency policies. The main innovation over recent years in terms of encouraging investment in these areas has been the public-private investment fund specialized in making direct action possible to projects with considerable scope, or helping energy service companies that undertake high-performance projects under their own volition (co-generation, rational energy use projects, renewable energy development projects).



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### Eastern Europe and Russia Capacity building and assistance in the implementation of a public-private fund dedicated to energy efficiency

**FGEF contribution:** 2 M€ - Total cost : 6 M€ - 2007.

**Partners:** CEENU, FNU, UNEP, GEF, member countries, MAEE.

This project is part of the “Energy Efficiency 21” program set up by the CEENU. It seeks to promote energy efficiency in Russia and several Eastern European countries (Ukraine, Belarus...). The goal of the project is to raise awareness among actors and decision makers, to create a network of experts, to strengthen energy efficiency policies and to develop renewable energies. Lastly, it supports the creation of a 300 M€ public-private investment fund which makes it possible to provide incentives to the energy efficiency and renewable energy market in the region.



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## ↳ Through credit lines/guarantees

Developing energy efficiency and renewable energy in both Northern and Southern countries requires adapted financial tools, especially dedicated lines of credit.

In order to be efficient, these credit lines must be accompanied by, among other things, long term analysis tools and capabilities within banks as well as adapted laws and regulations. Since 2007, the FGEF has been developing a series of assistance projects to bolster these lines of credit.

## China - Aid for a financing program for energy efficiency and renewable energy in China

**FGEF contribution:** 0.6 M€ - Total cost : 61.2 M€ - 2008.

**Partner:** CapEnergies.

At the end of 2007, three Chinese banks (Huaxia Bank, Shanghai Pudong Development Bank and China Merchants Bank) each set up 20 M€ worth of bank credit lines to finance energy efficiency projects and to show the value of renewable energy for the private sector with the help of AFD.

This ground breaking operation seeks to involve Chinese financial institutions in the effort to adapt the country's companies to the imperatives of controlling energy expenditures and climate change. To help these lines of credit, centralized technical assistance was financed by the FGEF. These were long term capacities in the area of energy efficiency and renewable energy within each bank, and providing the necessary tools and methodologies, all the while ensuring consistency and synergies.

The investments financed by the AFD credit line will make it possible to avoid releasing four million tons of CO<sub>2</sub> into the atmosphere or the duration of the projects.

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## By mobilizing the Kyoto Protocol “flexibility mechanisms” in financing mitigation



### Asia - CDM in four provinces in the west of China

**FGEF contribution:** 0.75 M€.  
**Total cost :** 1.5 M€ - 2008.

The project targeted the reduction of green house gas emissions by using the Kyoto protocol mechanisms all the while contributing to the sustainable development of four Chinese provinces (Guizhou, Guangxi, Sichuan and Yunnan). This made it possible to set up CDM centers in four provinces of the West and to develop an associated portfolio of more than 200 CDM projects, nine of which are being examined by the Executive Board of the Kyoto Protocol. This project further facilitated the implementation of partnerships with different experts and French businesses: Sogreah, Bureau Verita, EDF.



### Central Africa - Showing the value of using wood waste from sawmills in forestry company co-generation plants

**FGEF contribution:** 1 M€ - Total cost : 3.1 M€ - 2009.

**Partner:** ATIBT.

The project provides technical assistance in setting up biomass co-generation plants for some 20 forestry companies in the Congo basin.

In addition to contributing to the fight against the green house effect, the project will explore the possibility of providing electricity to impoverished, isolated rural populations.

Moreover, the project will provide the companies with energy independence and thus make it possible for them to strengthen their structuring role in the national economy.

### Aid in the development of the CDM in Africa: “Africa Assist”

**FGEF contribution :** 2 M€ - Total cost : 13.9 M€ - 2006.

**Partners :** World Bank, AFD, others.

The FGEF contributes to the financing of a capacity building program with a view to preparing CDM projects in Africa, in partnership with the World Bank and AFD. This program seeks to develop learning capacities (training experts, identifying and supporting projects, developing actors' networks). In addition, the goal of the program is to achieve some 40 standard-setting CDM projects, thus providing for the start-up of this mechanism in Africa.





The FGEF contributes to the emergence of CDM and voluntary carbon credits through the following projects (for more info, go to [www.ffem.fr](http://www.ffem.fr)):

Project title	Country	FGEF subsidy in M€	Total cost	Year
Chiller replacement project in Africa (AFROC) – FMPM French bilateral funding: 0.44 M Euros	Africa	0.75	5.3 (including FMPM: 2.4 M€, private : 2.2 M€)	2007
Clean Development Mechanism in the forestry sector	Africa	2.3	7.62	2008
Support for the CDM development in Africa : “Africa Assist”	Africa	2	13.9	2006
Showing the value of wood waste from sawmills for use in forest company co-generation plants	Central Africa	1	3.1	2009
CDM in four western provinces in China	Asia	0.75	1.5	2008
“Rural Carbon” and capacity building project in the provinces of Yunnan and Sichuan	China	1	2.5	Project identified in 2009
Construction of an energy saving treatment station in Fes	Morocco	0.9	65.8	2008



## Drafting guides on “flexibility mechanisms”

In order to meet the rising demands of our Northern and Southern partners to better understand and implementation of the Kyoto Protocol mechanisms concerning the carbon market, the MEIE, MEEDDM and FGEF pooled their experiences in 2008 in order to draft an instructional document titled “Carrying Out a CDM or JI project For Reducing Green House Gas Emissions: What Opportunities? How to Act?”

This is the 3rd edition of the French CDM and JI guide targeting the public at large, development actors or ordinary citizens looking to update their knowledge on the crucial and, at first glance, complex subject of financing climate change.





## For further information, please contact:

### ➤ Abroad

- French Embassy
- Cultural Action and Cooperation Service
- Economic Expansion Office
- The AFD's network of agencies  
(in more than 60 countries)



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### ➤ In France

#### FGEF public partner institutions

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[www.economie.gouv.fr](http://www.economie.gouv.fr)

- **Ministry of Foreign and European Affairs**

27, rue de la Convention – CS 91533 – 75732 Paris cedex 15  
Tel : + 33 (0) 1 43 17 90 00  
[www.diplomatie.gouv.fr](http://www.diplomatie.gouv.fr)

- **Ministry of Ecology, Energy, Sustainable Development and Sea  
DAEI**

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[www.developpement-durable.gouv.fr](http://www.developpement-durable.gouv.fr)

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