FONDS FRANÇAIS POUR
L'ENVIRONNEMENT MONDIAL

THE **FACILITY FOR INNOVATION** IN THE FIELD **OF CLIMATE CHANGE** DEDICATED TO THE **PRIVATE SECTOR**

FISP CLIMAT

A funding solution for
DEVELOPERS OF INNOVATIVE PROJECTS
in developing countries

Collection
Capitalization of experiences

French Facility for Global Environment,
a partner for the fight against climate changes

A SOLUTION FOR PROJECT DEVELOPERS

FISP-Climat operates in such a way that it helps project developers to get round some of the major obstacles they face in the host countries.

• **Obstacles connected with funding:** FISP-Climat assistance in the form of a subsidy complements existing instruments and removes the barriers to funding innovative projects.

• **Obstacles connected with uncertainty as to the operation of the technology in the conditions prevailing in the host country:** funding an "innovative technology demonstrator" (i.e. full-scale operational implementation) provides a commercial showcase making it easier to raise funds to reproduce an initial industrial project that has proved to be workable in the local context at a larger scale.

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• **The need for a local presence at each stage of the project:** the long-term survival of projects is a key aspect of the Facility's selection criteria, and will depend to a great extent on monitoring by qualified local teams and a strong partnership between the exporting company and a local organisation.

TARGET COUNTRIES FOR FISP-CLIMAT

In line with the FFEM's geographical priorities as defined by the French Government, the projects submitted must be implemented in a target country. There are three levels of priority:

① **Countries in the Sub-Saharan Africa, Caribbean and Pacific (ACP) zone: at least 50% of the projects chosen will be situated in one of the 79 ACP countries.**

② **North Africa - Mediterranean region: this region will be second in order of preference.**

③ **Other developing countries.**

WHAT TYPES OF PROJECT IS FISP-CLIMAT INTENDED TO FUND ?

FISP-Climat aims to encourage reproducible and long-term projects, in order to stimulate a market for technologies or services to mitigate and/or adapt to climate change in developing countries. A leverage effect is sought via the effective mobilisation of private players in the sector but also via the contribution of additional funding from the companies themselves or from other investors.

The funding granted by the facility corresponds to **part of the capital expenditures (CAPEX)** of a project, and is not intended to be used to fund feasibility studies or resources assessments only.

This type of support is particularly suited to companies that are developing a portfolio of operations and need to obtain funding to pre-finance development costs. FISP-Climat aims to meet the **challenge of a change in scale** in the form of repayable advances.

The facility was experimental in 2013-2014 and has been extended on 2015-2016.

5 TO 10 PROJECTS PER YEAR

↘ With a subsidy representing no more than 30% of the project investment costs.

↘ Up to a maximum of €500,000 per project.

↘ 4 calls for projects issued between 2013 and 2016.

A total envelope of 10 million euros.

ELIGIBILITY CRITERIA FOR FUNDED PROJECTS

Several types of eligibility criteria are defined for selecting the projects that will benefit from funding. They are connected with

- the geographical area
- the sector-specific themes of the project
- the types of innovation
- the beneficiary of the subsidy

► **Priority is given to countries in Africa and the Mediterranean region,** which are vulnerable to the effects of climate change, and which have considerable needs for innovative technologies.

► **Specific themes that address needs identified in the target developing countries.**

ELIGIBLE THEMES

MITIGATION

• Transport • Power and heat generation from renewable • Energy efficiency in the industry • Optimised management of energy consumption by individuals and the business sector • Management of non-energy related GHG emissions (excluding agriculture) • Optimised management of energy networks • Biofuels production • Waste management.

ADAPTATION

• Water management in industry • Water management in business sector • Water pumping • Optimization of wastewater treatment.

► Target innovations must correspond to the **experimentation with a change of scale**beginning with pre-existing localised innovations or **the discovery, design and/or finalisation of innovations** that are liable to nurture discussion of sector policies or even influence them.

The beneficiaries of the facility are **single private companies** (companies not classified as small or medium are excluded) **or consortiums including at least one private company.**

The themes and technologies liable to be eligible for FISP-Climat funding, that the FFEM wishes to include in its calls for projects, must answer the following questions:

- Are there any innovative technologies?
- Do these projects address a real need in the host countries?
- Do these projects fall within the scope of the FFEM's strategic planning framework?
- Do these projects entail investment expenditures
- of the order of a few million euros?

INNOVATIONS AND CONCRETE RESULTS

Funded projects have provided a number of major economic, social and environmental benefits, such as:

CREATION OF LOCAL JOBS

27 DIRECT JOBS CREATED IN CAMBODIA

(operators, managers, maintenance workers, etc.), extra income for local people and greater competitiveness for local businesses.

LOCAL CAPACITY-BUILDING

7 COUNTRIES CONCERNED

REDUCTION OF CO_2 EMISSIONS

ABOUT **8 600 t CO_2 AVOIDED FOR 5 YEARS IN CAMEROON**

Increase of clean and renewable energy.

ACCESS TO RELIABLE ENERGY

in particular for people cut off from the main network, and reduction of electricity charges.

REDUCTION OF THE ENVIRONMENTAL IMPACT OF WASTE WATER

MORE THAN **1 000 000 M^3 WASTEWATER TREATED IN INDONESIA**

RIPPLE EFFECT

INNOVATIONS ALREADY SUPPORTED BY FISP-CLIMAT

In 2013-2014, the FFEM committed 4.23 million euros for 9 projects in the framework of FISP-Climat. With co-financing, it represents a total investment of 21.11 million euros. Three other projects are currently being examined, representing a total of 0.55 million euros from the FFEM.

WEST AFRICA

CAMEROON, BURKINA FASO, MAURITANIA, SENEGAL, IVORY COAST (€1,706M)

EPC: modulation power plant
AEPC: vertical shaft lime kiln
LDB Solar: hybrid solar power plant

MODULATION POWER PLANT

Making up for insufficient electricity production facilities by prefiguring the introduction of a smart grid (EPC).

- Country: Cameroon
- Beneficiary: ENERGY POOL
- Beginning: 2014
- Total project cost: €1,925,000
- Including FFEM funding: €500,000

The power sector in Cameroon has experienced a strong increase in peak consumption in recent years owing to heavy demand in urban areas. Base-load capacities should grow as a consequence of renewed investment in the industrial sector.

This project aims to make up for the inadequate power generation facilities in order to meet demand by mobilising available private production capacity and encouraging major consumers to reduce their demand. It prefigures the introduction of a smart grid, which is crucial for developing intermittent energy sources.

HYBRID SOLAR POWER PLANT

Optimising energy supply to a dairy using solar energy (LDB Solar).

- Country: Senegal
- Beneficiary: PANAMINT ENERGY AFRICA
- Beginning: 2015
- Total project cost: €2,196,174
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The LdB Solar project aims to optimise energy supplies to the Laiterie du Berger (LdB - Berger dairy) by means of production units using solar thermal and solar photovoltaic technologies and a system of management of the local energy network, enabling a flexible transition between the various sources of energy (photovoltaic power plant medium-voltage and as a last resort, a diesel-powered generator). Energy storage is a notable feature of the project.

EAST AFRICA

KENYA (€1,350M)

GREENHEAT: energy production from effluent
PEREOA: industrial biogas production

INDUSTRIAL BIOGAS PRODUCTION

Producing renewable energy and organic fertiliser from sewerage (PEREOA).

- Country: Kenya
- Beneficiary: SANERGY LNC.
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The project aims to demonstrate the feasibility of industrial biogas production by fermenting latrine sludge. It includes the design, installation and control of a large-scale anaerobic bio-digester and the electricity production system.

CARIBBEAN

DOMINICAN REPUBLIC (€1,350M)

ICARE: photovoltaic greenhouse

PHOTOVOLTAIC GREENHOUSE

Ensuring long-term electricity supply to a banana production factory by installing a mixed power plant comprising a cyclone-proof solar greenhouse and ground panels (ICARE).

- Country: Dominican Republic
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The project combines electricity generation from a renewable source and the introduction of farming activities. Via the construction of a 1 MW photovoltaic greenhouse, it supplies electricity to a banana packing plant and feeds the surplus into the network. It involves the use of a little-known technology that has never before been installed in the Caribbean islands.

GASIFICATION OF BIOMASS WASTE

Electrifying rural areas with small private gas-generation networks (ELGAP).

- Country: Cambodia
- Beneficiary: IED INVEST
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- Total project cost: €2,033,438
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With less than 25% of the population having access to an electricity network and even less than 15% in rural areas, the project involves supplying mini-networks in villages isolated from Cambodia's power grid with electricity produced by gas generators using rice husks, residues from neighbouring plantations and wood. It also aims to reinforce the associated distribution networks.

SOUTH-EAST ASIA

INDIA, CAMBODIA, INDONESIA (€1,330M)

RAINBOW: solar and/or biomass power plant
ELGAP: gasification of biomass waste
HAMPARAN: biogas production

POWER AND HEAT GENERATION

Developing a biomass and/or solar MV power plant demonstrator (Rainbow).

- Country: India
- Beneficiary: ENERTIME
- Beginning: 2013
- Total project cost: €1,707,000
- Including FFEM funding: €400,000

The proposed project involves designing and building a robust, high-efficiency (18%), medium-voltage power plant (100kWe) to guarantee electricity supplies to isolated communities with poor connections to the network. The innovation lies in the design of the thermodynamic cycle with a turbine of high isentropic efficiency, and in the implementation of a Franco-Indian partnership willing to develop it in India, then in the rest of the world.

ELECTRICITY PRODUCTION (BIOGAS)

Recycling waste and effluent from a manioc starch plant to produce biogas (HAMPARAN).

- Country: Indonesia
- Beneficiary: PT GREE ENERGY HAMPARAN
- Beginning: 2013
- Total project cost: €5,070,000
- Including FFEM funding: €500,000

The overall aim of the project is to demonstrate the efficiency of a technology that can generate electricity, heat and bio-methane fuel in rural areas in emerging countries by using a local and renewable source, while making a very significant contribution to improving local and general environmental conditions. GREE involves recycling organic waste to provide extra income for its food industry partner while avoiding the emission of 1 million tonnes of CO2eq over the next 10 years.

FISP-CLIMAT

AN UNPRECEDENTED POSITION FOR A GENUINELY INNOVATIVE FACILITY

With efforts being made to achieve the Sustainable Development Goals (SDG) and public budgets being capped, FISP-Climat offers a flexible, long-term financial solution that helps to mobilise private-sector players with regard to climate issues for the benefit of developing countries.

An analysis of funding instruments in the field of the climate deployed by bilateral or multilateral agencies shows that there is no mechanism equivalent to that of FISP-Climat. They fund essentially projects requiring investments of over 10 million euros or smaller projects that are a little innovative and involve little risk. Subsidies are rarely used.

FISP-Climat supplements the range of financial instruments by providing direct aid to the private sector for climate change adaptation and mitigation projects not exceeding a few million euros.

A WIDE RANGE OF FUNDING ARRANGEMENTS

SUPPORTS THE FIGHT AGAINST CLIMATE CHANGE

In the framework of international climate negotiations, the developed countries have agreed in particular to create a fund for financing adaptation and mitigation projects in developing countries amounting to 100 billion dollars per year by 2020. The Green Climate Fund, created in 2011, aims to collect these funds.

SOURCES OF FUNDING	A COMBINATION OF FUNDING INSTRUMENTS	SCOPE
• National budgets • Tax revenue • Carbon offsetting • World capital markets • Revenue from the carbon market	• Investment policy in the climate • Voluntary offset market • Subsidies • Concessionary loans • Capital	• Mitigation • Adaptation

The combination of private and public funding could prove to be particularly effective in mobilising additional resources, provided accountability and traceability requirements are associated with emerging innovations.

FINANCIERS

- **More than 50%:** of climate funding is believed to come from private funds.
- **Public (bilateral and multilateral):** 57% of international public funding is mobilised bilaterally, essentially via the major bilateral development banks (KFW, JICA and AFD), 36% by multilateral development banks approx. 7% by specialised funds (GEF, CIF, adaptation fund, etc.).
- **Philanthropic:** Funding from NGOs, foundations and other philanthropic institutions represents approx. 450 million dollars each year.

According to the Climate Policy Initiative report "Landscape of Climate Finance, 2011"

Supporting private funding in developing countries: a crucial requirement in combating climate change and adapting more effectively to its consequences.

CHALLENGES: INVESTING IN DEVELOPING COUNTRIES IN ORDER TO COMBAT CLIMATE CHANGE

The investments needed to develop and transfer green technologies in developing countries are still insufficient.

The challenge is to enable these countries to benefit from innovative technologies and combat climate change, **without going through the stage of development involving heavy emissions** that the developed countries have experienced.

Several public initiatives have been taken in developing countries to promote the development of technologies and/or initial experiments at industrial scale (demonstrators) in the field of combating climate change, in particular to provide access to energy.

However, **few initiatives aim to support the private sector via subsidies for innovative projects on a limited scale.**

The FFEM decided to help facilitate the transfer of innovative technologies by setting up an initiative dedicated to the private sector: **the Innovation Facility for the Private Sector in the field of climate change (FISP-Climat).**

Since 2013, this specific funding facility has financed innovative development projects related to the climate sponsored by businesses in both the northern and southern hemispheres, in partnership with organisations located in developing countries.

FISP-Climat aims to fund innovations in the field of climate change developed by private-sector players via grants or repayable advances.

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RÉPUBLIQUE FRANÇAISE
MINISTÈRE DE L'ÉCONOMIE DES FINANCES ET DE L'INDUSTRIE

FONDS FRANÇAIS POUR L'ENVIRONNEMENT MONDIAL

THE FFEM IN A FEW WORDS

The FFEM is a bilateral public fund created at the initiative of the French Government in 1994. It is committed to supporting environmental protection worldwide and to sustainable development, by conducting innovative activities in several fields: climate change, biodiversity, international waters, land deterioration, deforestation, persistent organic pollutants, and stratospheric ozone.

THE FFEM SUPPORTS INNOVATIVE PROJECTS THAT ARE AIMED AT ECONOMIC AND SOCIAL DEVELOPMENT AND HAVE A SIGNIFICANT AND LASTING IMPACT ON THE GLOBAL ENVIRONMENT.

Interfacing between French bilateral aid and multilateral aid, the **FFEM helps to ensure that France meets its international commitments** by complying with the directives of the international environmental agreements that France has signed.

THE FFEM IS:

- acts as an **innovation laboratory**, funding innovative projects in the fields of global environmental protection and sustainable development;
- encourages **capitalisation**, by supporting innovative concepts and methods, and pilot measures that are replicated at larger scale by other players in new geographical regions;
- promotes **north-south partnerships** and technology transfers based on cooperation with French organisations;
- is active in **development**, going beyond simple environmental protection by linking up its actions within a strategy of economic and social development in beneficiary countries.

The FFEM supports specific innovations:

↘ on new modes of intervention,
↘ on new technical processes,
↘ on new organizational schemes,
↘ on new partnerships.

These innovations should be focused on the creation of new dynamics and have to play a **leading role** in a specific sector of development and protection of the global environment.

The FFEM aims to fund processes of innovation corresponding to:

· the **experimentation with a change of scale** beginning with pre-existing localised innovations,
· or **the discovery, design and/or finalisation of innovations**, that are liable to nurture discussion of sector policies or even influence them.

It also examines:

· **Conceptual innovations:** technical creations, forms of organization, action devices, etc.
· **Contextual innovations:** transplantation of elements already known in a new context, what is likely to be full of learnings for other operational situations.

To contact FFEM:

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- Total project cost: €5,070,000
- Including FFEM funding: €500,000

The overall aim of the project is to demonstrate the efficiency of a technology that can generate electricity, heat and bio-methane fuel in rural areas in emerging countries by using a local and renewable source, while making a very significant contribution to improving local and general environmental conditions. GREE involves recycling organic waste to provide extra income for its food industry partner while avoiding the emission of 1 million tonnes of CO2eq over the next 10 years.

ELIGIBILITY CRITERIA FOR FUNDED PROJECTS

Several types of eligibility criteria are defined for selecting the projects that will benefit from funding. They are connected with

- the geographical area
- the sector-specific themes of the project
- the types of innovation
- the beneficiary of the subsidy

► **Priority is given to countries in Africa and the Mediterranean region,** which are vulnerable to the effects of climate change, and which have considerable needs for innovative technologies.

► **Specific themes that address needs identified in the target developing countries.**

ELIGIBLE THEMES

MITIGATION

• Transport • Power and heat generation from renewable • Energy efficiency in the industry • Optimised management of energy consumption by individuals and the business sector • Management of non-energy related GHG emissions (excluding agriculture) • Optimised management of energy networks • Biofuels production • Waste management.

ADAPTATION

• Water management in industry • Water management in business sector • Water pumping • Optimization of wastewater treatment.

► Target innovations must correspond to the **experimentation with a change of scale**beginning with pre-existing localised innovations or **the discovery, design and/or finalisation of innovations** that are liable to nurture discussion of sector policies or even influence them.

The beneficiaries of the facility are **single private companies** (companies not classified as small or medium are excluded) **or consortiums including at least one private company.**

The themes and technologies liable to be eligible for FISP-Climat funding, that the FFEM wishes to include in its calls for projects, must answer the following questions:

- Are there any innovative technologies?
- Do these projects address a real need in the host countries?
- Do these projects fall within the scope of the FFEM's strategic planning framework?
- Do these projects entail investment expenditures of the order of a few million euros?

INNOVATIONS AND CONCRETE RESULTS

Funded projects have provided a number of major economic, social and environmental benefits, such as:

CREATION OF LOCAL JOBS
27 DIRECT JOBS CREATED IN CAMBODIA
(operators, managers, maintenance workers, etc.), extra income for local people and greater competitiveness for local businesses.

LOCAL CAPACITY-BUILDING
7 COUNTRIES CONCERNED

REDUCTION OF CO_2 EMISSIONS
ABOUT **8 600 t CO_2 AVOIDED FOR 5 YEARS IN CAMEROON**
Increase of clean and renewable energy.

ACCESS TO RELIABLE ENERGY
in particular for people cut off from the main network, and reduction of electricity charges.

REDUCTION OF THE ENVIRONMENTAL IMPACT OF WASTE WATER
MORE THAN **1 000 000 M^3 WASTEWATER TREATED IN INDONESIA**

RIPPLE EFFECT