7 AFFORDABLE AND CLEAN ENERGY

CASE STUDY TITLE

Optimization of Minimum Energy Performance Standards (MEPS), intends to improve Pakistan's energy efficiency policy.

SUMMARY

The purpose of this case study is to demonstrate the importance of minimum energy performance standards (MEPS), which have been used to track the energy efficiency compliance of various appliances and equipment. The MEPS may require products adhere to a certain maximum allowable energy consumption or dictate that a product contain particular features or devices.

Alternatively, MEPS may require an average efficiency across all models of a product, which bringing significant impacts in terms of availability of higher quality energy efficient products in the market and subsequent reduction in energy consumption. This supports directly to the global agenda to expedite action on the energy goal of universal access to affordable, reliable and modern energy services, as well as renewable energy and energy efficiency.

BACKGROUND

Energy plays a crucial part in a country's socioeconomic development, and desirable levels of economic growth can only be attained if energy inputs are made accessible at sufficient quantities. Developing countries, such as Pakistan, are currently confronted with not only the challenge of meeting rising energy demand, but also the energy efficiency gap, as a result of expanding economies and population bases, increasing urbanization, rising living standards, and a low adoption of energy-efficient technologies.

Energy efficiency, on the other hand, has ramifications beyond consumption and costs, with a variety of co-benefits including higher productivity, energy security, enhanced household health and well-being, comfort, air quality, and improved social capital. Despite these advantages, Pakistan has mostly focused on increasing energy output rather than taking use of these potential.

AT A GLANCE

COUNTRY

- Pakistan

LEVEL

- National

SDG ADDRESSED

- SDG 7 - Affordable & Clean Energy

Furthermore, energy efficiency in the home has been acknowledged as a key priority for households which are big power consumers who account for a significant portion of the country's overall electricity consumption. Nowadays, households consume around 42.15 percent of total power in Pakistan.

Given this circumstance, there is a pressing need to improve energy efficiency in the household sector, which necessitates identifying a clear focus, targets, goals, and objectives, as well as utilizing multi-level and multi-component intervention activities.

BACKGROUND

In addition, significant improvements in the power sector's high conversion and transmission losses, as well as enforcement of energy conservation measures such as energy savings, energy-efficiency standards, and the potential for increased energy efficiency in the electricity consumption of Pakistan's households and other appliances, are required.

STRATEGY

Taking into consideration the energy efficiency targets, the strategy encompasses the following four intervention areas in standardization;
(i) Formulation of minimum energy performance standards (MEPS);
(ii) Maintenance procedures
(iii) Conformity assessment
(iv) Market surveillance.
(v) Overall, A National Standard Body (NSB) of Pakistan establishing Minimum Energy Performance Standard (MEPS) with an obligation for the maintenance procedures which signifies that the work of formulation of standards shall be undertaken when the National Standards Committee (NSC) is satisfied as a result of its own deliberations or on investigation and consultation with concerned interests that the necessity for standardization has been established and it shall assign the task of formulating the standard to an appropriate Technical Committee or shall appoint a new Technical Committee for the purpose, followed by Conformity Assessment—which implies that the products meet specific requirements or are compliant with applicable standards and technical regulations—and market surveillance—which aims to identify products on the market that are compliant with applicable laws and regulations and existing standards.

RESULTS & IMPACT

With respect to the Results and Impact, priority standards were identified, formulated and published. These include;
(i) PS 5472:2020 - Minimum Energy Performance Standard (MEPS) for Electric Motor,
(ii) PS 5294:2021 - Minimum Energy Performance Standard (MEPS) for Air Conditioner,
(iii) PS 1:2021 - Minimum Energy Performance Standard (MEPS) for AC Electric Fans,
(iv) PS 4858:2021 - Minimum Energy Performance Standard (MEPS) for Geyser,
(v) PS 5422:2020 - Minimum Energy Performance Standard (MEPS) for Television Receiver,
(vi) PS 5531:2021 - Minimum Energy Performance Standard (MEPS) for Refrigerator,
(vii) PS 497-2-A:2012 - Minimum Energy Performance Standard (MEPS) for Magnetic Ballasts for tubular fluorescent lamps,
(viii) PS 4640-1:2020 - Minimum Energy Performance Standard (MEPS) for Electronic Ballasts
(ix) PS IEC 60969:2020 - Minimum Energy Performance Standard (MEPS) for Energy Saver,
(x) PS 5473:2020 - Minimum Energy Performance Standard (MEPS) for LED bulbs and tube lights,
(xi) PS 5402:2020 - Minimum Energy Performance Standard (MEPS) for tubular fluorescent lamps.

RESULTS & IMPACT

These standards are key considerations for manufacturers since they not only assist to maintain balanced centricity by meeting regulatory obligations, but they also help to promote energy efficiency and develop the evidence base in order to better guide energy policy. With an effective implementation of the Energy Labeling Regime developed on the basis of the MEPS and an enabling environment for the manufacturers, more than 10 GWh/annum energy saving threshold level could be passed by year 2030 as against the baseline consumption of current calendar year.

CHALLENGES & LESSONS LEARNED

MEPS are formulated with the goal of reducing energy consumption by utilizing energy-efficient appliances and equipment. Challenges relating to the harmonization of test procedures, the effective implementation of energy efficiency standards, and the exploration of other areas of collaboration such as improving end-use efficiency in various energy-consuming sectors of the economy, capacity building and the Labelling Scheme, and laboratory strengthening. Despite the advancement of MEPS for various appliances, personnel staff capacity of the manufacturers and other stakeholders is required to implement and revise such standards on a timely basis. They also have to be re-aligned with the Sustainable Development Goals (SDGs) and Pakistan's National Determined Contribution (NDC), as well as the prevailing Energy Efficiency regulatory framework and related provisions.

POTENTIAL FOR REPLICATION

The major focus of the case study is on the impact of Minimum Energy Performance Standards (MEPS), which require an energy supplier or jurisdiction to meet a defined energy efficiency objective within a predetermined timeframe. By decreasing financial burdens, the MEPS may encourage more efficient energy consumption or generation, as well as assist manufacturers in implementing energy efficiency initiatives. Therefore, other developing countries should follow the rules outlined in the above-mentioned texts if they want to achieve long-term economic growth in their particular sectors.

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