Working with India to tackle climate change

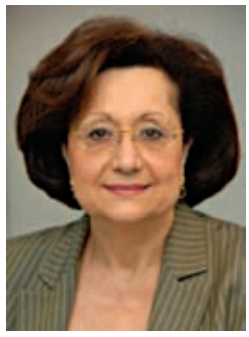
EU action against climate change in Europe and India

December 2009

EUROPEAN UNION

Information about the European Union is available on the Internet. It can be accessed through the Europa server *(www.europa.eu)* and the website of the Delegation of the European Union to India *(www.delind.ec.europa.eu)*.

Foreword



Climate change is one of the greatest challenges of the world today. The consequences of the decisions we take in the next few months will be mainly borne by future generations and inaction will be very costly. Climate change is of the highest priority to the Swedish Presidency. The Presidency will, together with other parties, work for the adoption of an ambitious climate agreement during the 15th Conference of Parties to the United Nations Framework Convention on Climate Change in Copenhagen in December. This is a huge task for Governments all over the world, and I am pleased to note that Europe is showing leadership in this regard.

The EU's climate change goals are closely linked to our plans for catalyzing economic growth through new, green initiatives. Renewables, energy efficiency including eco-efficient industries, and low carbon growth paths will now have to be an intrinsic part of our planning.

For all these reasons, I am very happy to introduce this brochure on interventions of the European Union and its Member States in the area of climate change and energy. This document provides information about many tangible results that have been made on the EU's commitment to work pro-actively both at home and with India.

Lars-Olof Lindgren
Ambassador of Sweden to India, Representing the Presidency of the Council of the European Union

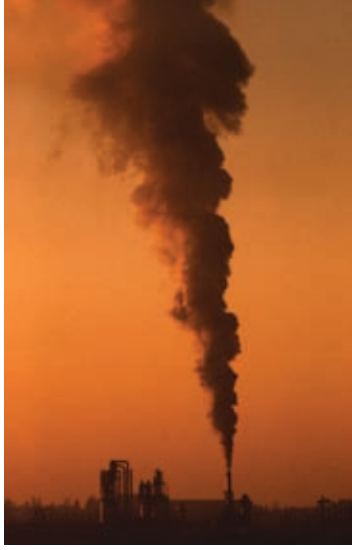
The European Union's overall objective is to support India's efforts towards sustainable growth and to build mutual understanding on global environmental issues including climate change.

The brochure before you gives you, on the one hand, an impression of what the EU is doing 'at home' and shows that we are walking the talk and delivering on our international commitments. On the other hand, this brochure gives information about some case studies of actions, which the European Commission and the Member States of the European Union are supporting in India. Of course, this is only a limited but representative selection of the activities. The European Commission alone has funded around 100 projects directly or indirectly linked to climate change and worth approximately 340 million euros in India, since 2000.

The European Union stands ready to step up its cooperation with India on environment and climate/ energy related policies and programmes.

I am sure that we will have more and more occasions to enhance our cooperation and efforts to jointly combat the global challenge of climate change and its impact in India and the European Union.

Danièle Smadja
Ambassador and Head of the Delegation of the European Union to India



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What the European Union is doing in Europe

Climate Change Policies in Europe

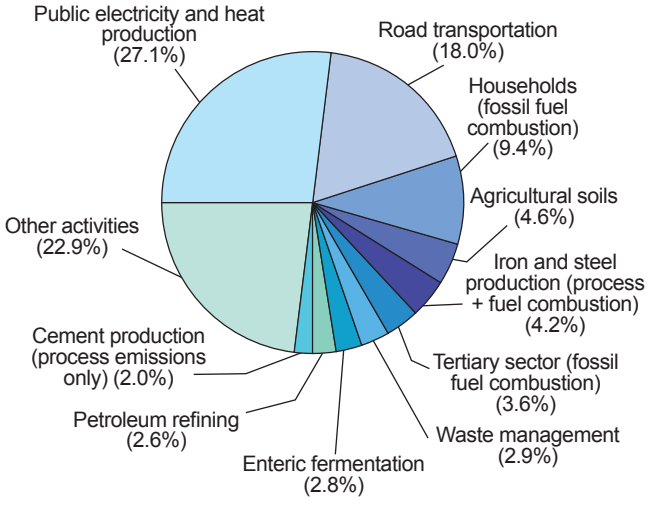
Climate change is already happening and represents one of the greatest environmental, social and economic threats facing the planet. The European Union (EU) is committed to working constructively to control climate change, and is leading the way by taking ambitious action of its own.

The EU has been taking serious steps to address its own greenhouse gas emissions since the early 1990s. In 2000, the European Union launched the European Climate Change Programme (ECCP). The ECCP has led to the adoption of a wide range of new policies and measures. These include the pioneering EU Emissions Trading System, which has become the cornerstone of EU efforts to reduce emissions cost-effectively.

Other ECCP measures include improving the fuel efficiency of cars and the energy efficiency of buildings; increasing the use of renewable energy sources, such as wind, sun, tidal power, biomass and geothermal power; and reducing methane emissions from landfills.

A second phase of the ECCP was launched in October 2005. The focus is on strengthening the EU ETS by tackling emissions from aviation and road transport, developing carbon capture and storage technology and funding measures to adapt to climate change. Proposals to include airlines in the EU ETS and reduce CO_2 emissions from new cars have now been agreed upon.

Share of 2006 greenhouse gas emissions in the EU-27, by main activity



Source: EEA, 2008.

The EU Emission Trading Scheme

The EU's Emissions Trading Scheme (ETS) was launched in 2005. Europe has set limits on how much CO_2 some 10,500 power plants and energy-intensive factories, accounting for almost half of the EU's total CO_2 emissions and 40% of its green house gases (GHG) emissions, are allowed to emit each year.

The ETS gives a financial incentive to reduce emissions by establishing a market-based trading system. Plants that emit less CO_2 than their permissible limits can sell their unused emission quotas to other companies that have emissions higher than their allowances. Companies that exceed their emission limits and do not cover them with emission rights bought from others have to pay hefty penalties. The ETS makes sure that emissions are cut where it is cheapest, and lowers the overall costs of reducing emissions.

A revised EU ETS will apply from 2013 to 2020, and should lead to a reduction of 21% of greenhouse gas emissions compared to the 2005 levels. To stimulate the adoption of clean technologies, the new ETS provides that GHG emissions permits will no longer be given to industry for free, but instead will be auctioned by Member States.

There is also a solidarity mechanism in order to help less affluent EU states with the transition to a low-carbon economy. They will receive an increased amount of emissions permits to auction. That will give them the opportunity of generating substantial revenues from selling allowances.

Each EU Member State will determine the use of its revenues from auctioning the pollution permits. At least half of the proceeds should be used to fight climate change in the EU and abroad and also to alleviate the social consequences of moving towards a low-carbon economy.

The remaining 60% of GHG emissions will be covered by the “non-ETS” Effort Sharing Decision, which sets binding targets for each Member State to reduce GHG emissions from non-ETS sources (e.g. road and sea transport, buildings, services, agriculture and smaller industrial installations) between 2013 and 2020.

Key past and projected impacts and effects on sectors for the main biogeographic regions of Europe

Source: IPCC, 2007; EEA

Kyoto Targets and GHG Emissions in Europe

European Union emissions of climate-changing greenhouse gases (GHG) declined for the fourth consecutive year in 2008. The EU-27's overall domestic emissions were 10.7% below base year (mainly1990) levels and the EU-15 now stands 6.2% below its Kyoto Protocol base year levels. This puts the EU-15 well on track to meet its Kyoto Protocol target.

The EU and its then 15 Member States ratified the Kyoto Protocol in late May 2002. The developed countries committed themselves to reducing their collective emissions of six key greenhouse gases by at least 5% by the period 2008-2012. The 15 EU Member Sates went further and committed collectively to an 8% reduction in their emissions. There is no EU-27 emissions target under the Kyoto Protocol since 12 countries were not Member States at the time. However, most of the remaining EU-12 countries have individual Kyoto commitments to cut emissions to 6% or 8% below base year levels, except Cyprus and Malta which have no targets.

The downward emissions trend over the last four years indicates that the pro-active climate policies and measures taken nationally and at the EU level since Kyoto are now starting to pay off. The 6.2% drop in EU-15 emissions between 1990 and 2008 contrasted with an increase in GDP of more than 40% over the period. This means the EU has succeeded in further decoupling emissions from economic growth.

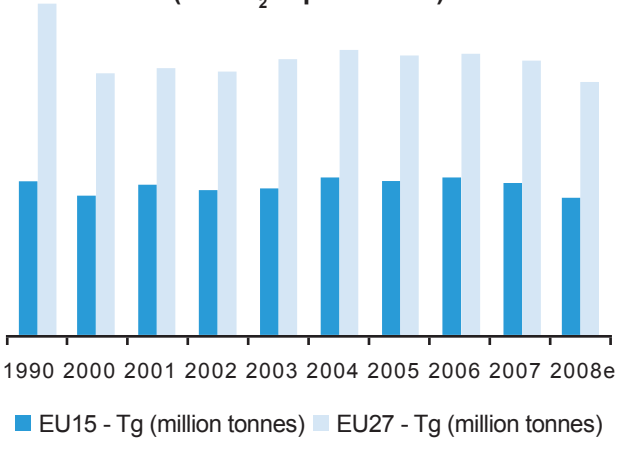
Falling emissions since 2005 have largely resulted from the lower use of fossil fuels (particularly oil and gas) in households and services — these sectors, not covered by the EU Emission Trading System (ETS), are among the largest sources of GHG emissions in the EU. In 2007, emissions from industrial processes were down by 14.1%, from energy without transport by 7.4%, from use of solvents and other products by 23.7%, from agriculture by 11.3% and from waste by 38.9%. By contrast, emissions from transport in general rose by 23.7% and, in particular, from road transport by 24.7%.

Adapting to Climate Change

The European Commission has issued a policy paper, the White Paper on Adapting to Climate Change (April 2009), establishing a framework for action, with focus on:

- Building a stronger knowledge base on the risks and impacts of climate change.
- Taking account of climate change impact in key EU policies.
- Combining different policy measures to best effect – innovative funding (including market-based schemes) may be required to facilitate adaptation.
- Supporting wider international efforts on adaptation.
- Working in partnership with national, regional and local authorities.

Greenhouse gas emissions in the European Union 1990-2008e [1)] (in CO_2-equivalents)



European countries sharing an 8% reduction target under the Kyoto protocol (EU-15)

Austria	-13%	Italy	-6.5%
Belgium	-7.5%	Luxembourg	-28%
Denmark	-21%	Netherlands	-6%
Finland	0%	Portugal	+27%
France	0%	Spain	+15%
Germany	-21%	Sweden	+4%
Greece	+25%	UK	-12.5%
Ireland	+13%		

European countries with individual targets under the Kyoto protocol (EU-12)

Czech Rep.	-8%	Slovak Rep.	-8%
Cyprus	N/A	Slovenia	-8%
Estonia	-8%	Bulgaria	-8%
Hungary	-6%	Romania	-8%
Latvia	-8%		
Lithuania	-8%		
Malta	N/A		
Poland	-6%		

1) The official 2008 greenhouse gas emissions for the EU will be available in June 2010, when the EEA publishes the EU Greenhouse Gas Inventory 1990–2008 and Inventory Report 2010, to be submitted to the UNFCCC.

Carbon Capture and Storage (CCS)

The technology of carbon capture and storage has the potential to contribute both to the EU's climate goals and to its security of energy supply. However, it must be deployed safely and with the support of the public and stakeholders. The Commission is currently developing a work programme aiming to ensure this, both within the EU and internationally.

Work in the EU focuses on the enabling legal framework, addressing the environmental integrity of the technique and other deployment issues.

Internationally, the EU is actively engaging in discussions in the context of the UN Framework Convention on Climate Change, and the Kyoto Protocol. It is also working directly with third countries in encouraging a network of demonstration plants across Europe and in key third countries.

The EU is also actively promoting research into CCS – both to promote the rapid commercialisation of the technology, and to assess the environmental risks.

Rules for cleaner cars in Europe

The EU adopted a regulation setting the first legally-binding standards for CO_2 emissions from new passenger cars, to apply as of 2012.

The regulation will give legal effect to the EU's existing goal of reducing average emissions from new cars to 120 gr CO_2 / km. This is to be achieved in two ways: a reduction to 130 gr CO_2 / km through engine technology plus an additional cut of 10 gr CO_2 / km through more efficient vehicle features, for instance air-conditioning systems and better quality tyres.

The new regulation makes these objectives binding for the average fleet of a given car manufacturer in successive stages. The EU proposed this phase-in so as to respect the length of industrial planning and production cycles and give the automotive industry the necessary time to adjust. If car manufacturers do not comply, they face penalties depending on how far their fleet exceeds the targets and on the number of their new passenger cars. Manufacturers can improve their fleet emissions performance by including eco-innovations, or by producing ultra-low emissions cars, which emit less than 50 gr CO_2 / km.

New environmental quality standards for fuels and biofuels

The EU approved the revision of a Directive that will improve air quality and reduce greenhouse gas emissions through environmental standards for fuel. It will also facilitate the more widespread blending of biofuels into petrol and diesel and, to avoid negative consequences, set ambitious sustainability criteria for biofuels.

The revised directive introduces for the first time a reduction target for greenhouse gas (GHG) emissions from fuels. By 2020, fuel suppliers have to decrease by 6% climate harming emissions over the entire life-cycle of their products. This can be reached in particular by admixing biofuels to petrol and diesel as well as by improving production technology in refineries.

EU Member States may require an additional 4% reduction from fuel companies, achieved through the supply of energy for electric vehicles or other clean technologies, including carbon credits from third countries (so-called "Clean Development Mechanism"). To enable these GHG emissions cuts, petrol may have a higher biofuel content. From 2011, petrol may contain up to 10% ethanol. In order to avoid damage to old cars, however, fuel with 5% ethanol (E5) will continue to be available until 2013, with the possibility for allowing Member States to extend that period.

The directive also lays down stringent environmental and social sustainability criteria for biofuels, which correspond to those in the directive on the promotion of energy from renewable sources.

The directive also imposes limits on the content of sulphur and metallic additives in engine fuel. In order to minimise emissions of volatile air pollutants, the maximum vapour pressure of fuel is also prescribed.

The Way Forward: The EU Climate and Energy Package

The EU is pressing for an ambitious and comprehensive global climate agreement at the United Nation Climate Conference in Copenhagen to prevent global warming from reaching more than 2°C above the pre-industrial temperature. In December 2008, the EU adopted an integrated energy and climate change policy, including ambitious targets for 2020. The measures put Europe firmly on the road towards becoming a low-carbon, energy-efficient economy.

The package sets legally binding targets to be achieved by 2020:

- Cutting greenhouse gases by 20% below 1990 levels (30% if an ambitious international agreement is reached).
- Reducing energy consumption by 20% through increased energy efficiency.
- Meeting 20% of our energy needs from renewable sources and a 10% in Member States transport energy consumption.

The package makes Europe the first region in the world to implement such far-reaching, legally binding climate and energy targets. It represents an important contribution to reaching an ambitious international climate agreement at the United Nations climate conference in Copenhagen in December 2009.

Less greenhouse gases

Central to the strategy is a strengthening and expansion of the Emissions Trading System (EU ETS). Emissions from the sectors covered by the system will be cut by 21% by 2020 compared with levels in 2005. Emissions from sectors not included in the EU ETS – such as transport, housing, agriculture and waste – will be cut by 10% from 2005 levels by 2020. Each Member State will contribute to this effort according to its relative wealth, with national emission targets ranging from -20% for richer Member States to +20% for poorer ones, in line with the principles of solidarity and equity. The national trajectory of carbon emissions until 2020 is binding on Member States and enforceable through the usual EU infringement procedures. If a country exceeds its annual objective it must implement corrective measures. To make the reductions more cost-effective, the EU has introduced several flexibility mechanisms, including the possibility of trading emissions cuts among Member States and carrying forward excess reductions to future years. EU countries can also use a limited amount of carbon credits from developing countries, through the "Clean Development Mechanism". The combined effect of the flexibility mechanisms would be to cut costs while ensuring that emissions drop substantially in the EU and abroad.

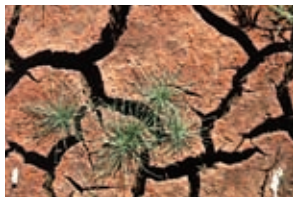
More renewable energy

An EU Directive, for the first time, sets for each EU Member State a mandatory national target for the overall share of energy from renewable sources in gross final consumption of energy, taking account of countries' different starting points. The main purpose of mandatory national targets is to provide certainty for investors and to encourage technological development in energy production from all types of renewable sources. To ensure that the mandatory national targets are achieved, EU Member States have to follow an indicative trajectory towards the achievement of their target, as defined in their national renewable energy action plans. To reach the mandatory targets, EU Member States will apply support schemes or measures of cooperation between different EU Member States and with third countries. The 10% target for the transport sector is set at the same level for each member state in order to ensure consistency in transport fuel specifications and availability. The new Directive should be implemented by Member States by December 2010.

More energy efficient

To meet the target, the EU has been working to develop energy-efficient technology, products and services in areas with the greatest energy-saving potential. Buildings come at the top of this list – accounting for 40% of EU energy requirements. Energy consumption could be cut by up to a third. The EU has taken steps to ensure that buildings are better designed and use more efficient lighting, heating, cooling and hot-water systems. Next in line is road transport (26% of EU energy requirements). Car emissions are to be capped at 120 grS of CO_2/km by 2012 and energy-efficient vehicles promoted through clearer labelling. Alternatives to car travel such as public transport, non-motorised transport and teleworking will also be promoted. The other sector under scrutiny is manufacturing (25% of EU energy requirements). The energy performance of products has been studied and eco-design standards and labelling will be applied to certain products such as boilers, IT appliances, televisions and lighting products to improve their performance.






EU-India cooperation on climate change

EU-India Dialogue on Energy, Clean Development and Climate Change

Environment is recognised as a strategic area for dialogue in the EU-India Partnership and the Joint Action Plan provides the basis for enhancing cooperation on environment and climate change. The launch of an EU-India Environment Forum and the EU-India Initiative on Clean Development and Climate Change are some of the key commitments undertaken to strengthen bilateral cooperation.

The EU has a long-standing bilateral cooperation with India. At the 5th EU-India Summit in The Hague, EU-India relations were upgraded to a "Strategic Partnership". The 6th EU-India Summit, in 2005, endorsed a wide-ranging Joint Action Plan giving substance to the Strategic Partnership. The Joint Action Plan covers all aspects of EU-India relations, for which it proposes practical steps to be achieved before 2008.

This Action Plan contains a chapter on Clean Development and Climate Change, establishing an EU-India Initiative on Clean Development and Climate Change. This initiative focuses on cooperation in the area of clean technology and the CDM as well as on adaptation to climate change and the integration of adaptation concerns into sustainable development strategies. The initiative has strengthened the political dialogue on international action to tackle climate change between India and the EU. Also under the Joint Action Plan, an EU-India Joint Working Group on Environment was initiated, which meets regularly to discuss a range of environment issues, including climate change.

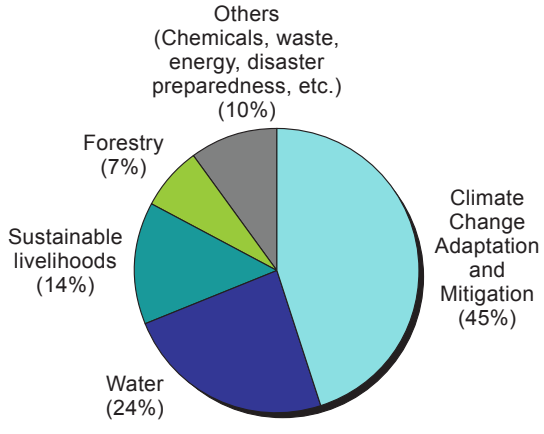
At the 2008 EU-India Summit held in Marseille, the Leaders of the European Union and the Government of India, represented by Prime Minister Dr. Manmohan Singh and by President Nicolas Sarkozy, in his capacity as President of the European Council, stressed that climate change is one of the great challenges of our time and decided that clean and sustainable development should be a joint priority area of EU-India cooperation. To this aim, they agreed on a Joint Work Programme for EU-India Cooperation on Energy, Clean Development and Climate Change[1]. At the EU-India Summit of 6th November 2009 in New Delhi, the importance of an early implementation of this Joint Program was underlined, especially in the fields of solar energy, development of clean coal technology and increase in energy efficiency.

This Joint Work Programme for EU-India Cooperation on Energy, Clean Development and Climate Change calls for tangible action, involving all stakeholders. They also reiterated their determination to step up the pace of negotiations in order to reach, by the end of 2009, an ambitious and comprehensive agreed outcome, in accordance with the principle of common but differentiated responsibilities and respective capabilities as set out in the UN Framework Convention on Climate Change.

Recognising each other's efforts to tackle climate change, as demonstrated by India's National Action Plan on Climate Change and the EU's emissions reduction targets of at least 20% by 2020 (and 30% in the event of a satisfactory global agreement), the Leaders agreed to work towards a long term cooperative action including a long term global goal. The EU and India also reaffirmed their commitment to promote energy security and energy efficiency as a key to stable and sustainable development.

The EU-India cooperation in the field of climate change consists of a policy dialogue, as well as a wide range of concrete cooperation activities. Overall, the European Commission and other institutions of the European Union have funded around 100 projects worth approximately 340 million Euros related to environmental protection and sustainable development in India since 2000, and 45% of these committed funds were allocated to climate change adaptation and mitigation.

Main sectors of intervention in sustainable development in India (European Union Budget)
(as a % of funds committed)



Source: Delegation of the European Union to India, 2009

In the following, an illustrative collection of climate change related projects/programmes is presented. These projects have been financially supported in India by European Member States and/or by the European Commission.

1) Full text available at:
http://www.ue2008.fr/webdav/site/PFUE/shared/import/09/0929_UE_Inde/Climate_Change_Programme_EN.pdf

Clean Energy

EU-India Call in Solar Energy Systems

The EU-India Call will facilitate collaborative projects between Indian and European research centres with a view to enhance the efficiency and viability of solar energy systems.

Partners

Indian Department of Science and Technology

Facts and Figures

Indicative Budget:
€ 5 million from the European Commission and a similar budget in Rupees from the Government of India for 2010

Call launch:
30 July 2009

Up to 3 projects supported in 2010

For further information:

delegation-india@ec.europa.eu

European Union

Project Background

Pursuant to the scope of the India-EU Science and Technology Cooperation Agreement, the 2009 India-EU Call on Solar Energy Systems will facilitate partnerships supported by two-way mobility of researchers with a view to:

- Catalyzing the emergence of solar power as an economically viable, commercially attractive, environment friendly and sustainable energy option.
- Advancing the transition to clean energy technologies that are sustainable, affordable, add to energy security and have no adverse impact on climate.
- Building institutional tie-ups with EU partners to incubate feasibility of and/or scaling up of research, pilot scale production and creation of new knowledge with output in the form of joint patents and co-authored publications.
- Achieving cost reduction, higher efficiency and reliability of solar photovoltaic devices and systems.
- Improving design, fabrication and demonstration of innovative solar thermal power generating technology.

Eligible Research Topics

- Development of novel materials and device structure and fabrication methods suitable for thin film solar cells and TCOs, including Organic Photovoltaics.
- Development of new concentrator modules and field performance evaluation of concentrated photo-voltaic (CPV) systems.
- Small scale steam engine powered by Linear Fresnel Reflector (LFR) system- development of prototype.

Expected Results/Impact

- New developments in the production of thin film solar cell materials/devices/processing resulting in higher efficiency and stable (as demonstrated by accelerated lifetime testing) devices.
- A new module and Concentrated Photo-Voltaic (CPV) system.
- An autonomous system for heat and power supply based on robust and easy to manufacture technology to decrease the dependency on fuel and grid capacity and to increase the productivity of the industrial sector, making it more independent of grid blackouts.

Clean Energy

Promotion of Renewable Energy Sources in India

Indo-German Cooperation aims to promote low carbon intensity power generation in India, which mitigates the effects of climate change and also contributes to economic development.

Project Background

India intends to bridge the demand and supply gap in the electricity sector and to meet goal of electricity for all by the year 2012 with low carbon growth targets. Renewable energy sources play a vital role in achieving this dual objective. India has huge potential for various types of renewable energies, but systematically developing and exploiting this potential at affordable costs remains a challenge.

Project Activities

The ODA-loans extended by KfW on behalf of the German Government to IREDA along with grants for technical assistance have contributed to the development of both public and private sector renewable energy power plants in areas as diverse as Biomass, Wind, Small Hydro, Cogeneration, Solar Thermal and Solar PV. The project includes grants through which IREDA is assisted in enhancing its project appraisal capabilities and risk mitigation approaches as well as introducing innovative financing models.

Results/Impact

- Contributed to implementation of sector reforms in the electricity sector under the Electricity Act 2003 and other regulations.
- Accelerated number and quality of renewable energy projects, especially in rural areas.
- To date 92 MW wind parks and 47 MW biomass cogeneration plants have been financed.
- Contributed to exploiting the vast renewable energy potential existing in India.
- Assisted IREDA in enhancing skills of appraising renewable energy projects.

Partners

German Government through KfW Development Bank

Indian Renewable Energy Development Agency Limited (IREDA)

Facts and Figures

Budget:
€ 131 million (ODA-loans and grants through KfW)

Duration:
End of 2008 till end of 2011

For further information:

KfW India
Country Director
Tel: +91-11-24641202
Fax: +91 11 2464 1203

Germany

Energy Efficiency

Improving the Winter Livelihood of Populations living in the Cold Desert of Western Indian Himalayas

The project aims at improving the winter livelihood and setting up a network to disseminate energy efficiency among populations living in severe environments.

Project Background

The cold deserts of the Western Indian Himalayas are located at 3500 msl in Ladakh in Jammu & Kashmir and Himachal Pradesh states. The environment is severe: temperatures falling below -25°C, with scarcity of biomass, low rainfall, roads closed for 6 months. Women and children spend 2 months in summer to collect biomass to heat the rooms during the long winter. This results in an energy vulnerability which leads to sub-zero indoor temperatures and indoor air pollution.

Project Activities

- Improving the living conditions of 1000 families and facilitating their economic, human and social development.
- Setting up an institutional network to promote energy efficiency.
- Training and organizing stakeholders to disseminate energy efficiency.
- Reducing pressure on the local and global environment.

Results/Impact

- Energy efficiency is integrated in 300 buildings after 18 months.
- Fuel wood consumption is reduced by 60%, inner temperature is increased by 12°C, inner air is healthier and smokeless, fuel wood expenditure is reduced, winter diseases are reduced.
- 30 women self help groups (SHG) are able to produce handicraft in winter in energy efficient buildings and generate additional income.
- A strong network is set up for dissemination of energy efficiency and a policy is under development.
- Each year 2.5 tons of biomass and 2 tons of CO_2 emission are saved per house.

Partners

GERES, France, project leader

ECOSPHERE/STAG, India

LEDeG, India

LEHO, India

LNP, India

SECMOL, India

Facts and Figures

Total Budget:
€ 1.9 million
(European Commission Contribution: 39%)

Duration:
4 years
March 2008-February 2012

For further information:

Website:
http://www.india.geres.eu

Email:
v.stauffer@geres.eu

European Union

Energy Efficiency

Development of Policy Guidelines and Tools for Energy Efficient Public Sector Procurement

The project purpose is to review the existing procurement process, provide a situation analysis of energy efficient procurement in the public sector and then develop appropriate policy guidelines & tools.

Project Background

Energy efficiency is commonly recognized as a win-win-win solution to meet energy security, climate change and cost objectives. But the barriers to achieving greater energy efficiency are often less well understood. Government facilities and services are often the largest energy users within a country. Government leadership by example can be a powerful driver for a national energy efficiency strategy. Energy efficiency has been very clearly identified as an area of focus in the Indian Government's Integrated Energy Policy, delivered in part through the Bureau of Energy Efficiency's (BEE's) adoption of energy efficient procurement processes. The current procedures do not provide scope for considering energy cost savings for the life of a product at the procurement stage.

Project Activities

- Developing a report on the situation analysis of energy efficient procurement in public sector in India.
- Developing a framework to prioritize and select energy consuming product categories for the development of Energy Life Cycle Costing (ELCC) tools. Developing ELCC tools for three products each in the BEE labelled and non-BEE labelled product categories.
- Developing guidelines for an energy efficient procurement system that will guide the procurement of energy efficient products in government departments.
- Creating awareness and developing capacity on these procurement guidelines and ELCC tools among various stakeholders such as government agencies, public sector units, procurement agencies and finance departments.

Expected Results/Impact

- This project is expected to bring about large scale reduction in energy consumption by encouraging the procurement of energy efficient products and provide impetus to India's energy security programme.
- The findings of this project would be helpful in designing an energy life cycle assessment tool for other products as well.
- Successful implementation of this initiative in the Government sector will also encourage private sector to participate where the replicability potential is huge.

Partners

Bureau of Energy Efficiency

Pricewaterhouse Coopers

Facts and Figures

Budget for the Project is € 227,000

Duration:
20 months (June 2009-January 2011)

For further information:

amit2.kumar@in.pwc.com

United Kingdom

Energy Efficiency

EU-India Sustainable Energy Efficiency Initiative (EISEEI)

The project contributed to accelerated enforcement of the Indian Energy Conservation Act and the Indian Electricity Act at the local as well as state level in support of a sustainable national energy policy.

Partners

GTZ-IGEN Indo-German Energy Programme

National Productivity Council, India

InWEnt - Capacity Building International

Centric Austria International

Facts and Figures

Indicative Budget:
€ 712,000
(European Commission contribution: 62%)

Duration:
January 2006-December 2008

For further information:

delegation-india@ec.europa.eu

European Union

Project Background

Recognising the importance and benefits of energy efficiency, the Government of India enacted the Energy Conservation Act, 2001 which came into force March 1st, 2002. Under the provisions of this Act, the State governments are empowered to implement the provisions of the Act in coordination with the Bureau of Energy Efficiency. The project's purpose was to develop capacity and competence of as well as strengthen the network between all relevant staff at the local and state levels in selected states of India in order to meet the challenges of sustainable energy management and effective implementation of the Act.

Project Activities

- Establishing a network of Energy Conservation Action Teams (ECAT) consisting of members from State Designated Agency and departments dealing with energy, energy efficiency, urban planning, infrastructure and municipal corporations.
- Consulting, coaching and training of key staff in the selected state agencies.
- Defining and strengthening the position of the state agencies and other local departments with respect to stakeholders and most important the state level decision makers.
- Identifying potential demonstration projects in the areas of efficient use of energy in buildings, efficient street lighting, efficient municipal water pumping, public awareness and behaviour change campaigns, industrial energy efficiency triggered by accredited energy auditors, etc. and implement the demonstration projects.
- Facilitate experience exchange between Europe and India, in particular energy efficiency policy.

Results/Impact

- Energy Conservation Action Teams (ECAT) were established in five Indian states to prepare state-specific 3-year Action Plans and Annual Operational Plans.
- Demonstration projects checked for eligibility under the Clean Development Mechanism (CDM).

Energy Efficiency

Indo-German Energy Programme (IGEN)

The overall objective of the project is to achieve greater energy efficiency in the generation and use of electricity, oil, gas, coal, and renewable energy in all sectors of society, contributing to sustainable energy management and climate protection.

Project Background

The enactment of the Energy Conservation Act 2001 is seen as a major step towards regulating the growth of energy demand in order to maintain the pace of industrialization, urbanization and rural electrification and improve the quality of life for all. The broad focus of IGEN is to support the implementation of the Energy Conservation Act. The act intervenes positively at all levels of society, such as energy-intensive large industries, manufacturers of household appliances and industrial equipment, residential households, as well as engineering consultancy enterprises and power stations. GTZ and KfW jointly implement the Indo-German Energy Programme (IGEN).

Project Activities

- Labelling of household appliances and energy intensive industrial equipment with respect to energy efficiency.
- Certification of energy managers and auditors.
- Live long learning programme for energy professionals.
- Operating a large web portal *www.energymanagertraining.com*
- Setting of norms and standards for energy intensive industries.
- Promoting cutting-edge technology to reduce energy consumption.
- Promoting public private partnerships to enhance energy efficiency.
- Performance mapping and benchmarking of coal fired power plants.
- Capacity building of state designated agencies (SDAs) responsible for implementing the Energy Conservation Act in their respective states.
- Promoting CDM to improve energy efficiency.

Results/Impact

- Over € 400 Mn invested annually in energy efficiency measures.
- Energy cost savings of € 300 Mn annually achieved.
- Over 8000 energy managers and auditors certified.
- Relevant rules and regulations developed and implemented.
- 28 state designated agencies appointed and supported.
- Energy efficiency labels on household and industrial appliances introduced.
- Performance verification of over 80 thermal power plants completed.
- World's first baseline for carbon burning prepared for the Indian power sector.
- Over 500 CDM projects approved by the host country.

Partners

German Technical Cooperation (GTZ)

Bureau of Energy Efficiency (BEE), Ministry of Power (MoP), Government of India

Central Electricity Authority (CEA), Ministry of Power (MoP), Government of India

Facts and Figures

Budget:
€ 17 Million
(funded by the German Financial and Technical Cooperation)

Duration:
October 2003-September 2013

Germany

Forestry

Strengthening Community Based Non Timber Forest Produce (NTFP) Management and Trade in Orissa, India

The project seeks to ensure sustainable forest management and livelihood security through efficient and effective management of small-scale community enterprises and improved forest governance.

Partners

Regional Centre for Development Cooperation

Facts and Figures

Total Budget:
€ 372,000
(European Commission contribution: 80%)

Duration:
4 years
December 2006-December 2010

For further information:

Website:
http://www.rcdcindia.org

Email:
rcdcbbsr@bsnl.in

European Union

Project Background

Non Timber Forest Produce (NTFP) provide safety-nets to millions of poor living in and around forest, and contribute substantially to the local economy. However, NTFP has been controlled by private traders for the last few decades. The primary collectors and producers of NTFP are not in a position to face the challenges in the trade as well as in sustainable management of NTFP although policies have become liberal in the last 7 years. With financial support from the European Commission, the Regional Centre for Development Cooperation (RCDC) is implementing a project in four districts of Western and Southern Orissa focussing on empowerment of rural and indigenous communities to protect, manage and conserve forest resources and make use of NTFP to enhance their livelihood options. The project aims to facilitate advocacy and lobbying for greater access to communities to manage forest resources and exercise their right over resource use and benefit.

Project Activities

- Mapping and inventory of NTFP.
- Develop sustainable harvesting and management of NTFP protocols.
- Institutionalization of the primary collectors of NTFP into forest cooperatives and capacity building of these institutions to manage and trade NTFP.
- Promotion of NTFP based enterprises to sustain the livelihoods of indigenous communities.
- Assessment of domestic and global markets for NTFP and facilitate cooperatives to access the market.
- Policy research and advocacy for greater access of primary forest dependent populations to forest resources and fair trade.

Results/Impact

- Control of 40-50 of total NTFP collected by the members of 8 primary cooperatives in 90 villages with the involvement of 3000 families.
- More than 30% increased household revenue.
- Increased participation in protection, conservation and management of forest resources by the local communities. Improved forest governance and management.
- Development of sustainable forest management plans and sustainable harvesting protocols in the area.

Forestry

The Haryana Community Forestry Project

The CDM pilot project, a part of the larger Haryana Community Forestry Project, is the first small scale afforestation project in the world to get certified by the Clean Development Mechanism (CDM).

Project Background

The State of Haryana is bounded by the severely eroded Shivalik and Aravalli hill ranges in the north and south respectively. The western part of the state bordering the Rajasthan desert is semi-arid with prevalent sand dunes. In the central plains the soils are affected by salinity, alkalinity and water logging. A significant portion of community land in the entire state is degraded due to population pressure, over-cutting and over-grazing of vegetation. To restore such degraded lands and raise plantations on village common lands, a 9 year long project working with the Haryana State Forestry Department was proposed to the Government of India for EC funding.

Project Activities

In this project an afforestation area of 370 hectares of sand dune land belonging to 227 farmers in eight villages of Sirsa district, Haryana, has been selected for a carbon trading project within the Kyoto Protocol Clean Development Mechanism (CDM) under the United Nations Framework Convention on Climate Change (UNFCCC). A number of participatory appraisal exercises with stakeholder farmers were carried out, by-laws for a farmers' society to implement the project were framed and the society was registered. Validation of the proposed project activity by a company accredited by UNFCCC was carried out through site inspection in April 2008 and the proposed CDM project was approved by the UNFCCC CDM Executive Board on the 23rd of March 2009.

Results/Impact

- The project reached out to 337 villages with a total population of around 700,000 – more than 110.000 households.
- From village woodlots, farms and kitchen gardens to sand dunes, nearly 33,000 hectares have been planted with trees.
- Tree cover on common land has increased from 9% to 30-34% with survival rates of 80% and above.

Partners

Haryana State Forestry Department

Facts and Figures

Budget:
€ 30 million of which €23.3 million from the European Commission

Duration:
Implemented over 9 years, from 1999-2008

337 villages covered

33,000 hectares of afforested land

370 hectares of sand dune CDM certified

For further information:

http://cdm.unfccc.int/Projects/DB/TUEV-SUED1229620290.53/view

European Union

Sustainable Production

Planning and Development of Eco Industrial Parks in Andhra Pradesh

In selected existing and planned industrial parks in Andhra Pradesh, energy and resource consumption has improved and the required planning and management know-how is rooted in planning authorities through capacity development and institutional development.

Partners

Ministry of Environment & Forests, Government of India

Andhra Pradesh Industrial Infrastructure Corporation Ltd. (APIIC) (on-site authority)

German Technical Cooperation (GTZ)

Facts & Figures:

Budget:
€ 705,000
(funded by the German Financial and Technical Cooperation)

Duration:
September 2008-June 2010

For further information:

Dr. Juergen Bischoff
Juergen.bischoff@gtz.de

Germany

Project Background

Andhra Pradesh is one of the leading industrialized states in India, with the Andhra Pradesh Industrial Infrastructure Corporation Ltd. (APIIC) alone owning over 300 industrial parks. At present, functioning environmental infrastructure in most of the industrial parks is inexistent or inadequate. At the time of planning, aspects relevant to resource protection and energy conservation were not considered. By formulating the concept of eco industrial parks, the Government of Andhra Pradesh, along with its implementation organization, APIIC, aims to support sustainable industrial development.

Project Activities

- Transformation process of existing industrial parks: Proper planning and implementation of relevant environment and climate measures (infrastructure, resource and energy efficiency, reduction of emissions, substitution of primary energy source through regenerative energy source) in 4 existing industrial parks as pilot projects.
- Planning of new industrial parks: Planning and development of up to 2 new industrial parks as eco industrial parks with focus on environment and climate protection as examples for sustainable industrial development.
- Capacity Building: Development of organizational and individual capacities for implementing mitigation potential in industry and environment-friendly planning and management of industrial parks.
- Research, Counselling, Training, Workshops and Exhibitions: Documentation for monitoring of climate benefits from Eco Industrial Park efforts in Andhra Pradesh and undertaking training programmes, workshops and exhibitions etc. targeting increased awareness and expansion of sustainable industrial development efforts.

Expected Results/Impact

- Reduction of greenhouse gases.
- Segregation of growth and energy resource consumption in industrial parks.
- Reduction of negative environmental impacts (land contamination, emissions, waste, wastewater, damaging biological diversity).
- Reduction of specific usage of natural resources (energy, raw materials, water) in production processes.
- Adaptation to changing climatic conditions: above all excessive rain, water shortage and temperature increase.
- Decrease in emissions, wastewater and waste, which are adverse to good health for the surrounding population.
- Increase in competency levels of regional authorities in planning and assembling resources that have low emissions and constructing energy- efficient industrial parks.

Sustainable Production

Clean Technology in the Pharmaceutical Industry in India

The project aims at removing future pollution, by introducing and implementing cost-efficient cleaner production technology and techniques in the pharmaceutical industry in India.

Project Background

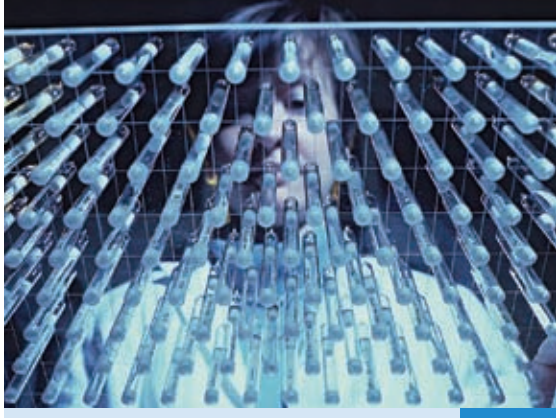
The Indian pharmaceutical industry provides direct employment to over 250,000 people. With the growth of the pharmaceutical sector in India, there is a correlated growth of small and medium industries producing toxic input chemicals. Often these industries do not have the ability to comply with national regulations on effluent treatment. This has the strongest impact on poor people, living on marginal lands on the periphery of industrial estates, with contaminated soil and heavily polluted water tanks. The project aims at removing future pollution, by introducing and implementing cost-efficient cleaner production technology and techniques. This will not only improve the utilisation of natural resources around industrial estates, but also retrieve costly input chemicals for industries to reuse. By introducing cleaner production measures, emissions are prevented at the source in factories. The exchange of knowledge and generation of new knowledge will play an important part in the replicability of the project.

Project Activities

- Facilitate introduction of cleaner technology production solutions.
- Awareness of how cleaner production can be used to recycle chemicals and water.
- Develop an action plan for implementation of cleaner production solutions as part of sustainable water management plans for industry.
- Prepare for full scale installation of cleaner production.

Results/Impact

- A report on situation data of chosen field site/industrial area.
- Case studies showing the potential of implementing cleaner production measures.
- Preparing 2 full scale demo installations of cleaner production solutions.
- Platform for further exchange on clean technology issues developed.
- Improvement of agricultural inputs in the area, due to lower toxic pollution in effluents.



Partners

Swedish Environment Research Institute (IVL)

Jawaharlal Nehru Technical University

Gamana

EPTRI

CII - GBC

Facts and Figures

Budget:
€ 372,000
(funded by the Swedish International Development Cooperation Agency (SIDA))

Duration:
36 months
(starting January 2008)

For further information:

arati.davis@foreign.ministry.se

Sweden

Sustainable Production

Sustainable Textiles for Sustainable Development in India

The overall objective of the project is to reduce poverty and improve the quality of life among artisans in the crafts and textile industry in India.

Project Background

The growth of small and medium enterprises (SMEs) has a positive impact on economic development. However, this growth has brought with it a range of environmental and health problems resulting in a threat to the ecosystems and the livelihoods of several thousand people. The project seeks to promote sustainable production (i.e. development of less polluting and more resource efficient products, processes and services) and sustainable consumption patterns in the crafts and textile industry in India. To this purpose, the project will establish a model eco-friendly textile park that would serve as an example for the other 29 approved textile parks across India.

Project Activities

- Establishment of a model eco-friendly textile park in Bagru, Rajasthan with green technology for effluent treatment, water harvesting, water re-cycling and conservation.
- Awareness raising and training activities to promote sustainable production.
- Development and dissemination of a toolkit on Sustainable Textile Production in 30 textile clusters across the country.
- Models of low-cost technologies for effluent treatment relating to small-scale textile production developed based on technical research.
- Policy research on environmental issues relating to handloom and crafts production.
- Market research and product development activities at selected clusters to develop new eco-friendly product ranges and designs.
- Brand development and eco-labelling.

Expected Results/Impact

- Set new sector-wide best practice standards for environmental compliances and improvements in health and safety for crafts and textile workers.
- Pilot effluent treatment facilities and train workers covering 25,000 people in 500 block printing SMEs in Rajasthan.
- 14 other textile clusters will benefit from research on low cost technology, sharing of learning and opportunities for replication.
- 30 textile parks that have been approved by the Government of India will benefit from project learning.

Partners

Traidcraft Exchange, UK

All India Artisans & Craftworkers Welfare Association (AIACA), New Delhi

Consortium of Textile Exporters (COTEX), Jaipur

Jaipur Integrated Texcraft Park Private Ltd. (JITPPL), Jaipur

Infrastructure Leasing & Financial Services (IL&FS), New Delhi

Facts and Figures

Budget:
€ 2 million
(European Commission contribution: 80%)

Duration:
48 Months
(starting January 2009)

For further information:

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European Union

Sustainable Production

Proklima

Phasing out ozone depleting substances (CFCs) with low global warming potential (GWP) alternatives.

Project Background

India became a party to the Montreal Protocol on Substances that Deplete the Ozone Layer on 17 September 1992. The country is a major producer and consumer of ozone depleting substances (CFCs) and the refrigeration and air conditioning (RAC) sector is the largest consumer of CFCs in the country. About two-third of this consumption is being used in servicing of refrigeration and air conditioning equipments/appliances. CFCs are often replaced with Hydrofluorocarbons (HFCs) which have a high Global Warming Potential (GWP). The sectoral programme Proklima therefore promotes the use of natural refrigerants with low GWP in the refrigeration and air-conditioning sector.

Project Activities

- Conversion from CFC to hydrocarbon based Cyclopentane as a foam blowing agent.
- Introduction of hydrocarbon refrigerants into production as well as servicing of domestic and small commercial refrigeration appliances.
- Training of servicing technicians (mainly from the informal sector) in good servicing practices.
- Equipment support to small servicing enterprises.
- Specific awareness activities for the refrigeration and air conditioning servicing sector.
- Cooperation with the Industrial Training Institute (ITI) system.

Results/Impact

- To date, most large manufacturers of domestic appliances in India have opted for hydrocarbon based foam technology which was introduced under the bilateral project ECOFRIG.
- One of India's major refrigerator manufacturers converted the entire refrigerator manufacturing line to hydrocarbon refrigerant technology.
- More than 20,000 service technicians all over India have been trained in good servicing practices including retrofitting of refrigeration appliances to hydrocarbon technology. This result has been achieved in cooperation with Switzerland, UNDP and UNEP funded by the Multilateral Fund of the Montreal Protocol (10,000+ technicians have been trained under the bilateral Indo-Swiss project HIDECOR).
- By end of September 2009, more than 1.5 million tonnes of CO_2 equivalent emission reductions had been achieved through these activities.

Partners

Ozone Cell, Ministry of Environment and Forests

German Technical Cooperation (GTZ) - Proklima

INFRAS, Zurich

Swiss Agency for Development and Cooperation

UNDP

UNEP

UNIDO

IIT Delhi

Godrej & Boyce Mfg. Co. Ltd.

Whirlpool of India Ltd.

Emerson Climate Technologies (India) Ltd.

QUEST Consulting & Training

Facts and Figures

ECOFRIG: 1992 – 2002
HIDECOR: 2001 – 2004
NCCoPP: 2004 – 2010

For further information:

www.nccopp.info
www.gtz.de

Germany

Climate Change Adaptation

Regional Glacial Lake Outburst Flood (GLOF) Risk Reduction Initiative in the Himalayas

The objective of the project is to strengthen GLOF risk reduction efforts by promoting non-structural and community-based interventions as well as enhancing understanding of socio-economic risks associated with GLOFs.

Partners

UNDP Country Offices in India, Pakistan, Nepal and Bhutan

Facts and Figures

Budget:
(European Union - ECHO funded):
€ 250,750 (first phase)
€ 486,000 (second phase)

Duration:
March 2008-February 2009 (first phase)
July 2009-September 2010 (second phase)

For further information:

www.managingclimaterisk.org /glofs.htm

European Union

Project Background

The Himalayan region comprises 15000 glaciers sustaining nine major river systems and 1.3 billion people downstream. Due to impacts of climate change, the glaciers in the region are melting at an alarming rate leading to the formation of newer glacial lakes and expansion of existing ones. There are nearly 7000 glacial lakes in the Himalayas, of which over 120 lakes in Bhutan, Nepal, India and Pakistan have been identified as potentially dangerous.

Studies conducted by the International Center for Integrated Mountain Development (ICIMOD) and United Nations Environment Programme (UNEP) indicate an increase in GLOF incidents over the past few decades, impacting communities and socio-economic development infrastructure. However, inadequate attention has been paid to mitigating the risks posed by this hazard.

Project Activities

- Liaison with and advocacy to stakeholders on the GLOF initiative.
- Study of GLOF events in the Himalayan region.
- Stocktaking of GLOF preparedness and risk reduction measures in the region, including measures such as strengthening appropriate early warning system, awareness raising, contingency planning, land-use management, multi-stakeholder approach and regional coordination.
- Promotion of community-based measures for GLOF risk reduction through knowledge networking.

Results/Impact

- National and regional needs, limitations and capacities to reduce the risk of GLOFs identified and documented.
- Promoted tools to mitigate the impacts of climate change.
- GLOF hazard and risks integrated into programmatic interventions for vulnerability reduction and risk management.
- Plans of identified project districts revised to incorporate GLOF risk mitigation and preparedness measures.
- A regional network of stakeholders of GLOF risk reduction promoted to ensure greater synergies of action and coordination through knowledge networking.
- A regional knowledge product on “GLOF Risk Reduction Through Community-based Approaches” produced and disseminated.

Climate Change Adaptation

Climate Change Leaders Initiative: An Innovative Model from India

The project intends to build a responsive and representative network of climate leaders in two regions (North and North East India), which can be used as a model for other regions within India and countries in South Asia.

Project Background

Regional and community level climate change concerns are not often reflected in national thinking and policy-formation. Under-developed leadership potential at the regional and local level is partly responsible for this – in turn partly a result of major knowledge gaps. To fill the leadership gaps, leaders in different regions of India from all key stakeholder groups and across sectors (agriculture, forestry, industries etc) will be brought together to help determine regional climate change priorities/concerns which should be addressed in national decision making.

Project Activities

- Building a network of regional Climate Leaders, providing training and empowering them to bring forth regional climate change concerns at the federal level.
- Documenting case studies by Climate Leaders to assess and highlight regional climate change issues and presenting them to national policy makers and international experts.
- Making a film to document processes, disseminate project outcome, document case studies, and action plans to encourage and support replication.
- Assisting selected climate leaders to participate in the UNFCCC COP 15.

Expected Results/Impact

- Reduced vulnerability of local communities to climate change through better understanding of the local drivers of vulnerability.
- Regional concerns identified and addressed, taking into account local, regional and national development strategies.
- The multi-stakeholder network will help to broaden the support base for progressive and forward looking policies on climate change. The project is a pilot for other regions.

Partners

LEAD India

Facts and Figures

Budget for the Project is € 138,000

Duration:
24 Months
November 2007-December 2009

For further information:

Email:
pragya@leadindia.org

United Kingdom

Climate Change Adaptation

CLEAN-India Community Led Environment Action Network

By giving children of all ages the opportunity and responsibility to make physical improvements to their locality, lobby the authorities and campaign in the community at large, CLEAN-India has achieved remarkable results.

Project Background

The Earth Summit 92 declared that for sustainable development, environmental protection shall constitute an integral part of the developmental process, involving a holistic approach with the participation of all concerned citizens. India with over a billion people has over 300 million inhabiting 500 towns and cities. The rapid pace of urbanization has led to serious consequences on people's health, the environment and economy of the country. The situation demands immediate intervention to manage the rapidly growing urban environmental crisis. Development Alternatives decided to intervene with its CLEAN-India (Community Led Environment Action Network) Programme.

Project Activities: Youth for Eco-action

- Adopt an integrated approach for action through awareness, while equipping students with scientific tools and methods on the issues and the solutions.
- Mobilize communities of students, the future citizens, as change agents.
- Address environmental issues through advocacy for improvement action.

Results/Impact

- Formed a vibrant network of 28 NGOs, students and teachers from over 450 schools across 11 states, Ministries and Government departments, research, academic organizations and community groups.
- Empowered over a million students with scientific knowledge and simple tools to assess the status of the environment and carry out improvement actions.
- Data generated of environmental quality of the towns and cities and interactive digital water quality maps prepared.
- Planted and nurtured over a million native trees.
- Produced recycled paper from waste-paper units by school students.
- Established over 200 community-level rain-water harvesting systems, water purification systems and 300 composting systems.
- Influenced policy-level changes through successful campaigns - "Anti-polythene", "Eco-festivals" and "Free The Trees".
- Created alliances with International Organizations like IUCN (International Union for Conservation of Nature), UNEP (United Nations Environment Programme), Earth Charter, ZERI (Zero Emissions Research and Initiatives).

Partners

Development Alternatives

Facts and Figures

Total Budget:
€ 905,000
(European Commission Contribution: 100 %)

Duration:
5 years
October 2002-October 2007

78 cities and towns in 11 States and 1 Union Territory covered

For further information:

Website:
www.devalt.org
www.cleanindia.in

Email:
usrinivasan@devalt.org

European Union

Climate Change Adaptation

Climate Change Awareness- Copenhagen Challenge: New Thinking for New Problems

Indo-Danish cooperation on raising climate change awareness though edutainment.

Project Background

Denmark has supported the development and distribution in India of a mobile phone and PC game on climate change awareness called “Copenhagen Challenge”.

The number of mobile phone users in India reached 347 million at the end of 2008 (according to data released by the Telecom Regulatory Authority of India). In addition, more people in India have access to mobile phones than landline telephones or PCs, which makes mobile phones an extremely powerful medium for communication in India. Mobile phone gaming is therefore a natural choice for communicating with youth in India today on climate change awareness.

“Copenhagen Challenge” combines a serious issue with the fun of a classic detective game. It has been developed by the Indian software company, ZMQ, which has specialised in e-learning and edutainment. In 2008, ZMQ won the UNDP ”World Business and Development Award” in recognition of ZMQ’s efforts aimed at reaching the UN Millennium Development Goals through technology. ZMQ has successfully developed a number of games on HIV/AIDS and other health and development issues, which have been distributed to millions of people in India and Africa.

Project Activities

- Development of the game, including pilot testing at Montfort School, Ashok Vihar, New Delhi.
- Printing on 10,000 CD-RoMs distributed to schools, to youth and science clubs in India in English and in Hindi.
- Uploaded free on Reliance and a number of other mobile phone operators in India and downloaded more than 700,000 thousand times.
- Together with ZMQ, the other operators will make it available at a reduced rate. Furthermore the game will be distributed on 10,000 free CD-RoMs

Results/Impact

- Increased level of awareness on climate change and COP15 among young people in India.

Partners

Danish Embassy, New Delhi

ZMQ Software

Facts and Figures

Budget:
1,700,000 INR

Duration:
February-December 2009

For further information:

Danish Embassy, Press Counsellor, Tel: +91 11 42090700

Denmark

Climate Change Adaptation

Reducing the Impact of Water-Intensive and Polluting Crops in the Godavari Basin, India

The project aims to provide sustainable sources of clean freshwater to support the livelihoods of poor communities and the ecosystem functions and services upon which they depend in the Godavari Basin, India.

Partners

WWF UK and India

Facts and Figures

Total Budget:
€ 1,200,000
(European Commission contribution: 62%)

Duration:
4 years
April 2007 to March 2011

For further information:

Website:
www.wwf.org.uk

Email:
RMay@wwf.org.uk

Project Background

The project will focus on the Godavari basin which extends over an area of 312,812 sq. km. In this area, water is now the most precious natural resource and communities are struggling to meet the current economic, livelihood and environmental needs for freshwater. Water shortages particularly impact on poor rural communities and, besides drought, are largely due to highly inefficient and polluting agricultural systems. Irrigation for agriculture now accounts for 91% of the water abstracted from the Godavari River. Chemical pesticides and fertilisers play an important role in polluting water courses and causing serious health issues.

Project Activities

- Better Management Practice (BMP) application.
- BMP outreach and BMP appraisal.
- Farmer organisation.
- Extension motivation.
- Develop policy solutions.
- Encourage sugar mill incentives.
- Facilitate business support.

Results/Impact

- 1,800 sugar, cotton and rice farmers are being trained to Better Management Practices (BMPs).
- 15,000 farmers are aware of the benefits of better practices leading to at least 60% adoption amongst these groups.
- Socio-economic and environmental benefits of BMPs are proven in target project areas.
- Farmers experience substantial livelihood benefits by working collaboratively.
- Government extension services disseminate the opportunities and approaches of Better Management Practices (BMP) adoption.
- Solutions for increasing the availability of freshwater are demonstrated to state-level decision-makers and inform policy reform.
- Sugar mills offer incentives to farmers for the adoption of Better Management Practices (BMP).
- Sugar and cotton businesses and investors support commodity specific BMPs.

European Union

Climate Change Adaptation

Mainstreaming Natural Resources Management Approaches in Rural India

The project aims to support the process of establishing and strengthening community institutions to prepare and implement a resource development and management plan in identified watersheds.

Project Background

"Biomass to Liquid" (BtL) products which lead to desertification and degradation of natural resources are the main cause of increasing poverty in the rural areas of India. Forecasts on the impacts of climate change imply an aggravation of drought and food shortages. However, experiences in the watershed development sector provide sufficient evidence that community centred approaches not only combat poverty but also prepare communities to adapt to the impacts of climate change. The Indo-German Watershed Development Programme (IGWDPs) began in 1992 and now covers over 150,000 hectares of drylands in over 350 villages spread across Maharashtra, Andhra Pradesh, Gujarat and Rajasthan.

Project Activities

- Technical and socio-economic interventions through systematic treatment of drylands in the micro-catchment including soil and water conservation and afforestation measures to allow rainwater to percolate down and reduce the runoff, thereby reducing the impact of frequent droughts.
- Support to the management of improved agricultural production and community based marketing systems.
- Dissemination of best practices and policy influencing measures at the local, regional and national levels.

Results/Impact

- Improved employment opportunity and reduction in distress migration for over 35,000 households.
- Substantial increase in availability of drinking water round the year in project villages.
- Advancement of self-administration of local communities.
- Integration of methods and concepts of programmes into Indian developmental policies.
- Establishment of € 100 million Watershed Development Fund by the Government of India and NABARD for the replication of the Indo-German model throughout the country.

Partners

German Government through the KfW Development Bank

National Bank for Agriculture and Rural Development (NABARD)

Watershed Organisation Trust

BAIF Development Research Foundation

Various other NGOs

Facts and Figures

Budget:
€ 51 million through German Financial and Technical Cooperation

Duration:
2000-2012

For further information:

National Bank for Agriculture and Rural Development / KfW India

Country Director
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Fax: +91 11 2464 1203

Germany

Climate Change Adaptation

Sustainable Community-based Approaches to Livelihood Enhancement (SCALE)

SCALE seeks to develop and promote sustainable, community-based approaches to natural resource management to improve rural livelihoods at the local, state and national levels.

Project Background

SCALE focuses on the semi-arid regions of India and is implemented through programme partners in the States of Gujarat, Madhya Pradesh, Andhra Pradesh and Rajasthan. The programme areas are among the most resource-stressed and are occupied by some of India's poorest people. By improving agricultural productivity and non-farm income, SCALE improves the quality and sustainability of their lives.

Project Activities

- Establishment and strengthening of community institutions, helping to identify, plan and implement solutions to development problems.
- Construction of low-cost structures for soil and water conservation to conserve soil moisture and fertility.
- Community-based water management to improve availability and reliability of water for agriculture and domestic use.
- Promotion of improved varieties, diversification to higher value crops and organic farming practices to sustain improvements in productivity.
- Promotion of rural enterprise through access to low-cost technical innovations and development of computing skills.
- Dissemination of best practices in natural resource management and rural livelihood enhancement to government agencies, NGOs and community-based organisations.
- Establishment of Cluster Livelihood Resource Centres at district level to provide capacity building support and information on rural livelihood improvement through self-help.
- Support to innovation in community-based activities that improve rural livelihoods through the Innovation Fund.

Results/Impact

- SCALE today supports activities in 865 villages in seven districts of Gujarat and 5 districts of Madhya Pradesh, benefiting over 85,000 households directly.
- By June 2008, 2,446 village institutions had been established to prepare development plans addressing NRM issues.
- Interventions have raised agricultural productivity, increasing agricultural income by almost 50 percent.
- By mid-2008, 13 Community-based Technology Learning Centres had been established in 7 districts of Gujarat and Madhya Pradesh and 5,140 people had completed training or were in the process of doing so.

Partners

Aga Khan Rural Support Programme (India)

Development Support Centre (DSC)

Association for Rural Advancement through Voluntary Action and Local Involvement (ARAVALI)

Andhra Pradesh Mahila Abhivruddhi Society (APMAS)

Professional Assistance for Development Action (PRADAN)

Facts and Figures

Budget:
€ 35.6 million
(European Commission contribution: 72%)

Duration:
January 2001-January 2012

For further information:

Aga Khan Foundation India

European Union

Climate Change Adaptation

Increased Water Harvesting and Diminished Desertification in Tamil Nadu, India

Through rehabilitation of traditional water harvesting structures to adapt to climate change, the project seeks to contribute to increased food and environmental security in drought prone coastal areas in South India.

Project Background

The coastal areas of South India face frequent droughts due to non-availability of adequate water storage facilities. Farmers incur heavy losses due to withering of crops for lack of adequate rainfall, while the villagers encounter difficulties in obtaining water for drinking and domestic use.

Project Activities

- To revive, conserve and develop traditional water harvesting structures in five selected districts.
- Establish community based tank management associations to effectively manage the water harvesting structures.
- To increase the income of small landholders in the five selected districts through better agricultural land use and additional income-generating activities.
- Document best practices and disseminate to other stakeholders and interested parties in India and South Asia.

Results/Impact

- 25 community-level tank management associations have been organized since 2008 to rehabilitate village tanks and 40 women self-help groups have been organized in order to excavate 250 new farm ponds.

Partners

Oxfam Novib, The Hague, The Netherlands

DHAN Foundation, Madurai, Tamil Nadu, India

Facts and Figures

Total Budget:
€ 1,051,000
(European Commission contribution: 80%)

Duration:
3 years
January 2009-December 2011

For further information:

Website:
www.oxfamnovib.nl
www.dhan.org

Email:
Marieke.Roelfsema@oxfamnovib.nl

European Union

Sustainable Habitat

Low Carbon Public Transport Mobility Solutions for Rapidly Growing Indian Cities

This project intends to provide guidelines for improving current city bus transport systems to low carbon public transport mobility solutions for rapidly growing Indian cities.

Partners

EMBARQ, the World Resources Institute Centre for Sustainable Transport

Facts and Figures

Budget for the project is € 176,969

Duration:
34 Months (June 2009-March 2012)

For further information:

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tahira.thekaekara@wri.org

United Kingdom

Project Background

Urban travel modes are rapidly changing. By some projections, GHG emissions from urban transport will be 8 to 10 times higher by 2030. In India, only 15 of 38 of cities with over one million population have formal public transport services, and they are of poor quality. The Government recognises this: the Ministry of Urban Development (MOUD) has initiated a bus procurement programme under the Jawahar Lal Nehru Urban Renewal Mission (JnNURM) to improve public transport systems in the programme cities.

Project Activities

- Reviewing existing National Urban Transport Policy and developing guidelines in the form of a toolkit and worksheets to plan and develop an integrated, low carbon bus system.
- Building awareness on the benefits of low carbon transportation, amongst city agencies, decision makers and policy makers in the national/state government, and other stakeholders (private bus operators, fare collection agencies, technology vendors and vehicle manufacturers) in JnNURM cities.
- Developing a detailed project report on route reorganisation and service optimization of city bus system operations in a pilot city. Establishing a monitoring system to monitor and measure the bus system efficiency.
- Reporting recommendations on low carbon mobility systems to influence National Action Plan on Climate Change (NAPCC) and thus future policy on urban transportation.

Expected Results/Impact

- An organized and well-implemented bus system will be accepted as a priority mobility solution, with resources earmarked for maintaining and improving them. This will substantially reduce the energy consumption (and thus GHG emissions) for the same level of service.
- Bus systems will prevent further motorization and promote modal shifts from private vehicles, contributing to lower motorization rates and/or personal vehicle usage, leading to lower carbon emissions, among other economic and social impacts.
- Better mobility for people also improves access to economies of scale and facilitates the development of industrial and commercial clusters.
- Successful applications with measured impacts of sustainable mobility strategies are likely to be replicated.

Sustainable Habitat

Sustainable Solid Waste Management in Tamil Nadu, India

The project aims to develop self-sustaining solid waste management collection models in 2-4 panchayats in Kancheepuram district, Tamil Nadu.

Project Background

Much of India's future urban growth will take place in tier 2 cities. Progress in urbanization and rapid population growth has led to increasing amounts of waste. Urban India produces approximately 42 million tons of municipal solid waste annually. Municipalities, tasked with waste collection, and disposal are facing challenges of a new scale. These smaller city governments require capacity – both with regard to holistic planning, as well as technology – to implement solid waste management plans.

The quantum of organic solid waste generated in urban India can translate into a potential for generation of over 1700 MW of power if gainfully utilized. Thus, the suitable technology with sustainable options needs to be introduced so that the management of wastes in the cities does not become a problem in the future.

Project Activities

- Reviewing existing National Urban Transport Policy and Capacitating Hand in Hand's (HiH) local waste management experts through inputs from Swedish experts. These will further enhance the organizations capacity as trainer and facilitator, and transfer Swedish knowledge to Indian experts.
- Hold training workshops with panchayat employees and officials, based on both gained field experience by Hand in Hand and input from Swedish technical experts.
- Using a systems approach to management, create a business model that is sustainable through appropriate user fees and incentive strategies.
- Conduct a more in-depth training seminars for panchayat officials, state level officials, volunteers in Environmental Rights Protection Committees (ERPCs) and Hand in Hand experts.

Results/Impact

- Creating a diversified waste collection strategy that will allow for composting, energy, and waste-to-wealth strategies for recycled products.

Partners

SWECO

Hand in Hand

Borlänge Energi

Kancheepuram District Panchayats, Tamil Nadu

Facts and Figures

Budget:
€ 245,000
(funded by the Swedish International Development Cooperation Agency (SIDA))

Duration:
36 months
(starting October 2008)

For Further Information:

arati.davis@foreign.ministry.se

Sweden

Sustainable Habitat

Roadmap of South Asian Cities and Local Governments for the Post 2012 Global Climate Agreement and Actions

This project has two aims: to support local governments across South Asia to understand the sources of city level carbon emissions, and to develop consensus on local action plans.

Partners

ICLEI South Asia.

Facts and Figures

Budget for the project is € 198,000

Duration:
20 Months
(July 2008-February 2010)

For further information:

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emani.kumar@iclei.org

United Kingdom

Project Background

Fast growing urban settlements consume 75% of the world's energy. Many city governments lack the capacity to engage the broad range of stakeholders from many different sectors needed to address local climate issues.

Project Activities

- Establish a network of regional and national level, local government, associations and institutions from 53 South Asian cities.
- Make aware and build capacities of local decision makers and other stakeholders (CBOs, NGOs, institutions, etc.) on climate change and international treaties.
- Collect city energy consumption and related carbon emission inventory data of 40-50 cities and present the analysis along with city action plans as a guiding framework for addressing climate change issues.
- Coordinate and empower a "local government delegation" to engage with state and national government and with the international community at COP-14 and COP-15.

Expected Results/Impact

- An increase in local governments' capacity and enthusiasm to organise, raise awareness for and advocate how they can positively contribute towards a fair and ambitious climate change agreement during COP 15 in Copenhagen in December 2009.
- Development of voluntary city-level action plans, based on the first ever comprehensive collection of energy consumption and carbon emissions data at the city level.

Sustainable Habitat

Plastic Recycling Project, Andaman & Nicobar Islands

The project has begun systemised collection and recycling of plastic waste in Port Blair which has made unprecedented environmental change in Andaman's pledge for the revival of its clean and healthy environment.

Project Background

The project is to deal with 80 tons of plastic per week coming to Andaman via mainland India. The plastic comes in all forms from soda bottles, chairs, computers etc; with no recycling programme in the Andaman, are setting up recycling plants in all the major populated areas. At present plastic is dealt with by landfill sites, backyard burning, dumping in pristine jungles etc.

Project Activities

The biggest problem faced while dealing with plastics on the islands are with the logistics of collecting the different types of plastics on different islands then separating and transporting the items to the recycling plant in Port Blair. The project helps processing the plastic and breaking it down into fragments and transporting it to mainland India to be used in making new products.

Expected Results/Impact

- In March 2009 a decision has been made by the Andaman and Nicobar Administration that all the departments of the administration will comply and support Green Life Society efforts to establish the first fully government recognised Plastic Recycling Centre in Andaman and Nicobar Islands by order of the Chief Secretary of the islands.
- Plastic recycling creates employment for the rural poor.

Partners

Green Life Society, Andaman Islands

School of Desert Sciences, Jodhpur

Facts and Figures

Budget:
€ 70,000 funded by the Funded by the Ministry for Foreign Affairs of Finland

Duration:
January 2007-December 2009

For further information:

GreenLife Society, Andaman and Nicobar Islands
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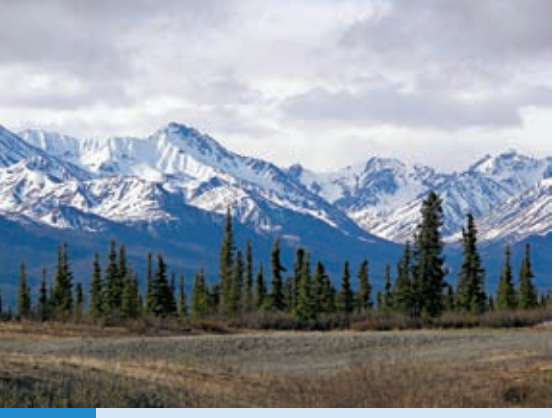
info@greenlifesociety.org

Finland



Partners

Alterra b.v. The Netherlands

The Energy and Resources Institute, India

Met Office, UK

University of Salford, UK

University of Fribourg, Department of Geosciences, Switzerland

Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V., Germany

Indian Institute of Technology, Kharagpur India

Nagoya University, Japan

Facts and Figures

European Commission contribution:
€ 3.3 million

Duration:
36 Months
(starting May 2009)

For further information:

www.eu-highnoon.org

European Union

Research and Technology

Adaptation to Changing Water Resources Availability in Northern India with Himalayan Glacier Retreat and Changing Monsoon Pattern (HighNoon)

HighNoon will assess the impact of Himalayan glacier retreat, explore possible changes of the monsoon on water resources and recommend appropriate response strategies for adapting to hydrological extreme events, such as floods and droughts.

Project Background

The hydrological system of Northern India is based on two phenomena, the monsoon precipitation in summer and the growth and melt of the snow and ice cover in the Himalayas. Increasing greenhouse gases are expected to change these phenomena and, in particular, will have a profound impact on snow cover, glaciers and water resources availability. The HighNoon project aims to assess the impact of these changes and recommend response strategies for adapting to hydrological extreme events.

Project Activities

- Regional climate modelling and forecasting of snow melt and monsoon patterns.
- Prioritization of water resources allocation and adaptation measures.
- Participative development of adaptation measures.

Results/Impact

- Integration of available climate and hydrological data.
- Study of the changes under various climate change scenarios and consequential impacts on changes in snow, glacier melting and changed spatio-temporal monsoon patterns.
- Analysis of socioeconomic scenarios and reliable boundary conditions per physical or administrative unit for planning of adaptation measures.
- Development of a stakeholder driven and cross-sectoral plan of action for adaptation measures in the field of water supply, agriculture, energy and health.
- Estimation of the cost effectiveness of the various measures proposed.
- Analysis of the cross sector interaction of measures and their cross category impact on water quantity, water quality and socio economy, and adaptive capacity.

Research and Technology

Measurements of Particulate Air Pollution in India

Finnish Meteorological Institute (FMI) is cooperating with Indian The Energy and Resources Institute (TERI), in a project that aims to address some of the questions posed by the "brown cloud" phenomenon. by starting a comprehensive monitoring program in India.

Project Background

Satellite data have revealed the presence of wide-spread hazes consisting of pollution aerosols in practically all inhabited regions of the Earth. The largest and most persistent of these hazes, the co-called "brown cloud", covers an area in excess of 10 million km^2 over the Southern Asia. The main reasons behind this "brown cloud" are large anthropogenic emissions of aerosol particles and their precursors related to fossil fuel and biomass burning, combined with the unique meteorology of the tropics leading to a long dry season with minimal rainfall. Most of these aerosols particles are capable of carrying a variety of toxic chemicals with them and are small enough to penetrate deep into a human lung. In addition to their adverse health effects, pollution aerosols related to the "brown cloud" induce a surface radiative cooling that is ten times higher than radiative warming caused by greenhouse gases. Another important feature related to these aerosols is their high black carbon (BC) content, which leads to substantial solar heating of the lower atmosphere during daytime. Potential climatic consequences of these two features are reductions in regional precipitation and perturbations in atmospheric circulation patterns.

Project Activities

- Set up a long term aerosol measurement station to characterize the basic properties of regional background aerosol over the Indian continent, including their seasonal cycle and long-term trend.
- Enhance knowledge transfer and scientific cooperation between Finnish and Indian scientists.
- Find out how the amount and properties of aerosol are likely to change over India in the near future, and how this change would be affected by different emission control strategies (planned).

Expected Results/Impact

This project will provide us with quantitative information on how the concentration levels and properties of particulate pollution are changing over India now and in the near future. An estimate of the impact of these aerosols on human health and climate, as well as the effect of different aerosol emission control strategies, will be obtained. The expected results will be of valuable help in planning emission control strategies and legislation in order to achieve sustainable development in India and elsewhere in southern Asia.

Partners

Finnish Meteorological Institute (FMI)

The Energy and Resources Institute (TERI)

Facts and Figures

Budget and Duration:
1. Phase 2004-2006:
€ 302,000

2. Phase 2007-2009:
€ 220,000

3. Phase 2010-2012, about
€ 480,000 (planned)

Funded by the Ministry for Foreign Affairs of Finland

For further information:

Embassy of Finland in India

Finland

Partners

Volkswagen AG, Germany

CHOREN Industries GmbH, Germany

Ford Research Centre GmbH, Germany

Renault SA, France

Certh, Greece

IFP, France

CONCAWE, Belgium

Invensys Systems GmbH, Germany

SYNCOM F&E Beratung GmbH, Germany

Indian Institute of Technology, Delhi, India

Facts and Figures

Budget:
€ 13.6 million
(European Commission contribution € 7.8 million)

Duration:
42 months
(Starting January 2009)

For further information:

www.optfuel.eu/

European Union

Optimised Fuels for Sustainable Transport (OPTFUEL)

OPTFUEL is expected to pave the way for the large-scale production of 2nd-generation biofuels for transportation based on wood and forestry residues.

Project Background

"Biomass to Liquid" (BtL) products can be used in vehicles, either as neat fuels or by blending with conventional fossil fuels. The OPTFUEL project will establish the technical basis for large-scale production of BtL from biomass via gasification and fuel synthesis to the final fuel in the consumer's car. All production chain components from biomass provision up to market introduction of consumer fuels containing BtL will be optimized and demonstrated.

Project Activities

- Cultivation of 200 hectares of fast-growing willow, poplar, and robinia.
- Modelling of performance data from the Freiberg pilot plant to identify improvement opportunities compared to the current production processes and to create the technical basis for a large-scale BtL production facility.
- Blend of the BtL liquids, evaluation of their exhaust emissions and exploration of their potential in current and future engine technologies.
- Evaluation of the economic aspects and the potential to reduce energy and greenhouse emissions from all parts of the BtL production process.

Results/Impact

- The results of this project are expected to form the basis for a (large scale) BtL production unit in Europe.

Brussels - European flags in front of the Berlaymont building

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Fax: +91-11-24629206
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Dublin – The Trinity College

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Phone: +91-11-24658879, 24697053

Brussels - The Town Hall at the Grand-Place

Embassy of Belgium
50-N Shantipath,
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New Delhi - 110021
Phone: +91-11-42428000, 42428210

Athens – The Parliament

Embassy of Greece
EP-32, Dr. S Radhakrishnan Marg,
Chanakyapuri,
New Delhi - 110021
Phone: +91-11-26880700, 26888010

Sofia - The Alexander Nevski Cathedral

Embassy of the Republic of Bulgaria
EP 16-17, Chandragupta Marg,
Chanakyapuri,
New Delhi - 110021
Phone: +91-11-26115549/26115551, 26871677

Madrid - The Plaza Mayor

Embassy of Spain
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New Delhi - 110011
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Prague - View of the St Charles Bridge

Embassy of the Czech Republic
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Paris – The Arc de Triomphe

Embassy of France
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Chanakyapuri,
New Delhi - 110021
Phone: +91-11-24196100, 24196169

Copenhagen - The Little Mermaid

Royal Danish Embassy
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New Delhi - 110011
Phone: +91-11- 42090700, 23792019

Rome - The Colosseum

Embassy of Italy
50-E, Chandragupta Marg,
Chanakyapuri,
New Delhi - 110021
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Berlin - The Berliner Dom

Embassy of the Federal Republic of Germany
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Nicosia - The residency of the President of the Republic

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Tallinn - The Alexander Nevxky Cathedral

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Riga - View of the city of Riga

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Vilnius - The Cathedral of St Stanislas

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Lisbon - The Tower of Belem

Embassy of Portugal
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Chanakyapuri,
New Delhi - 110021
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Luxembourg - The Philarmony

Embassy of the Grand Duchy of Luxembourg
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Branch Post Office Gadaipur,
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Bucharest - The House of the Free Press

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Vasant Vihar,
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Budapest - The Hungarian Parliament

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Ljubljana - The Town Hall and the Cathedral of St Nicolas

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Valletta - The marina of Valletta

High Commission for Malta
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New Delhi - 110017
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Bratislava - The Grassalkovich Palace

Embassy of the Slovak Republic
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The Hague - The Parliament

Royal Netherlands Embassy
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Chanakyapuri,
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Helsinki - The Lutheran Cathedral

Embassy of Finland
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Viena - The Parliament with the Athena Fountain

Austrian Embassy
EP-13, Chandergupta Marg,
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New Delhi - 110021
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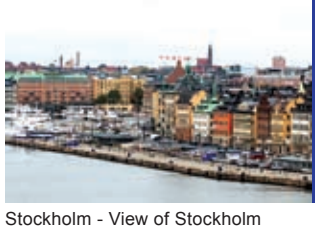

Stockholm - View of Stockholm

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Warsaw - The Royal Castle

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London - The Tower of London

British High Commission
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European Union

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