

PROMOTING AND IMPLEMENTING ENERGY-EFFICIENT, ENVIRONMENTALLY-FRIENDLY, LIGHTING IN PAKISTAN: DEVELOPING A FRAMEWORK FOR AN INNOVATIVE FINANCING MECHANISM



INTRODUCTION

In line with Pakistan's Nationally Determined Contribution (NDC) commitments to reduce its emissions by 20%, and the approval of the National Energy Efficiency and Conservation (EE&C) Bill by the National Assembly in February 2016 to strengthen Pakistan's institutions and accelerate the procedures and mechanisms for the effective conservation and efficient use of energy in the country, the Global Environment Facility (GEF) project "Delivering the Transition to Energy Efficient Lighting in Residential, Commercial, Industrial, and Outdoor Sectors" was formally launched in February 2019.

The project, jointly implemented by the National Energy Efficiency and Conservation Authority (NEECA) as the federal focal authority and the United Nations Environment Programme United for Efficiency (U4E) initiative, aims to secure significant global climate change mitigation and environmental benefits by instituting energy-efficient lighting in the country, transforming the lighting market in Pakistan to highly energy-efficient and quality lighting products.

FINANCIAL RISK GUARANTEE MECHANISM FOR ENERGY EFFICIENT LIGHTING PROJECTS

Pakistan has the potential to save up to 10-15% of primary energy supplies through energy efficiency and conservation (EE&C) actions. Investments in energy-efficient lighting may be considered low risk and quick reward, and lighting is among the most easily accessible energy-efficient products in Pakistan.

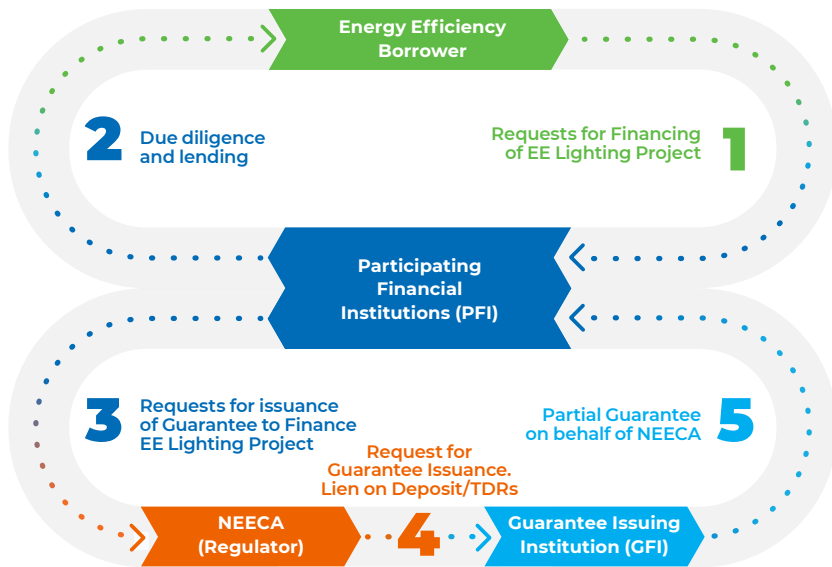
To make this transition to energy-efficient lighting possible, the project has included specific activities for the development of a tailored financial mechanism to boost the deployment of lighting projects. Energy-efficient lighting projects worldwide have demonstrated good returns on investments and high potential in contributing to the national saving target. However, financial institutions are generally reluctant to finance energy efficiency projects for a variety of reasons, including lack of awareness and knowledge on energy efficiency benefits, high transaction costs due to more detailed evaluation, small project sizes, low resale value/no secondary market of energy efficiency project assets, and perceived risks of cost-savings (revenues) generated by energy efficiency projects. With these barriers and perceptions, financial institutions in Pakistan strongly prefer lending against the balance sheet (asset-based lending) and are less willing to provide cash flow lending (project-based lending) for energy efficiency projects.

Against this background, NEECA is collaborating with local financial institutions, regulated by the State Bank of Pakistan (SBP), the country's central bank, or by the Securities and Exchange Commission of Pakistan (SECP), that have a credit rating of A, or better, according to the Pakistan Credit Rating Agency.

A third-party partial risk guarantee mechanism has been established by NEECA to mitigate the risks against loans provided for energy-efficient lighting projects with allocated funds of USD 350,000. In the case of default on a loan, this mechanism absorbs a portion of the lender's losses on the loan. By mitigating some of the risk to lenders, it aims to stimulate commercial lending for replacement of conventional lighting with energy-efficient light emitting diode (LED) lighting in all end-use sectors in Pakistan.

Under the risk guarantee mechanism, NEECA (through its Energy Conservation Fund – ECF) has placed its risk guarantee funds with a guarantee issuing financial institution (GFI) to reduce administrative burdens. This in turn provides the partial credit guarantee to participating financial institutions (PFIs) on behalf of NEECA. Through the PFI, the borrower requests a third-party financial guarantee from NEECA to partially cover the pre-specified default risk of the investment in energy-efficient lighting equipment which is in compliance with the minimum energy performance standards (MEPS) and other technical requirements specified by NEECA. The individual financial institutions are responsible for marketing their products for energy-efficient lighting; identifying the potential borrowers; carrying out their own due diligence; and negotiating collateral, credit enhancement mechanisms, and repayment schedules with the borrowers.

The main parties involved in the operationalization of the proposed risk guarantee mechanism and their responsibilities are shown on the next page.



- 1 Requests for Financing of EE Lighting Project
- 2 Due diligence and lending
- 3 Requests for issuance of Guarantee to Finance EE Lighting Project
- 4 Request for Guarantee Issuance. Lien on Deposit/TDRs
- 5 Partial Guarantee on behalf of NEECA

Main parties involved in operationalization of the risk guarantee transactions and transaction flow

Responsibilities of each party involved in the risk guarantee transactions

Responsibilities of the Borrower

- Carry out needs assessment
- Identify vendor for provision of energy-efficient lighting
- Ensure compliance with approved MEPS for lighting equipment
- Agree on terms of financing with lender and complete its documentary requirements
- Request a third-party financial guarantee from ECF/ NEECA to the lender/PFI to partially cover its pre-specified default risk

Responsibilities of NEECA

- Confirm compliance with approved MEPS for lighting equipment
- Arrange guarantee facility limit for providing guarantees to the lending financial institution on behalf of the borrower
- Complete the documentary requirements of the GFI

Responsibilities of the lender/PFI

- Identify/market to the client
- Carry out its own due diligence
- Identify the energy efficiencies and cost savings
- Validate the cost of lighting equipment
- Agree on the terms of financing
- Disbursements and recoveries of funds

Responsibilities of the GFI

- Approve the guarantee facility limit on request of ECF/ NEECA
- Mark lien on the deposit/certificates of investment/term deposit receipts of ECF/NEECA
- Issue guarantees to lenders/PFIs on behalf of ECF/NEECA

PILOT DEMONSTRATION OF THE RISK GUARANTEE MECHANISM

In the initial implementation phase of the risk guarantee mechanism, NEECA/Energy Conservation Fund (ECF) has placed an initial amount of USD 50,000 as the risk guarantee fund with Habib Bank Limited which acts as the guarantee issuing financial institution (GFI) and provides the partial credit guarantee on behalf of NEECA.

The first risk guarantee agreement was signed between Image Pakistan Ltd (the borrower) and ORIX Modaraba (the PFI/lender) and NEECA (the guarantor) on 3 November 2021 for an energy-efficient LED lighting retrofit project. Image Pakistan Ltd is a fine embroidery manufacturer based in Karachi which has produced quality embroidered fabric since 1993. Although the total investment for their energy-efficient lighting project is relatively small (one

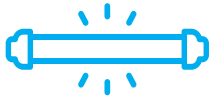
million Pakistani Rupee (PKR), or about USD 6,000) this has proven the viability and practicality of the risk guarantee mechanism for energy-efficient investment projects in Pakistan.

With funding from ORIX Modaraba and the guarantee mechanism facilitated by NEECA, Image Pakistan Ltd replaced the 890 existing 4-foot and 2-foot fluorescent tubes in their production lines with LED tubes approved by NEECA. NEECA also supported Image Pakistan Ltd in the project development phase with lighting audits to confirm the inventory of existing fluorescent tubes and a cost/benefit analysis of LED tubes. NEECA also helped in identifying qualified lighting suppliers to provide LED tubes which are in compliance with the MEPS.

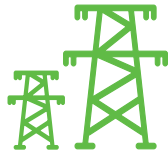
With installation of the LED tubes, it is estimated that Image Pakistan Ltd will realize annual energy savings of 63,000 kWh or about 1.3 million Pakistani Rupee per year through this LED tube investment. With this attractive cost saving, Image Pakistan Ltd is paying back their USD 6,000 lighting loan through energy cost savings generated by this LED tube investment in less than a year.



Launching ceremony of the risk guarantee mechanism of energy-efficient lighting investments



890 fluorescent tubes replaced with LED tubes in the production lines



Annual energy savings of **63,000 kWh**



1.3 million Pakistani Rupee saved per year through this LED tube investment



Image Pakistan Ltd replaced the 890 existing fluorescent tubes in their production lines with LED tubes

About Image Pakistan Ltd

Image Pakistan Ltd was incorporated in 1990 and is situated at Sindh Industrial Trading Estate (SITE), Karachi. The Company was initially established to produce 4,200 tonnes/annum of polyester filament yarn. More recently, the company has started manufacturing and marketing value-added embroidered fabric, as well as printed lawn under the brand name "Image".

The state-of-the-art facility is equipped with the latest plant and machinery, with particular emphasis on consistent product quality. From production to packaging of the final product, everything is carried out under one roof.



ABOUT THE NATIONAL ENERGY EFFICIENCY AND CONSERVATION AUTHORITY

The National Energy Efficiency and Conservation Authority (NEECA) was established under the Ministry of Energy (Power Division) to initiate, catalyze, and coordinate all Energy Efficiency and Conservation (EE&C) activities in different end-use sectors in Pakistan. NEECA through its Strategic Plan (2020-2023) aims at achieving energy saving targets by introducing and implementing EE&C programs in all major sectors of the economy.

To learn more about NEECA's work, please visit: www.neeca.gov.pk

For more information, please contact: neeca.enlighten@gmail.com



ABOUT UNITED FOR EFFICIENCY

United for Efficiency (U4E) is a global initiative led by the United Nations Environment Programme (UNEP), funded by the Global Environment Facility (GEF), and supported by an array of leading companies, expert organizations, and public entities with a shared interest in transforming global markets for lighting, appliances and equipment to more energy efficiency alternatives saving all electricity consumers, including government, \$ billions at the same time.

To learn more about United for Efficiency's work and tools, please visit: united4efficiency.org

For more information, please contact: unep-u4e@un.org