

PROJECT IDEA NOTE (PIN)

Description of size and quality expected of a PIN

Basically a PIN will consist of approximately 5-10 pages providing indicative information on:

- A.** Project participants
- B.** Project description, type, size, location and schedule
- C.** Avoided / reduced GHG emissions
- D.** Financial aspects
- E.** Expected environmental and socio-economic benefits
- F.** Risks
- G.** Other relevant information

A. PROJECT PARTICIPANTS

Name of the Project Participant	Ministry of Local Government (MoLG)
Role of the Project Participant	a. Project Operator b. Owner of the project's site c. Owner of the emission reduction credits
Organizational category	Public
Contact person	Mr. S. Purmessur Assistant Permanent Secretary Ministry of Local Government (MoLG) Rodrigues and Outer Islands
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Telephone/Fax	Tel: +230 201 3008 Fax: +230 208 9729 +230 201 1660
E-mail and web address, if any	http://www.gov.mu/portal/site/mlge
Main activities	The Ministry of Local Government (MoLG) is responsible for local government administration and coordination. MoLG budgets for general services, such as street lighting, and distributes grants necessary for local authorities to furnish such services to Mauritian communities. Another important function concerns responsibility for Solid Waste Management, including arrangements for the collection and safe disposal of solid waste, setting up and operation of waste disposal sites, such as transfer stations and sanitary landfills, issuing waste carrier licenses, and control of illegal dumping. In addition, the Ministry has general responsibility for the management of public beaches across the island.
Summary of the relevant experience of the Project Participant	As the Governmental body in charge of street lighting management, the MoLG has all the necessary resources and experience in undertaking this project.

B. PROJECT DESCRIPTION, TYPE, LOCATION AND SCHEDULE

OBJECTIVE OF THE PROJECT <i>Describe in not more than 5 lines</i>	The objective of the project is to reduce the carbon footprint of public street lighting by installing efficient lighting on the roads of Mauritius. Operational electricity cost savings will enable the MoLG to better manage public funds to support other priority sectors, thereby improving community access to other critical social services over time.
PROJECT DESCRIPTION AND PROPOSED ACTIVITIES <i>About ½ page</i>	MoLG is the governmental agency in charge of maintaining public road lighting. MoLG has studied the possibility of replacing all the street lights in Mauritius with low-energy consumption units. This will enable the MoLG to streamline its purchasing program, reduce its running electricity bill, and participate in a national effort to achieving lower GHGs emissions. This passive retrofit will not require specialized knowledge, the process is as simple as changing a standard fluorescent tube.

	<p>MoLG will solicit financing from the “Maurice Ile Durable (MID)¹ Fund”, a fund designed to partially finance the cost of sustainable development projects in the Island championed by the government.</p> <p>In total there are 104,510 public street lights on the Islands of Mauritius and Rodrigues of various wattage intensities and brands. Depending on funding, the project will be implemented in two phases. Phase 1 targets the installation of 21,314 low consumption units. An assessment by an independent consultant will then be undertaken to highlight the impact of phase 1 on the basis of which MoLG and MID Fund will decide on continuing the program to a Phase 2. Phase 2 targets the installation of the remaining 83,196 units.</p>
<p>TECHNOLOGY TO BE EMPLOYED <i>Describe in not more than 5 lines</i></p>	<p>MoLG has decided that it will install T-5 Ecotube lamps to replace currently installed lamps, (i.e., uses 70W against 100W, 125W or 150W) resulting in substantial reductions in energy use compared to the baseline. The exact brand or supplier of the new lights is not yet known, however. The procurement will have to undergo tender based on the specifications that external consultants are in the process of drafting. This procurement process should, if all goes according to plans, be done before year’s end (Dec 2009).</p> <p>The Eco Tube can be best described as a very efficient electronic transformer coupled to a T8 to T5 tube adaptor. The transformer is housed in a flame retardant coated, high-impact plastic extrusion.</p> <p>For full technical information, please refer to website: http://www.ecotube.com.au/technical_specifications</p>
<p>TYPE OF PROJECT</p>	
<p>Greenhouse gases targeted CO₂/CH₄/N₂O/HFCs/PFCs/SF₆ <i>(mention what is applicable)</i></p>	<p>Carbon dioxide (CO₂)</p>
<p>Type of activities Abatement/CO₂ sequestration</p>	<p>GHGs abatement</p>
<p>Field of activities <i>(mention what is applicable)</i> <i>See annex 1 for examples</i></p>	<p>Energy efficiency improvement</p>
<p>LOCATION OF THE PROJECT</p>	
<p>Country</p>	<p>Mauritius</p>
<p>City</p>	<p>All cities</p>
<p>Brief description of the location of the project <i>No more than 3-5 lines</i></p>	<p>Mauritius is a 2,040 km² Island in the Indian Ocean with a population of about 1,200,000 inhabitants. The island has 2000 km of roads, 1960 km of which is paved and about a quarter of it being publicly lighted. The overall Island of Mauritius and that of Rodrigues is the project boundary.</p>
<p>EXPECTED SCHEDULE</p>	
<p>Earliest project start date <i>Year in which the plant/project</i></p>	<p>February 2010</p>

¹ MID stands for Maurice Ile Durable, i.e. Mauritius Sustainable Island. This fund has been created to support national projects that will benefit the sustainable development strategy of Mauritius.

<i>activity will be operational</i>	
Estimate of time required before becoming operational after approval of the PIN	6 months
Expected first year of CER/ERU/VERs delivery	February 2011
Project lifetime <i>Number of years</i>	Ongoing project – new efficient street lights will be replaced over and over as often as necessary in order to ensure continuous quality lighting to the general public. One street light has a lifespan of about 30,000 hours (some 6-7 years operational time at 12h lighting per day). Street light changes will happen over a period of time (2-3 months needed – hence, if procurement finalised in December 2009, project could be considered as started in February 2010). The bulbs that will need replacing, once life span over, will be replaced.
For CDM projects: Expected Crediting Period <i>7 years twice renewable or 10 years fixed</i>	10 years fixed period
For JI projects: Period within which ERUs are to be earned (<i>up to and including 2012</i>)	
Current status or phase of the project	<ul style="list-style-type: none"> • Pre-feasibility and GHG savings analysis made
Current status of acceptance of the Host Country	<ul style="list-style-type: none"> • Only informal communication with DNA as of now
The position of the Host Country with regard to the Kyoto Protocol	The Host Country acceded to the Kyoto Protocol in 2001

C. AVOIDED / REDUCED GHG EMISSIONS

ESTIMATE OF GREENHOUSE GASES ABATED/ CO₂ SEQUESTERED <i>In metric tons of CO₂-equivalent, please attach calculations</i>	<p>Phase 1: 3,590 tCO₂ equivalent</p> <p>Phase 2: 17,604 tCO₂ equivalent</p> <p>Over 10 years => 161,191 tCO₂ equivalent</p> <p>See calculations and assumptions in attached spreadsheet</p>
BASELINE SCENARIO	
Baseline methodology to be used	
<p>This project is covered by an existing Approved CDM Small-Scale Methodology II.J./Version 02 Sectoral Scope: 03 EB 44: “Energy efficiency improvement projects”. The grid emission factor (GEF) has been calculated using ACM0002 / Version 07: “Consolidated baseline methodology for grid-connected electricity from renewable sources”, a GEF value of 1.136 was obtained.</p>	

What modifications the project would induce?
This project will not result in a modification of the current lighting fixtures in any dramatic way. The major change is in the technology and price of the new efficient lamps that will be used. Retrofitting of street lamps' poles is not part of the project scope and is not thought necessary at this stage.

What would be the situation in the absence of the project activity?
The baseline scenario is to keep on using a mix of light bulbs' "types and wattage" that would correspond to what is used today – i.e., a whole array of different brands and wattage types (see calculation XL tables). Those bulbs would be using the electricity generated by the grid. The baseline scenario used in this study is therefore the electricity generated using existing power plants, and delivered by the grid. In the baseline scenario, the "baseline lights" are not only more energy demanding but also have a shorter life span than the new efficient bulbs, this means that more maintenance (driving, energy needed to power the lifting cranes, maintenance man days, etc.) and associated costs and energy use will decrease thanks to the CDM.

<p>ADDITIONALITY Please explain which additionality arguments apply to the project:</p>	<ul style="list-style-type: none"> • The upfront capital cost of efficient lamp technology is high, even if the return on investment can be quite fast. In the current financial and political climate, the MoLG cannot make efficient lighting a top priority and disburse all the necessary money from its current budget. • The MID Fund will only support the project if MoLG demonstrates that all possible "personal efforts" were done to self-finance the project.
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C. FINANCIAL ASPECTS

TOTAL CAPITAL COST ESTIMATE (PRE-OPERATIONAL)	
Installed costs	3.484 US\$ million (equipment = bulbs + installation)
Other costs (please specify)	0.5 US\$ million (Consulting assessment report including terms of reference of procurement tender and tendering process itself) – CDM Verification and certification are not included and will ideally be paid by the CER buyer as part of an overall deal).
Total project costs	3.984US\$ million
SOURCES OF FINANCE TO BE SOUGHT OR ALREADY IDENTIFIED	
Equity Name of the organizations, status of financing agreements and finance (in US\$ million)	Does not apply
Debt – Long-term Name of the organizations, status of financing agreements and finance (in US\$ million)	Does not apply
Debt – Short term Name of the organizations, status of financing agreements and finance (in US\$ million)	Does not apply
Carbon finance advance payments ² sought	Does not apply
SOURCES OF CARBON FINANCE Name of carbon financiers that	Not yet approached

² Advance payment subject to appropriate guarantees may be considered.

your are contacting (if any)	
INDICATIVE CER/ERU/VER PRICE PER tCO₂e³ <i>Price is subject to negotiation. Please indicate VER or CER preference if known.⁴</i>	Ideally looked for by promoter, at present time: VER = 5 USD per VER sought (free of validation and auditing costs) CER = 10 Euro for pre-2012 and 7 Euro for Post-2012 Although a sales strategy for the carbon credits has not yet been established, MoLG may consider selling phase 1 emission reductions as VERs, and phase 2 reductions as CERs.
TOTAL EMISSION REDUCTION PURCHASE AGREEMENT (ERPA) VALUE	
A period until 2012 (end of the first commitment period)	To be negotiated US\$ / €
A period of 10 years	To be negotiated US\$ / €
A period of 7 years	To be negotiated US\$ / €
Please provide a financial analysis for the proposed CDM/JI activity, including the forecast financial internal rate of return for the project with and without the Emission Reduction revenues. Provide the financial rate of return at the Emission Reduction price indicated in section "Indicative CER/ERU/VER Price". DO NOT assume any up-front payment from the Carbon Finance Unit at the World Bank in the financial analysis that includes World Bank carbon revenue stream. Provide a spreadsheet to support these calculations. The PIN Financial Analysis Model available at www.carbonfinance.org is recommended.	

D. EXPECTED ENVIRONMENTAL AND SOCIAL BENEFITS

LOCAL BENEFITS E.g. impacts on local air, water and other pollution.	Reducing the local impacts of global warming due to reduced GHGs emissions caused by the reduced energy consumption by the new street lights.
GLOBAL BENEFITS Describe if other global benefits than greenhouse gas emission reductions can be attributed to the project.	Reducing emission of carbon dioxide gas from the fossil-fuel grid sources thus reducing the impacts of global warming
SOCIO-ECONOMIC ASPECTS	
What social and economic effects can be attributed to the project and which would not have occurred in a comparable	By reducing the electricity needed to power street lights, MoLG is in effect reducing the need for energy generation from the grid. The Mauritian grid heavily relies on fossil fuels (coal and HFO) all of which is imported. Lowering electricity demand will have a positive impact on fossil fuel importation; in

³ Please also use this figure as the carbon price in the PIN Financial Analysis Model (cell C94).

⁴ The World Bank Carbon Finance Unit encourages the seller to make an informed decision based on sufficient understanding of the relative risks and price trade-offs of selling VERs vs. CERs. In VER contracts, buyers assume all carbon-specific risks described above, and payment is made once the ERs are verified by the UN-accredited verifier. In CER/ERU contracts, the seller usually assumes a larger component - if not all – of the carbon risks. In such contracts, payment is typically being made upon delivery of the CER/ERU. For more information about Pricing and Risk, see ["Risk and Pricing in CDM/JI Market and Implications on Bank Pricing Guidelines for Emission Reductions"](#).

<p>situation without that project? Indicate the communities and the number of people that will benefit from this project.</p>	<p>turn, the country will save foreign currencies. MoLG could also effectively reallocate savings on an annualized basis from reduced electricity demand toward improving waste management or beach preservation/protection.</p>
<p>What are the possible direct effects (e.g. employment creation, provision of capital required, foreign exchange effects)?</p>	<p>Some employment may be created in the installation of the new lamps (not yet clear exact numbers).</p>
<p>What are the possible other effects (e.g. training/education associated with the introduction of new processes, technologies and products and/or the effects of a project on other industries)?</p>	<p>Since street lighting is public by nature, this wide-reaching program will prominently demonstrate the viability of energy efficient lighting on the island. This will give more weight to the government's overall policy and may spur the general public to adopt similar changes in their lighting expenditures.</p>
<p>ENVIRONMENTAL STRATEGY/ PRIORITIES OF THE HOST COUNTRY A brief description of the project's consistency with the environmental strategy and priorities of the Host Country <i>About ¼ page</i></p>	<p>Following the 2008 fossil fuel price crisis, the Government of Mauritius has realized that saving energy and promoting renewable sources of energy in the country was important for country's long term growth and stability. Incentives and advertising campaigns have been made to encourage people and the CEB (Central Electricity Board) has started an energy efficiency campaign, yet, own implementation of the energy efficiency principle is still in the making. This project would fit the general policy of the Host Country.</p> <p>Investment in "green/efficient" technologies is still a novelty in Mauritius. In the political context, the general populace does not think about the long-term value of such energy efficiency projects and thus are not always adequately supported. Financial support from CDM would greatly help the Government to present the project to the people of Mauritius as a "low cost - high return" project.</p>

F. RISKS

<p>Risks in the Project</p>	<p>Please describe the factors that may cause delays in, or prevent implementation of the project</p>
<p>Estimate the Degree of Risk</p>	
<p>Technical risk</p>	<p>Low – the technology and its implementation are straight forward. Such projects have already been demonstrated worldwide to be workable. Furthermore, the quality of the street lights to be installed will be guaranteed by the seller. Thus, if the technology chosen fails, the money will be reimbursed and the MoLG will be able to buy another type of technology/product. However, if the technology chosen is not efficient or reliable, then the project could lose associated CER revenues.</p>
<p>Timing risk</p>	<p>Medium-low – the timing risk mainly lies in MoLG's procurement process which could take longer than initially estimated.</p>
<p>Budget risk</p>	<p>Low – the government is moving in two phases in order to determine, on a large scale, if the project is really saving electricity and money. Once convinced, the Government will likely unlock the necessary funds for the project's second phase. It must be noted that the Government recently</p>

	<p>validated a preliminary budget for the replacement of 50,000 light points meaning that Phase 1 is totally financed and Phase 2 nearly half financed.</p> <p>One other risk is that elections are to happen within the coming year. If the government changes, the possibility exist that the new entrant might not follow past projects through. This is highly unlikely but is a possibility.</p>
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G. OTHER RELEVANT INFORMATION

Please mention any additional information or precisions to justify the project under CDM