ACTION FICHE N° 3 FOR INDIA

1. IDENTIFICATION

Title	Support to Renewable Energy, Clean Technologies and Energy Efficiency in India DCI-ASIE /2010/22349		
Total cost	Total of € 28.65 Million EU contribution € **23.4 Million;** Grantees Contributions € 5.25 Million; Government in-kind contribution €0.5 Million		
Aid method	Project approach - Centralised (direct) management		
DAC-code	23030 41010	**Sector**	Renewable Energy Environmental policy

2. RATIONALE

2.1. Sector context

India is an important emerging economy and partner for the EU. In its "Global Europe" Communication[1], the Commission identifies India as one of the major emerging economies, with respect to which the EU must actively seek sustainable development and partnership opportunities. India is now the eleventh largest economy in the world, fourth in terms of purchasing power. It is poised to make tremendous economic strides over the next ten years, with significant investment and development already underway. The expansion of investments is bringing increasing benefits for employment, development, and growth in the quality of life, but only to the major cities and a small portion of the total population: still 80% of its population lives with less than $2 per day, and 12% of urban households and 56 % of rural households are un-electrified.

India's need to accelerate the socio-economic development for its population, including the necessary provision of energy infrastructures to support its fast-growing economy (6 to 8%), coincides with increased concerns regarding climate change globally. India is currently generating about 3% of the world electricity (approx. 140,000 MW) but its share of the world population is 16%. The long term development needs for India, driven by annual GDP growth rates of 7-9%, imply that the domestic energy generation capacity needs to be increased at least six-fold to about 900,000 MW by 2050. This poses a formidable challenge but is perceived also to be a great opportunity for the country to increase its energy efficiency and the share of renewables in the overall energy mix.

[1] COM (2006) 567 final, of 4.10.2006.

As regards Climate Change policy, Prime Minister Singh released in June 2008 the India's first National Action Plan on Climate Change, outlining existing and future policies and programs addressing climate mitigation and adaptation. The National Plan identifies eight core "national missions" running through 2017 and directs ministries to submit detailed implementation plans to the Prime Minister's Council on Climate Change. The India Solar mission is launched under this framework. Most recently, in the framework of the 2009 Copenhagen Accord, India submitted its objective to reduce its energy emission intensity by 20 to 25% (from 2005 levels) by year 2020. In support of this objective the Government plans for comprehensive legislative review that would require : mandatory fuel efficiency standards for vehicles by December 2011; having a mandatory green building code for energy conservation; amending its Energy Conservation Act for energy efficiency certificates; ensuring 50% of all new power capacities based on clean coal technologies; maintaining the country forest cover at 10 per cent; and ensuring that a proportion of the country's agriculture comes from methane-reducing technologies.

The expansion of new renewable energy sources (currently at about 7% of the total energy sources and excluding large hydro) will play a crucial role to achieve the targeted emissions reductions. Of particular relevance is the implementation of the Jawaharlal Nehru National Solar Mission (JNNSM) which has as primary aim to create an enabling policy environment for rapid diffusion of solar technology across the country. Such a scale-up would involve the use of wide-ranging mechanisms, such as Renewable Purchase Obligations that would mandate power providers in each State to purchase a certain share of their electricity supply as solar energy. The mission will develop actions to bring down the cost of solar energy to be on par with "conventional" grid power by 2020 and with coal-based thermal power, currently the cheapest energy source, by 2030 - enabling a rapid scale-up of solar technologies. The mission states that although India aims to install 3,000 MW of solar by 2017, this capacity could reach 10,000 MW or more by that date with the support of enhanced international cooperation on technology and access to finance. The target for 2021 is to attain 20,000 MW. The Government of India in the recent Union Budget for 2010-11 has announced a) increased budgetary allocation for clean energy sector; b) creation of Clean Energy Fund by charging Rs 50 (about 1€) per ton of coal used in the country; c) various excise and customs duty concessions for import of solar energy equipments, LED lighting products etc.

The National Mission for Enhanced Energy Efficiency (NMEEE), approved in June 2010, is based on the assumption that, even though India's per capita energy consumption is among the lowest in the world, its current economic growth will require by 2030 a doubling of its primary energy supply and a 600% increase of its electricity generation capacity. The NMEEE aims at improving India's energy efficiency in addition to the programmes currently or to be implemented by the Bureau of Energy Efficiency (BEE). In addition, the National Mission for Sustainable Habitat will be launched and will promote energy efficiency as an integral component of urban planning and urban renewal through initiatives in green buildings, urban waste management and modal shift to public transport. The GoI of India has already initiated some programmes to support the adoption energy efficiency and renewable energies at local level, in particular with the Solar City Programme, which started in 2008 for a period of 4 years and which, with a total budget of Rs. 30.00 Crore (about €6 million) is assisting 60 Urban Local Bodies in preparation of a master plan for increasing energy efficiency and renewable energy supply, setting-up institutional arrangements for the implementation of the master plan and generating awareness generation and capacity building activities.

The beneficiary is seeking through this project exposure to European best practice experiences on green energy sources, energy efficiency and access to clean technologies. The results of helping India to increase its usage of clean technologies and green energy will have a significant impact in the long-term in mitigating its contribution to global greenhouse gas, along with enhancing its national energy security. In addition, the widespread deployment of an eco-friendly economy would also create significant employment potential for skilled and semi-skilled workers. Finally, the project is in line with the European Commission's Country Strategy and Multi-Annual Indicative Programme 2007-2010 for India, providing capacity building in relation to policy areas and activities agreed under the Joint Action Plan (JAP). The project will contribute to the overarching Government of India development objectives and the attainment of MDGs.

2.2. Lessons learnt

The EU-India cooperation in the field of energy consists of a policy dialogue, as well as a number of concrete cooperation activities.

- Energy is recognised as a strategic area for dialogue in the EU-India Partnership and the Joint Action Plan (JAP). Under the JAP, the India-EU Energy Panel has been created as the formal instrument of EU-India cooperation in the energy sector with the following objectives: development of clean coal technologies, increasing energy efficiency and savings, promoting environment friendly energies – in particular for renewables - as well as assisting India in energy market reforms. Four working groups were established to exchange best practice in the following sub-sectors: Renewable energy/Energy efficiency: Coal; Clean coal technology; Petroleum/Natural Gas.

- The EU- India policy dialogue on energy is supported by the Action Plan Support Facility (APSF) that has a component to carry out best-practice seminars and studies**.** Four initiatives have been carried out**:** Coal quality management system in India; Modernisation and renovation of existing power plants; Application of eco-design requirements; and methodology for energy using products in India; and biofuels in India.

- At country level, the most important development which has stimulated the recent growth in renewable power in India is the establishment of a predictable regulatory framework by the Electricity Act of 2003. The Act recognises the role of renewable energy technologies for supplying power to the utility grid as well as in stand alone systems. The Act also has several provisions favourable for renewable power, including rural electrification. The most important feature, however, is its empowerment of the State Electricity Regulatory Commissions (SERCs) to promote renewable energy and to specify a percentage of the total consumption of electricity in the area of a distribution licence that will be purchased from renewable energy sources. Renewable purchases obligations for power utilities, including for a specific solar component may greater facilitate the expansion of renewables.

- Technology development also plays a crucial role in expanding large scale green energy. In fact, the feasibility of a larger application of renewable energy, to a larger extent that at the present stage, would depend on how rapidly costs decline and technical efficiencies increase. As a result, research and technology development have been accorded a high priority and resources in the national renewable energy programmes. In particular the Solar Mission plans a number of research and technology development activities to make its solar potential a reality. India encourages international cooperation in renewable energy research and technological development.

Based on all the above, the key lessons learned from our intervention in the energy sector include:

- Intensify the EU-India Policy dialogue on renewable energy and energy efficiency, in combination with concrete Cooperation Actions and exposure to international best practices to encourage the adoption of adequate public policy incentives and a favourable investment regulatory framework, to be adopted by central and local authorities, may provide a major boost for renewable energy promotion in India.
- The Government should intensify research, development and technical demonstration of new technologies and systems, and at reduced costs, that would create commercially viable large scale market for different type of green sources of energy. This factor plays in favour of the intensification of the EU-India collaborative efforts for research and technological development, as well as for technical cooperation to demonstrate the results of this research, and of any other best practice that the EU would have to facilitate the early take-up of renewable energy.
- Raise awareness to a wide constituency of stakeholders (central and local authorities, public and private sector, consumers, etc) for the increased usage of energy efficiency / green / renewable energy in the long-term.
- During our interaction with the donor agencies and funding agencies it was observed that the pattern for donor aid is changing - taking into account the Paris Declaration – from isolated donors interventions towards the support to the Government's sectoral plans, by supporting ownership at central and local level, capacity building and pilot demonstration activities.

2.3. Complementary actions

The planned activities are complementary to a number of EU on-going projects for India, especially in relation to the following:

- The EU SWITCH Asia programme and projects focusing on sustainable production and consumption;
- The European Business and Technology Centres in India has as objective to foster commercial links between European and Indian businesses as well as between science and technology, with a focus on climate change. This includes in particular sectoral activities on climate change mitigation and renewable energy;
- The EU-funded RTD Framework Programme 7 (FP7) by enhancing technology platforms and promoting joint technology initiatives addressing the demands of the European operators. A specific EU-India coordinated call for proposals on research on solar technologies for €10 million is under way, and will establish close partnerships to make reality the progressive commercialisation of these technologies and systems in coming years;
- The European Investment Bank (EIB) loan to support investments contributing to climate change mitigation, through projects in the renewable energy and energy efficiency sectors;
- The Global Energy Efficiency and Renewable Energy Fund (GEEREF) which aims to promote Energy Efficiency and Renewable Energy in Emerging Countries targeting

investment and development of small and medium sized energy efficient and renewable projects.

2.4. Donor coordination

The programme will operate within the framework of the Paris Declaration on Aid Effectiveness and will avoid duplication of activities supported by other donors and seek to enhance donor coordination.

In the areas of power generation and renewable energy some EU Member States (UK, Germany and France) are engaged in significant investments to promote new projects and the modernisation of the sector. Financial and technical cooperation is being offered also in the area of climate change adaptation (watershed development, livelihood strategies etc.). DFID is primarily engaged in the area of adaptation strategies and risk management: the Climate Change Innovation Programme, under preparation, will help the poor adapt to climate related changes in their livelihoods. The World Bank and the ADB are providing loans for infrastructures in the areas of energy efficiency, renewable energy and sustainable urban transport. UNDP, apart from various actions targeting specific sectors (i.e. steel and tea industry) to achieve energy efficiency and use of renewable energy, is also working in the area of energy standards and labelling in partnership with the Ministry of Power. GTZ and the German bank KFW are also actively working with Bureau of Energy Efficiency (BEE) and Ministry of New and Renewable Energy (MNRE) in promoting energy efficiency and renewable energy in the country. While GTZ is providing technical support to BEE and MNRE to develop capacity of the officials and to carry out feasibility studies etc, KFW is working on providing loans to the solar power projects being developed through GTZ. At Ministerial level, the coordination between donors needs to be strengthened. However, the International Relations department (IR Department) of the MNRE is working closely with the donor agencies to improve the coordination.

Various donor-funded projects have taken place to support the development of greener practices at the local level in India and in particular: GTZ-funded ASEM project which provides capacity building and technical expertise on sustainable urban management; the Strategic Programme Fund funded by the British High Commission, which funded a programme on Carbon Emission Reduction through City Level Local Action Plans and the Roadmap of South Asian Cities and Local Governments for the Post 2012 Global Climate Agreement and Actions project, which included several Indian cities; the French funded energy efficiency technical assistance programme implemented by ADEME, which is supporting capacity building in selected cities on energy efficiency issues; the French decentralised cooperation programme supporting city-to city partnership between French and Indian cities in particular in the fields of urban sustainability and low-carbon strategies.

3. DESCRIPTION

3.1. Objectives

The **overall objective** of the programme is to contribute to India's sustainable and inclusive development objectives by increasing the use of green energy sources, energy efficiency and clean technologies, based on the local experience of both India and the EU.

The **specific objectives** of the programme are:

1. to provide support to the implementation of India's national policies and programmes that promote the development of New Renewable Energy sources and related economic and employment activities, in particular for Solar.

2. to support the government's efforts, at central and local level, in promoting energy efficiency and green energy sources, technologies and solutions in India and its effective take-up by public and private sectors.

3.2. Expected results and main activities

The **expected results** are the following:

1. Enhanced capacity of Indian authorities to create an enabling environment promoting renewable energy and energy efficiency;

2. Increased penetration of renewable energies and improved use of clean technologies and energy efficiency;

3. Enhanced human capacity and new employment opportunities created, through the transfer of the required skills and technical know-how for the use and development of clean technology in the local context;

4. Increased awareness amongst public and private actors and the public at large on environmentally friendly development activities.

The **main activities** that are envisaged for the programme in each area of intervention are the following:

i) Support to policy development and implementation through capacity building and best practice exchange

Drawing both on the EU and Indian experiences in promoting and deploying renewable energy, clean technologies and energy efficiency, and adapting those to local conditions, the activities in this area will support:

- Capacity building to support the exchange of best practices policies and implementation and enforcement of existing regulations and policies, through the implementation of seminars, training courses, studies and study tours;

- Awareness raising, visibility and communication activities to reach results in policy development, policy implementation and technology deployment, in particularly through networking and the exchange of European best practices and diffusion of the results of the above-mentioned activities in the form of articles, studies, and presentations in conferences and seminars and advisory reports.

ii) Support to the expansion of New Renewable Energy Sources

Activities in this area intend to support the government policies and issues related to expansion of renewable energy in India that has great opportunities for development in the near and long-term. In particular, specific support activities will be provided to unlock the huge potential of

solar energy in India; it will support the cooperation activities included within the "National Solar mission", a major initiative of the Government of India and State Governments to promote ecologically sustainable growth while addressing India's energy security challenge.

The development of renewable energy (wind, solar, small-hydro, biomass and geothermal) may substantially contribute to the substantial electrification of remote rural areas and rural development in general. The widespread deployment of renewable systems would also create significant employment potential for skilled and semi-skilled workers. Project activities will focus in particular on the local needs of less developed regions and the use of local resources for green energy sources, thus contributing to new types of economic activity and sustainable development plans.

The main activities envisaged will be:

- Pilot projects for the deployment of decentralised renewable energy applications (wind, biomass, small-hydro, geo-thermal, etc, that could potentially be largely replicated and have an impact in the development models of rural or semi-urban areas. Hybrid systems combining different type of renewable energy sources - such as solar with wind, solar with biomass, wind with biomass, etc - to ensure efficiency, security and reliability of supply will also be supported;

- Show-case installation and operation of a medium-size solar power plant[2] that can be connected to the grid, preferably in a less developed state[3], to demonstrate technical and economic conditions, as well as to facilitate the development of the necessary human resources, to support the expansion of the Solar Mission plans objectives. This will also include support to the underlying modern power infrastructure, including energy storage technologies, smart grid transmission, etc;

- Exchanging best practices on technical standards and regulatory incentives for the effective take-up of renewable energy sources.

- Raising awareness with local authorities and private sector on new opportunities for development in less developed areas using green energy sources.

iii) Support to the development of Eco-Cities in India through the promotion of energy efficiency and adoption of clean technologies

Activities in this area aim to mainstream low-carbon strategies into urban development by supporting the adoption of renewable energy and energy efficiency in five pilot cities[4] in India.

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[2] The particular type of solar technology or combination of technologies to be demonstrated, will be defined by GOI

[3] In Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan or Uttar-Pradesh

[4] Cities selected will be located in various states across the country and each represent a specific typology, i.e., religious-tourist city, administrative capital, hill city, coastal city and industrial. The final selection of cities of intervention would be subject to receipt of proposals from interested cities and evaluation of their eligibility against pre-defined selection criteria, i.e., size/population and predicted growth – with a focus on medium-size cities; geographical location; potential for adoption of energy efficiency and renewable energy; commitment and

This may involve support to the establishment of twinning partnerships between Indian and European municipalities. The activities will focus on energy efficiency, renewable energy and waste-to-energy in the following sectors (to be prioritised in each city): municipal services, SMEs and commercial and residential buildings.

The main envisaged activities will be:

- Development of Low-Carbon Local Action Plans to integrate priorities of the National Action Plan for Climate Change (NAPCC) into local development plans, which will need to include base-lining and carbon foot-print mapping to establish current energy consumption as well as targets in key priority areas; Capacity building of local authorities, industries, professionals and universities/vocational training centres on available options and technologies, on relevant EU/ international experiences and best practices and on internationally recognised tools, guidelines and manuals;

- Review of the enabling environment, i.e., the regulatory, legal and fiscal framework required at state and local level for implementation of the Local Action Plan and for and effective promotion of clean technologies and energy efficiency; Promotion and implementation of low-carbon solutions and technologies within the public, residential and private sector through selection and support for the implementation and financing of demonstration/pilot projects in areas with high potential for energy conservation and renewable energies; Support to local stakeholders to explore new financing instruments for energy efficiency and renewable energy investments through the establishment of Private-Public Partnerships and usage of market-based mechanisms by supporting stakeholders in formulating financially viable projects; Development of Eco-Business Plans for municipalities and industry associations to support SMEs in energy intensive industries to adopt low-carbon technologies and practices; Explore available options for establishing air quality monitoring systems (if not already in place in selected cities) and for promoting energy efficiency and renewable energy through land use planning and urban infrastructure planning and development as well as green procurement systems; Support civil society associations in promoting clean consumption patterns by raising awareness on energy efficiency and renewable energy among SMEs, consumers and citizens;

- Formulation of national guidelines and standards on Eco-cities for the integration of national priorities on low-carbon development at the state and local level by building on past or ongoing initiatives to define standards, indicators and benchmarks on energy usage, EE and RE at city level as well as assessment of available options and technologies for urban areas;

- Establishment of a network of eco-cities within India and linked with other international networks promoting sustainable urban development; Documentation and dissemination of innovative initiatives and best practices within other cities in India.

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initiatives already taken in promoting energy efficiency and renewable energy; willingness to commit human and financial resources to the programme.

3.3. Stakeholders

- The Ministry of New and Renewable Energy (MNRE) is the nodal Ministry of the Government of India at the Federal level for all matters relating to new and renewable energy. The Ministry has been facilitating the implementation of broad spectrum programmes including harnessing renewable power, renewable energy to rural areas for lighting, cooking and motive power, use of renewable energy in urban, industrial and commercial applications and development of alternate fuels and applications. In addition, it supports research, design and development of new and renewable energy technologies, products and services. The Ministry have since long time promoted the expansion of end user applications of renewable energy systems and devices. Those have included tax incentives and grant support to lay emphasis on generation of power, generation of energy from urban/municipal and industrial wastes, universalisation of rural electrification programmes, commercialisation and market orientation of various public electricity companies. In recent years, the Ministry has increasingly focussed its programs also on urban and industrial energy needs in addition to the rural energy. Since 2006, through its policy of Generation Based Incentives (GBI) for solar power projects and later through JNNSM the Ministry has started its activities in grid connected large scale solar power projects. This, in particular solar thermal power generation is fairly new sector for the Ministry and a need is felt for the capacity building of the officials.

- The Indian Renewable Energy Development Agency (IREDA) has been set up to support various new and renewable sources of energy projects and schemes on large scale by way of extending soft loans. The agency is responsible for financing such projects through internal resources, equity and mobilization of funds from external agencies. IREDA will be handling the off grid and roof top solar power plant program of the JNNSM.

- The Solar Energy Centre has been established with the objective of research and development, testing and standardization, prototype development, technology transfer, demonstration and field testing, consultancy and advisory service and development of manpower in the area of solar energy.

- Environmental management in India involves a shared responsibility between the central government and the States, with the central government having responsibility for policy and regulatory formulations and the State governments for ensuring implementation and enforcement of national policies, laws and regulations. Their capacity needs to be enhanced in many instances particularly for the less developed States (Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan or Uttar-Pradesh)

- In the area of environmental protection, the Ministry of Environment and Forests (MoEF) and the Central Pollution Control Board (CPCB) are the nodal agencies at the central level responsible for environmental policy formulation, regulation, compliance and enforcement. The Ministry of Environment and Forests (MoEF) is charged with the responsibility of planning, promoting, coordination and overseeing the implementation of various environmental programmes. At the State level, the State Government Departments of Environment and Forest (DoE/DoF) are the designated agencies in charge of the implementation and enforcement of environmental laws and regulations. The Central

Pollution Control Board (CPCB) is to set environmental standards and coordinate the activities of the State Pollution Control Boards (SPCBs).

- In the area of energy efficiency, the Energy Conservation Act, 2001 set up the Bureau of Energy Efficiency (BEE), under Ministry of Power, as the statutory body to facilitate and coordinate energy efficiency initiatives at the central level and State Designated Agencies (SDAs) at the state level. The role of the BEE is to establish the appropriate regulatory and market framework to promote the adoption of energy efficient products and technologies, and thus, reach national targets on energy efficiency. SDAs have implementation and enforcement roles. So far, 31 states have notified SDAs but institutional capacity of these newly created agencies is limited both in terms of human and infrastructure resources. Besides this, Ministry of Power is also the nodal ministry for rural electrification and is implementing the Rajeev Gandhi Grameen Vidyutikaran Yojna (RGGVY) (Rajeev Gandhi Rural Electrification Program) which aims to create rural electricity distribution back bone (REDB) to the rural and remote areas either through grid extension or under Decentralised Distributed Generation (DDG) under rural electrification policy.

- The Regulatory Authorities, composed Central Electricity Regulatory Commission (CERC), and various State Electricity Regulatory Commissions (SERCs) which are entrusted with the responsibility of developing and implementing regulatory framework including designing feed-in-tariff (also called as generation based tariff) for solar and other renewables are also important stakeholders, for investors to factor regulatory pricing and incentives in their business plans..

- Other key stakeholders will also include municipalities in charge of urban development planning and SMEs. SMEs, totalling to more than 13 million units, account for about 45% of the industrial output in terms of value and are estimated to contribute approximately 70 percent of the total industrial pollution load. The project will also integrate elements to raise awareness of consumers and industry on energy efficient and eco-friendly products.

- The private sector is another key stakeholder that requires a clear and stable regulatory framework and policy incentives. In fact, India's renewable energy programme is primarily private sector driven and offers significant investment and business opportunities. A large domestic manufacturing base has been established in the country for renewable energy systems and products. The annual turnover of the renewable energy industry in India, including the power generating technologies for wind and other sources, in over US$10 billion. The Government is encouraging foreign investors to set up renewable power projects on a ‘build, own and operate' basis with 100% foreign direct investment allowed. Various public and private sector banks and financial institutes including international banks, development banks are expected to be involved by providing financing to project developers. Moreover, Indian private sector is very keen to partner with European companies for the deployment of clean technology solutions that represent a huge potential in India to meet environmental challenges and to improve human welfare.[5]

[5] The EU-India Cleantech Initiative, launched by private sector in Brussels on 18th February 2010, seeks the rapid deployment of clean technology solutions building on the local expertise of both India and the EU companies.

3.4. Risks and assumptions

The underlying assumption on which the success of the programme depends is the continuous commitment of the present and future GoI to promote sustainable development through energy efficiency and environmental-friendly industrial development. The feasibility of the proposed programme will also rely on the support of the MoEF and other involved Ministries and government agencies as well as on continued overall political stability, on sound project management and on the availability of appropriate expertise.

The following table indicates some possible risks that may affect the project as well as measures to mitigate them during the project design and through implementation.

Risk	**Level of likelihood that risk occurs**	**EU measure to mitigate the risk or accept the risk**
Limited ownership and capacity of the relevant Ministries	Medium	The relevant Ministries have been involved from the beginning into the design of the programme and has shown a clear interest in benefitting from the European experience on expanding new types of renewables. *The mitigation action will consist in proposing the relevant Ministries to be active partners of the Steering Committee that should endorse call for proposals and work plans.*
The multi-stakeholder nature of the programme, involving the participation of different beneficiary institutions and ministries	Medium	The areas of renewable energy, clean technology and energy efficiency are closely interrelated and involve different key Ministries and Sectoral Agencies, with risk of undertaking uncoordinated policies/ programmes. *The mitigation action will consist in proposing all relevant Ministries (Ministry of New and Renewable Energy, Ministry of Environment, Bureau of Energy Efficiency/Ministry of Power) to be partners of the Programme Advisory Committee that should meet every six months and be open to invite other stakeholders when needed (Specialised Agencies and Regulatory Authorities at Local and Central level, Business Associations, etc)*
Insufficient private sector participation	Low	Encourage and emphasize public-private partnership during project implementation and make use of those public fora where private sector is well represented. Seeking EU-India private sector collaboration to share technologies and solutions is also important – like the EU-India Cleantech Initiative. *The mitigation actions will consist in adopting a comprehensive visibility plan and closely involve them into the pilot projects preparation, workshops and other dissemination events, both in Europe and India.*

3.5. Crosscutting issues

Environmental sustainability issues will be directly addressed by the programme, in particular by undertaking the necessary EIA into the demonstration projects. The development of energy efficiency and renewable energy, in particular solar and small hydro, may

substantially contribute to the substantial electrification of remote rural areas and **rural development** in general.

In addition, the widespread deployment of energy efficiency, renewable systems and clean development production would create significant employment potential for unskilled and semi-skilled workers, thus contributing to new **employment** opportunities and poverty reduction.

Other cross-cutting issues will also be addressed by the project as follows:

- **Good governance** will be promoted through institutional capacity building and increased transparency and accountability on Indian policies at central and local level, including transparent incentives, regulations and enforcement rules;
- **Gender** balance will be insured in project activities. Gender will also be particularly relevant in some of the sectors of intervention, in particular when solar applications support rural development and the work activities of woman (in housing, education, etc). Women involvement in the awareness, development and use of green energy applications will be encouraged.

Therefore this project will contribute to the Government of India overall development objectives and the attainment of MDGs.

4. IMPLEMENTATION ISSUES

4.1. Implementation method

The programme will be implemented under centralised management, through the signature of a Financing Agreement with the Government of India covering the entire project.

Project activities will be managed by the EU Delegation in India through the awarding of grant contracts, service contract(s), following call for proposals and call for tenders respectively, and/or framework contracts..

The launch of the Tender for Service (item 1) and the Call for proposals for items 2.2 and 2.3 are planned for early 2011 with contracting at the end of 2011; the launch of the Call for Proposals for item 2.1 is planned for early 2012 with contracting expected by end 2012.

To ensure ownership, the content of the Call for Proposals and Tender for Services will be endorsed by the Government of India.

4.2. Procurement and grant award procedures

1) Contracts

All contracts implementing the action must be awarded and implemented in accordance with the procedures and standard documents laid down and published by the Commission for the implementation of external operations, in force at the time of the launch of the procedure in question.

Participation in the award of contracts for the present action shall be open to all natural and legal persons covered by DCI. Further extensions of this participation to other natural or legal persons by the concerned authorising officer shall be subject to the conditions provided for in articles 31(7) and (8) DCI.

2) Specific rules for Grants

The essential selection and award criteria for the award of grants are laid down in the Practical Guide to contract procedures for EC external actions. They are established in accordance with the principles set out in Title VI 'Grants' of the Financial Regulation applicable to the general budget.

When derogations to these principles are applied, they shall be justified, in particular in the following cases:

- Financing in full (derogation to the principle of co-financing): the maximum possible rate of co-financing for grants is 75%. Full financing may only be applied in the cases provided for in Article 253 of the Commission Regulation (EC, Euratom) No 2342/2002 of 23 December 2002 laying down detailed rules for the implementation of the Financial Regulation applicable to the general budget.

- Derogation to the principle of non-retroactivity: a grant may be awarded for an action which has already begun only if the applicant can demonstrate the need to start the action before the grant is awarded, in accordance with Article 112 of the Financial Regulation applicable to the general budget.

4.3. Budget and calendar

The total cost of the project is estimated at €28.65 million, from which the EU contribution has been earmarked for an amount of €23.4 million. The government will provide in-kind contribution through the participation of officials in the project activities in India (€0.5 million). Other entities (Grantee beneficiaries) will contribute with € 5.25 million. The table below provide the cost estimates:

COMPONENT	EU	Other Contributions (grant beneficiaries)	TOTAL	Contracting / Payment
1. Technical Services for best practice exchange on renewable energy, clean technologies and energy efficiency – including workshops, technical assistance, studies, visit tours to Europe and visibility.	**2 100 000**		**2 100 000**	**European Commission**

2. Grants for demonstration projects	**21 000 000**	**5 250 000**	**26 250 000**	**European Commission**
2.1 Grants for decentralised applications on the use of renewable energy in rural and semi-urban zones – including solar	4 000 000	1 000 000	5 000 000	**European Commission**
2.2 Single grant for demonstration of on-grid solar-power plant systems – with priority for a less developed state[6]	8 000 000	2 000 000	10 000 000	**European Commission**
2.3 Single grant in support of clean technologies in selected eco-cities	9 000 000	2 250 000	11 250 000	**European Commission**
3. Evaluation and Audit	**300 000**		**300 000**	**European Commission**
Evaluation	200 000		200 000	**European Commission**
Audit	100 000		100 000	**European Commission**
TOTAL	**23 400 000**	**5 250 000**	**28 650 000**	

The project implementation duration is estimated at 81 months as from the date of the signature of the Financing Agreement.

4.4. Performance monitoring

Regular monitoring will be a continuous process as part of the Commission's responsibilities.

Monitoring indicators are presented in the logical framework and will be confirmed during the project's inception phase for the expected results and activities against which progress of project implementation will be measured.

The monitoring of the capacity building and demonstration activities should in particular provide information about the relevance, the quality and the efficiency of the activities undertaken and would be mainly based on the reports of implementing partners as well as from independent reviews. In addition, performance will be measured against the following indicators: 1) percentage of accomplishment of Annual Work Plans' milestones, activities and results; 2) degree of satisfaction of Beneficiary with quality of services provided.

4.5. Evaluation and audit

[6] In Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan or Uttar-Pradesh

A mid-term, final and possible ex-post external evaluation of the project will be carried out in the course of the project's implementation. This evaluation will be based specifically on the objectively verifiable indicators of achievement, as they appear in the Logical Framework. Expenditure incurred will have to be certified, as part of the obligations of the contracted parties in the framework of the implementation of this project. Mid-term and final evaluations of the results achieved will be entrusted to independent consultants, as well as external audits recruited directly by the Commission on specifically established terms of reference.

4.6. Communication and visibility

The programme will follow the EU's standard visibility guidelines available at: http:/europa.eu.int/comm./europeaid/visibility/index_en.htm. Particular attention will be given to the promotion of the EU and the programme in India and to the marketing of the programme activities and results both in India and in Europe. All output activities and documentation connected with the project shall carry the European Union flag and mention that the programme/component is financed by the European Union.