

NS-136 - Accelerating the Market Transformation to Energy Efficient Lighting

Pakistan

NAMA Seeking Support for Preparation

A Overview

A.1 Party

Pakistan

A.2 Title of Mitigation Action

Accelerating the Market Transformation to Energy Efficient Lighting

A.3 Description of mitigation action

Project Description

Pakistan faces multiple challenges to its economic and social growth, which are increased by its worsening energy crisis. Due to insufficient generation capacity, Pakistan often has an energy deficit of 5,000 MW during the summer season, resulting in daily rolling blackouts of up to 12 hours in urban areas and 18 hours in rural areas. The energy sector is the most significant contributor to GHG emissions, totalling 157 MtCO_{2e} (over 51% of the country's total emissions) in 2007 to 2008. Pakistan's growing population of 180 million is expected to increase demand for power to 306,797 GWh by 2020, and 889,583 GWh by 2035, primarily coming from the country's coal reserves. Energy related emissions are expected to be 64% of total emissions in 2050.

Planned Activities

The main activities of NAMA proposal includes the development and enforcement of a National Efficient Lighting Strategy, including minimum energy performance standards (MEPS); monitoring, verification, and enforcement; environmentally sound management (ESM); and communication and distribution campaign showing the benefits of high efficiency LEDs. The support from the proposed NAMA will provide both the design and implementation. Additionally, the project will establish a revolving loan fund (RLF) to accelerate the transition to efficient lighting products.

Scope of the NAMA Support Project

To achieve a reduction of energy consumption leading to carbon emission reductions and achieving the national sustainable development goals. Fast action will occur through the revolving loan fund, which will allow borrowers to retrofit and/or buy efficient lighting products. While the policy framework ensures that project benefits are sustainable beyond project completion.

Concept and methodological approach

The NAMA will apply an integrated policy approach, developed on the basis of international best practices, in line with UN recommendations. Key elements of the approach include:

- Minimum energy performance standards (MEPS) for all lighting products
- Supporting policies and other mechanisms (such as fiscal policies, labelling and consumer information) to ensure that MEPS can be implemented successfully and permanently
- Monitoring, verification and enforcement (MVE) of lighting regulations
- Environmentally sound management of lighting products (including establishing maximum allowed contents for mercury and other hazardous chemicals and collection and recycling of spent products, as appropriate)

The concept of the proposed NAMA is designed to provide fast action GHG emission reductions through the RLF, while it will also spur investment from private banks. The design of the NAMA will also provide permanent transformation of lighting market in Pakistan through implementing a national efficient lighting strategy that requires high-energy efficient lighting products.

Project Impact

The proposed interventions in the country by NAMA would hasten market transformation towards energy efficient lighting in residential, domestic, industrial and outdoor sectors of Pakistan. The initiatives of the NAMA are likely to provide valuable inputs paving way for other energy appliances such as electric motors, fans, refrigerators and other domestic/ commercial equipment to be made energy efficient in future. The outcomes from this NAMA activity are sustainable because of the complete phase out of the inefficient lighting technologies from all sectors of the country.

Further transformational change occurs in the financial sector as the capacities of banking institutions is increased in relation to energy efficiency financing, allowing for larger availability of financing for energy efficiency projects. The RLF will allow for fast action, as the RLF for efficient lighting projects will be part of the existing Pakistan Energy Conservation Fund (ECF), which has experience in implementing a RLF in transport sector. Since the ECF as the administrative capacity and skills, it will allow energy efficiency lighting projects to be funded in the first year of implementation.

Project Output

The lighting market in Pakistan accelerates to energy efficient lighting due to the implementation of RLF. The public, industrial, and commercial sectors will have access to funding in order to retrofit or purchase energy efficient lighting products. Through this process, inefficient lighting products that might stay in use for 8-15 years longer will be exchanged or retrofitted with high efficiency products at a level of performance well above average. During the first year of the implementation, it is expected that 100 projects will receive financing with an average size of funding of 40,000 USD. This will allow for the capitalization of the energy savings to begin today, instead of waiting to the end of life of stock of current products in the market. The RLF will

not only allow the end user to capitalize on the financial savings in the near term but will also allow for GHG emission reductions and energy savings to occur in the near term – which is key for avoiding global climate change risks and allowing sustainable development in Pakistan. Further, the banking sector will have increased knowledge and capacity on energy efficiency financing schemes resulting in increase financing available for energy efficiency projects.

Potential for transformational change

The approach proposed project aims provide a transformational and sustainable change that will have a large impact on GHG emission reductions, financial savings, and economic development. The project will assist Pakistan in developing and implementing its National Efficient Lighting Strategy with standards, supporting policies, MVE, and environmentally sound management. This framework, by addressing the existing barriers, will allow for the benefits of project to continue after completion, as Pakistan will have the legal framework. The project provides financing to support the capacities (both equipment and staff) to monitor, verify, and enforce policies that are developed in the National Efficient Lighting Strategy.

The project also accelerates the transition to LED technologies and controls through communication campaigns and training of lighting designers that will provide near term energy savings and GHG savings, while allowing the customer to become familiar with the benefits. This will allow for a transformational shift as customers will demand the high efficient product and lighting designers will be trained to provide and install the product.

Financial Ambition

An estimated amount of €7 Million as financial support is required for realizing various activities in the proposed NAMA. Out of the total requested amount, €5 million will be allocated specifically for Revolving Loan Fund (RLF) scheme whereas the remaining amount will be required for technology and capacity support needed for the implementation of other actions in the proposed NAMA.

A.4 Sector

<input type="checkbox"/> Energy supply	<input type="checkbox"/> Transport and its Infrastructure
<input checked="" type="checkbox"/> Residential and Commercial buildings	<input type="checkbox"/> Industry
<input type="checkbox"/> Agriculture	<input type="checkbox"/> Forestry
<input type="checkbox"/> Waste management	

Other

A.5 Technology

<input type="checkbox"/> Bioenergy	<input type="checkbox"/> Cleaner fuels
<input checked="" type="checkbox"/> Energy Efficiency	<input type="checkbox"/> Geothermal Energy
<input type="checkbox"/> Hydropower	<input type="checkbox"/> Solar Energy
<input type="checkbox"/> Wind Energy	<input type="checkbox"/> Ocean Energy
<input type="checkbox"/> Carbon Capture and Storage	<input type="checkbox"/> Low till / No till
<input type="checkbox"/> Land fill gas collection	

A.6 Type of action	<input type="checkbox"/> Other <input type="text"/>	
	<input type="checkbox"/> National/ Sectoral goal	<input type="checkbox"/> Project: Investment in machinery
	<input checked="" type="checkbox"/> Strategy	<input type="checkbox"/> Project: Investment in infrastructure
A.7 Greenhouse gases covered by the action	<input checked="" type="checkbox"/> National/Sectoral policy or program	<input type="checkbox"/> Project : other
	<input type="checkbox"/> Other <input type="text"/>	
	<input checked="" type="checkbox"/> CO2	<input type="checkbox"/> CH4
	<input type="checkbox"/> N2O	<input type="checkbox"/> HFCs
	<input type="checkbox"/> PFCs	<input type="checkbox"/> SF6
	<input type="checkbox"/> Other <input type="text"/>	

B National Implementing Entity

B.1.0 Name	National Energy Conservation Centre (ENERCON), Ministry of Water and Power
B.1.1 Contact Person 1	Mr. Asad Mahmood
B.1.2 Address	ENERCON building, G-5/2, Islamabad
B.1.3 Phone	+92 51 2272649
B.1.4 Email	asadm_46@yahoo.com
B.1.5 Contact Person 2	
B.1.6 Address	
B.1.7 Phone	
B.1.8 Email	
B.1.9 Contact Person 3	
B.1.10 Address	
B.1.11 Phone	
B.1.12 Email	
B.1.13 Comments	

C Expected timeframe for the preparation of the mitigation action

C.1	Number of months for completion
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D Currency

D.1	Used Currency	<input type="text" value="AED"/>
		Conversion to USD: 1

E Cost

E.1.1 Estimated full cost of preparation	7050000
E.1.2 Comments on full cost of preparation	<p>An estimated amount of €7 Million as financial support is required for realizing various activities in the proposed NAMA. Out of the total requested amount, €5 million will be allocated specifically for Revolving Loan Fund (RLF) scheme whereas the remaining amount will be required for technology and capacity support needed for the implementation of other actions in the proposed NAMA.</p> <p>Further the host country will provide financial support of 1,575,500 USD (1,158,456 EUR) to support the activities of the project after the approval PDD from Global Environmental Facility. These funds will go towards the support of developing a National Efficient Lighting Strategy, developing a monitoring, verification, and</p>

enforcement (MVE) capacities, developing the design of the RLF, and the communication/distribution campaign for LED technologies. The support provided by the NAMA facility will allow for the implementation of the MVE system, the design and development of a collection and recycling service organization, and provide initial funding of €5 million for the revolving loan fund.

F Support required to prepare the mitigation action

F.1.1 Amount of Financial support

7050000

F.1.2 Type of required Financial support

<input checked="" type="checkbox"/> Grant	<input type="checkbox"/> Guarantee
<input type="checkbox"/> Loan (sovereign)	<input type="checkbox"/> Equity
<input type="checkbox"/> Loan (Private)	<input type="checkbox"/> Carbon finance
<input type="checkbox"/> Concessional loan	
<input type="checkbox"/> Other	<input type="text"/>

F.1.3 Comments on Financial support

A revolving loan fund (RLF) is proposed for energy efficient lighting to provide access to financing for the private sector to retrofit or purchase energy efficient lighting products in Pakistan that is otherwise not available. The Energy Conservation Fund (ECF) is an active revolving fund governed by a board of public and private sector entities. As per memorandum of association of ECF, the company can undertake any project within the scope of energy efficiency, in all sectors of the economy in Pakistan and create a separate funding window. ECF has the capacity to effectively handle the proposed RLF component. Frequent requests for efficient lighting financing by the private sector from the ECF indicates growing trend for financing needs of efficient lighting projects, which is presently not available through the Financial Institutions in Pakistan.

F.2.1 Amount of Technical support

F.2.2 Comments on Technical support

F.3.1 Amount of capacity building support

F.3.2 Type of required capacity building support

<input type="checkbox"/> Individual level
<input checked="" type="checkbox"/> Institutional level
<input type="checkbox"/> Systemic level
<input type="checkbox"/> Other
<input type="text"/>

F.3.3 Comments on Capacity Building support

F.4 Financial support required

F.5 Technological support required

F.6 Capacity support required

G Relevant National Policies strategies, plans and programmes and/or other mitigation action

G.1 Relevant National Policies

National Climate Change Policy approved in 2012 outlines goals and strategies to achieve targets in the Adaptation and Mitigation sectors. It guides the implementing agencies to conserve energy, improve energy efficiency specifically legislating incentives for retrofitting lighting and usage of energy efficient lights and appliances in all sectors of the country.

The National Energy Conservation Policy, 2006 also echoes the measures stated in the Climate Change policy by promotion of energy conservation practices and energy savings of perceptible magnitude at national level. It encourages energy audits in commercial buildings and usage of energy efficiency appliances in the residential/commercial buildings.

Thus with supporting national policies and corresponding deployment/promotion of clean energy technologies related to energy efficiency in the national economy through this NAMA would help Pakistan in not only tackling the energy deficit problem but also would help the country in achieving development in a sustainable manner.

Further, Pakistan has signed the Minamata Convention on Mercury and by 2020 must prepare its market for introduction of mercury-added lamps with lower mercury content. The activities of environmentally sound management will support Pakistan in meeting this commitment.

G.2 Link to other NAMAs

H Attachments

H Attachments
H.1 Attachment description
H.2 File

Title Description

Browse...

I Support received

I.1 Outside the Registry
I.2 Within the Registry

Support provided SupportType Amount Comment Date