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The Donor Committee for Enterprise Development

Donor Support for Green Industrial Policies

Smart Technology and Energy Efficient Production (STEP) project in Egypt

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Context

In 2015, Egypt faced a serious energy crisis, as energy demand grew, and the government struggled to keep up with paying the subsidies for energy that had been in place since the 1970s. As part of a larger economic reform programme, the government decided to gradually phase out energy subsidies, which in turn negatively affected the competitiveness of a private sector accustomed to factor those energy subsidies into their business model. Inspired by the transformational impact of energy efficiency policies witnessed throughout a study trip to Korea, the Egyptian government decided to introduce energy efficiency policies addressing Egypt's industry, to reduce energy consumption and costs, as well as to mitigate carbon emissions and create new opportunities for the private sector. A diagnostic study was carried out by the International Finance Corporation (IFC) to assess the policy options to encourage industry to adopt energy efficient practices and technologies. Introducing Minimum Energy Performance Standards (MEPS) and Standards and a Labeling (S&L) program were the chosen policy instruments for reaching greater competitiveness and a greener industrial sector. Equipment under consideration included stand-alone motors, motor systems (such as a fan, pump, compressor), and boilers. Based on the analyses conducted, it was decided to focus on stand-alone motors due to their prevalence in industry. On September 23, 2020, the Egyptian Ministry of Trade and Industry (MoTI) issued a **Ministerial Decree 463/2020** to enforce labelling of motors and mandating higher energy efficiency standards for selected electric motors to support the country's transition to a greener economy. Mandating the implementation of high efficiency motor standards in industry had the potential of bringing the local motors market in line with other major economies and creating an opportunity for local and foreign investments in a growing energy efficient technology. Since May 2022, only motors with an efficiency of IE 3[1] can be imported to Egypt.

Donors supporting GIP

Based on a request to IFC from the Government of Egypt, the Smart Technology and Energy Efficient Production (STEP) project was developed with the aim of reducing industrial energy consumption and promoting the growth of local energy efficient manufacturing in Egypt. The program was implemented in partnership with the Egyptian Ministry of Trade and Industry (MoTI) and its affiliates, including the Egyptian National Cleaner Production Center (ENCPC), the General Organisation for Export and Import Control (GOEIC), the Egyptian Organisation for Standardisation and Quality (EOS), and the Industrial Control Authority (ICA). The program was financed by the Governments of Korea, Denmark and Italy as well as the Facility for Investment Climate Advisory (FIAS). The project had an overall duration of 6 years and concluded in 2021.

1 IE3 is an efficiency class for low voltage 3 phase induction motors. It is the minimum requirement in Egypt as well as in other countries, such as EU, Canada, US, Mexico or South Korea.

Approach taken

STEP adopted an integrated approach in the support of the MoTI, combining a number of activities that jointly led to the success of this initiative.

Policy and Strategy Advisory

- Long term support of the MoTI as well as other relevant government stakeholders in the drafting of the Ministerial Decree as well as a sound enforcement mechanism.

Research and Analysis

In total, the project developed 14 analytical and technical reports to build the case for the potential for energy savings, increased industry competitiveness, and greater resilience. These reports served as the necessary evidence and were the basis for the development of all other activities as well as the design, the implementation and the enforcement strategy for the MEPS and S&L. The following analytical work had special importance for the success of the overall implementation:

- Techno-economic and national impact analyses based on latest modelling approaches, using approaches from the Lawrence Berkeley National Laboratory Policy Analysis Model System (PAMS) as to develop evidence-based decision making with regards to the direction of the project and towards the final decision of focusing on energy efficiency for stand-alone motors. The analysis allowed for important evidence-based insights for different audiences from industry and the public sector.
- Institutional analysis to understand the government and industry's ability to absorb the new efficiency standards, their capacity for implementation, the existing equipment testing infrastructure, as well as the costs and benefits of implementation for each of the relevant institutions.
- Detailed assessment to analyse the motor value chain and the potential for local manufacturing in Egypt, analysing both those market segments, where local manufacturers could compete, as well as those where import of certain parts would be more favourable. Overall analysis of all private market stakeholders and preparation of a road map provided a vision leading to deepened local manufacturing in Egypt.

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Approach taken

Collaboration and Stakeholder Engagement

In total, more than 40 consultations and workshops with more than 950 industry stakeholders from public and private sector were held. The consultations were key to get the buy-in for the change in legislation, as well as for stakeholders to clearly understand the technical and financial implications and benefits of the use of more efficient motors. The following type of stakeholder engagement events stand out:

- Stakeholder events including technical training sessions and online/offline workshops with relevant government and public sector stakeholders, manufacturers, traders and users of motors and components thereof and business associations to build consensus around the text of the decree.
- Establishment of information dissemination schemes including virtual and in-person seminars, field visits and technical workshops related to: Motors MEPS and S&L program; energy-efficient motors cost, reliability, and availability; energy efficient motors financing; and other issues relevant to the motors manufacturing and trade.
- Establishment of information dissemination schemes to help overcome barriers of customer awareness by providing information to consumers on the benefits of energy efficient motors.

Capacity Building and Training

- Training and capacity development through exposure and learning with regards to testing and surveying at the Danish Technological Institute Tech Lab, allowed for the adaptation of the technical standard to local conditions in Egypt.
- Various exposure visits of Egyptian government officials to Korea led to increased engagement of the different relevant stakeholders, as well as to relevant learnings with regards to policy reforms and the implementation of energy efficiency in industry in Egypt.
- Close collaboration with top notch national and international technical experts that provided capacities, as well as training to both industry and government stakeholders.

Financial support and Investment

- IFC facilitated discussions between MoTI and ABB International to procure and set up a testing lab at GOEIC in line with the technical recommendations provided by IFC, and which was inaugurated by H.E. the Minister of Trade and Industry in September 2022.
- The Government procured three additional labs as to be able to provide oversight and to check the required minimum performance standards as mandated.

Sector

Industrial sector with a very specific focus on electric motors that accounted for more than 50% of the overall industrial energy consumption.

Lessons learnt

Use evidence-based analysis for decision-making and communication at all times.

The use of a strong analytical basis was key in different ways. It allowed for a science-based decision for which technology to focus on, as well as for the decision on the type of motor efficiency and roll out for the implementation of the decree that would allow the best possible effects on the economy and the environment. It also helped to create the necessary buy-in from different stakeholders, as the strong analytical decision base allowed to create differentiated messages for the different stakeholder groups, as well as to create the necessary awareness on the costs and benefits of the transition to E3 motors based on the needs of the different stakeholders.

Accompany the implementation of policies with technical assistance for the affected value chain.

The project supported its work on the policy level with technical support (analytical as well as capacity building) for the affected sector.

By providing evidence-based technical and policy support, it led to the creation of the necessary awareness and market for the replacement of old motors, as well as for investing in developing a more integrated local manufacturing sector for more energy efficient motor components.

The engagement of all key stakeholders from the beginning is key.

Engaging all stakeholders from the private sector to different relevant organisations responsible for surveillance from an early stage is key for long term success. Creating the necessary buy-in, allowing for sufficient time to create trust and awareness around the issue of energy efficiency in industry helped the development of a decree adapted to the needs of the Egyptian context in the long term. Even before drafting the decree, several rounds of stakeholder consultations took place to make sure that all relevant views were included. Once stakeholders understood the business case as well as the implications with regards to changing to more energy efficient motors, the contributions were extremely meaningful and provided a sound basis for the development as well as the acceptance and enforcement of the decree. Keeping all actors informed and engaged is a long-term process that requires energy and time to be successful.

Encourage inter-ministerial and inter-agency collaboration.

Public sector institutions often work independently from each other. Bringing different public sector stakeholders from MoTI to the Export Import Control Agency to the Industrial Control Agency together from the very start of the process was crucial for the success of the project. Making sure that all different agencies from policy makers to enforcement agencies to private sector support bodies understood the case around the implementation of energy efficiency standards and the setup of the decree helped to create the necessary buy-in. Although the government changed various times throughout the process, the fact that different agencies were onboarded and included helped to provide the necessary continuity and ultimately successful adoption of the decree.

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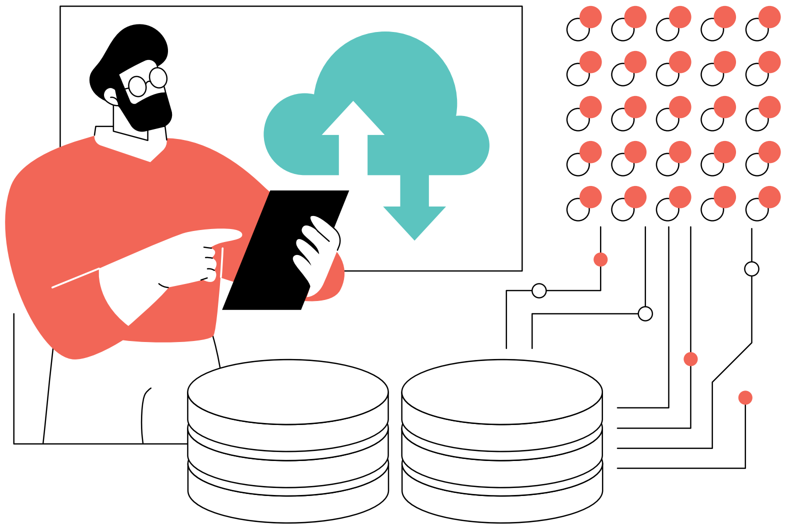
Impacts

- $150M+ created in private sector savings
- 1.1M+ metric tonnes saved in greenhouse gas emissions
- 2,100+ GWh of energy savings generated
- $70M+ in private-sector led investments and mobilization of cross-border capital to create energy efficient technology manufacturing



Links

A STEP up for Egyptian Industries

KGID Cairo:
STEP Success Story

Imprint and Disclaimer

Donor interventions to support Green Industrial Policies

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The Donor Committee for Enterprise Development

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