Pakistan Energy Label Regulations

for Motors 2023

BACKGROUND

Enactment of National Energy Efficiency and Conservation Act (NEEC) 2016 mandated National Energy Efficiency and Conservation Authority (NEECA) to serves as a sole focal federal Authority for initiating, catalyzing, carrying out and coordinating the implementation of all energy conservation programs in all sectors of the Economy.

- Section 7(d) and 7(u) of NEEC Act 2016 authorizes NEECA to make regulation and impose ban on inefficient technologies.

" ***Prepare draft regulations to be made by the Board pursuant to the provisions of this Act***"

"Prohibit manufacture, sale or import of equipment or appliances which are not energy-efficient and ensure display of such particulars through labels on equipment or appliances as may be necessary;"

TYPE OF ENERGY LABELS

Comparative Labels

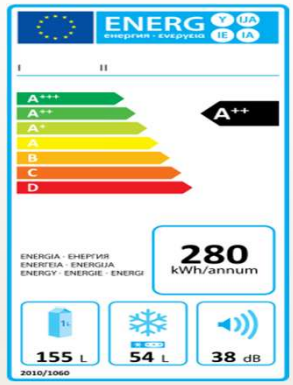
Allow consumers to compare the energy consumption of similar products, and factor lifetime running cost into their purchasing decision. Provide a 'certification' to inform prospective purchasers that the product is highly energy efficient for its category.

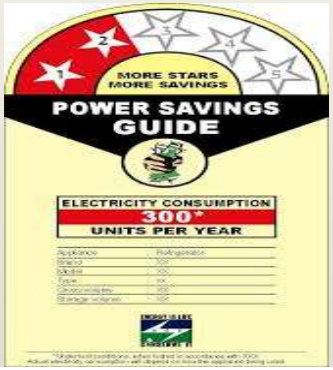
Endorsement Labels

Energy endorsement labels affixed only to models meeting a certain efficiency level.

NEECA ENERGY LABEL (COMPARATIVE LABEL)

Pakistan Standards





NEECA ENERGY LABEL (SECURITY FEATURES)

1. Multi Security Features

- Green shift to brown when viewing angle is changed
- This is machine readable which makes a beep
- A green dot is visible under laser light

2. Scratchable Foil with Unique Code

- Stretchable foil with unique code
- Valid code will be verified instantly

3. QR code

PAKISTAN ENERGY LABEL REGULATIONS 2023

- NEECA has developed and notified Energy Labelling regime through Pakistan Energy Label Regulations 2023 for five (5) electrical appliances.
- These regulations specify Minimum Energy Performance Standard (MEPS) and star rating to based on energy performance of these appliances.
- S.R.O. 1908(I)/2025 - National Energy Efficiency and Conservation (Pakistan Energy Labels for Motors) Regulations, 2023
- Notified on 20th March 2024 and 2nd October, 2025 (revised).

ANNUAL IMPACT OF PAKISTAN ENERGY LABEL REGULATIONS 2023

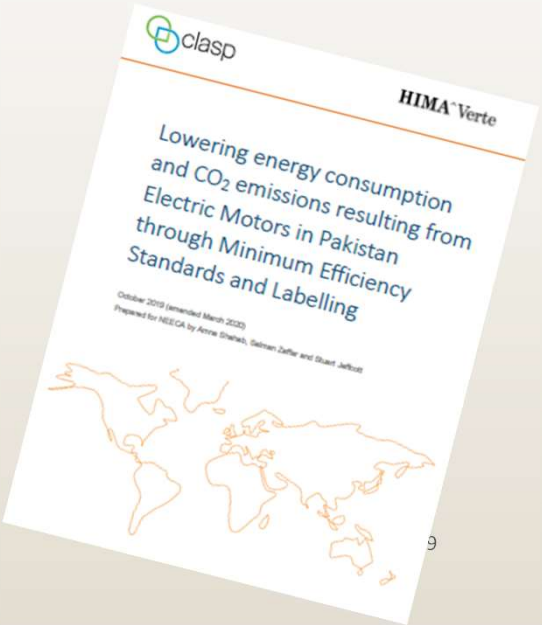
- Upon full scale implementation under NEEC Action Plan 2023-2030, the energy saving impact is as below.

Intervention	Annual Energy Saving	Annual Impact Million $
Implementation of MEPS for Air-Conditioner	135 Million Units	7
Implementation of MEPS for Refrigerators	1,073 Million Units	53
Implementation of MEPS for Fans	388 Million Units	25
Implementation of MEPS for LEDs	5,265 Million Units	258
Implementation of MEPS for Motors	9,000 Million Units	155
TOTAL ANNUAL IMPACT		**498**

MOTOR MEPS DEVELOPMENT (BACKGROUND)

NEECA POLICY ON ELECTRIC MOTORS

- NEECA first initiated development of MEPS and Labels for electric motors in 2019
- After over an year of stakeholder consultations, supported by the CLASP and SAMA^Verte team, draft policy recommendations were completed in 2020
- Following deliverables fell out of NEECA's MEPS development project:
  - MEPS and Labels regulations covering policies for motors ranging from 0.12 KW to 1000 KW
  - A detailed report titled: *Lowering energy consumption and CO2 emissions resulting from Electric Motors in Pakistan through MEPS and Labels*
  - FAQs compilation
  - Other helping material developed by CLASP for support with roll out such as draft notification letters etc.



MEPS DEVELOPMENT AND MARKET READINESS

- MEPS were developed keeping in view the nature of the market for large and small, single and three phase motors
- As mentioned in earlier presentation following supply side segments exist:
  - Local Manufacturers
  - Imported Motors from Multinational companies having offices in Pakistan
  - Imported Chinese Motor brands
  - Second Hand Motors
- The project team discovered that local manufacturing could not cope with new MEPS straight away.

MEPS DEVELOPMENT AND MARKET READINESS

- The market in the large motors segment, especially industrial use was found highly reliant on the second hand motors market
- A need to curb the use of second motors was only possible if alternates were made available at a price which the general manufacturing industry could cope with
- Test laboratories which are the corner stone of any labeling scheme were either missing or in adequate.

OVERVIEW OF MOTOR REGULATIONS

SCOPE OF REGULATIONS

- The regulation applies to the import and offer for sale of three-phase squirrel cage induction motors designed to operate at 50 Hz or 60 Hz, with:
  a. a rated output power greater than or equal to 0.12 kW and less than or equal to 1,000 kW
  b. a rated voltage of up to 1000 volts alternating current
  c. 2, 4, 6 or 8 poles
  d. a continuous duty rating

- Single-phase squirrel cage induction motors of all types designed to operate at 50 Hz or 60 Hz with a rated output power greater than or equal to 0.12 kilowatts.

- The second Hand motors are also covered by the regulations.

EXEMPTIONS

The following motors are excluded from the regulation:

a) Motors specified to operate wholly immersed in a liquid;

b) Motors that cannot operate as a motor if separated from the driven unit, even if a temporary end shield or a drive end bearing is fitted;

c) Motors specified to operate exclusively:
   (i) at altitudes exceeding 4,000 meters above sea-level;
   (ii) where ambient air temperatures exceed 60°C;
   (iii) in maximum operating temperature above 400°C;
   (iv) where ambient air temperatures are less than – 30 °C for any motor or less than 0 °C for a motor with water cooling;
   (v) where the water coolant temperature at the inlet to a product is less than 0°C or exceeding 32°C;
   (vi) Motors intended for use in explosive atmospheres and certified as "Ex eb" increased safety motors, as defined in IEC EN 60079-7:2015 (other explosion-protected motors certified as "Ex ec", "Ex tb" or "Ex tc" are however included in the scope of this regulation)

EXEMPTIONS

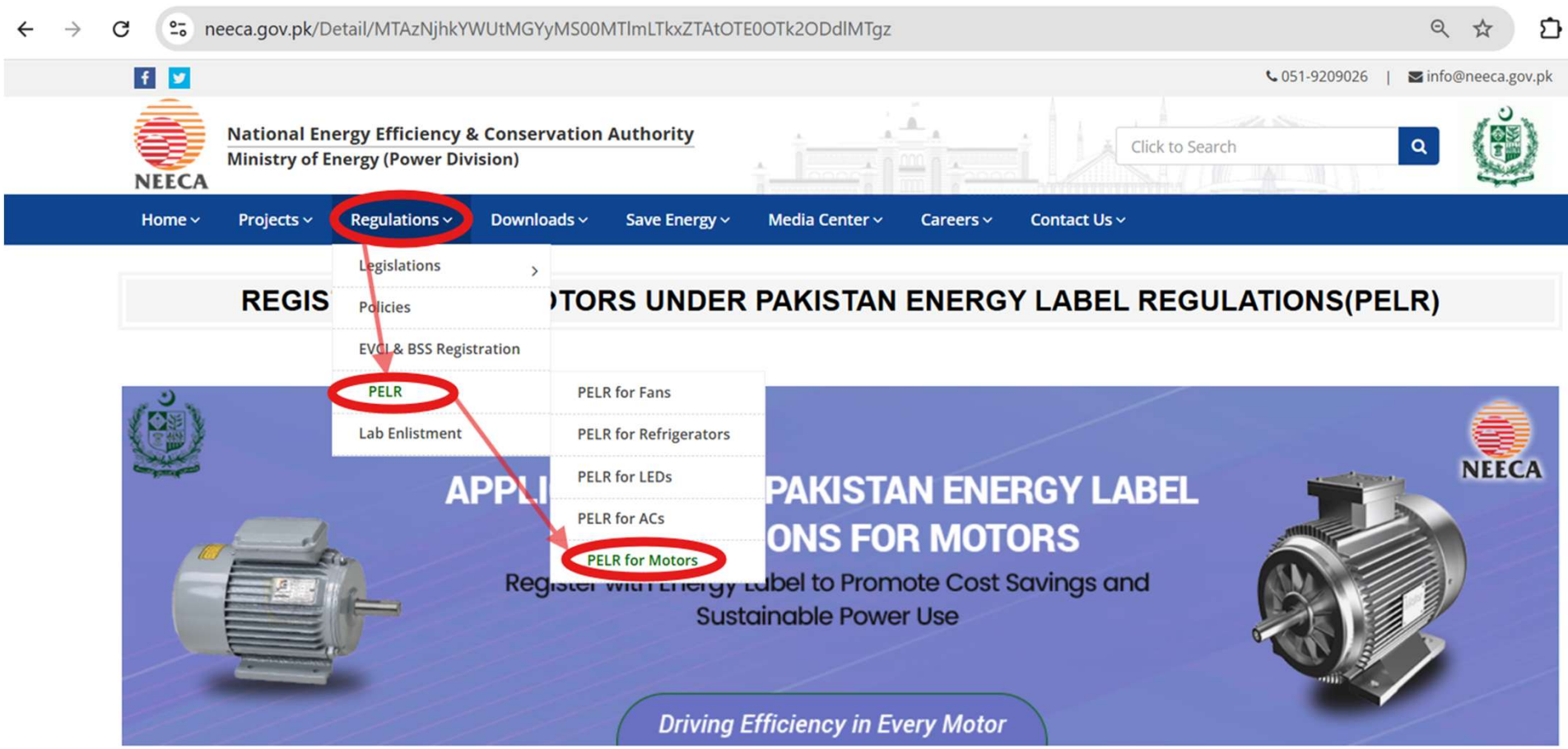
d) Brake motors;

d) Motors that can run at two or more discrete speeds by using switchgear to reconfigure the connection of the motor's winding or windings to the supply (multi-speed motors). ***Motors that run at different speeds by means of variable voltage or variable frequency controllers are not excluded;***

d) A high slip motor designed primarily to provide torque, often at or near 100 per cent slip (torque motor).

STEPS TO ACCESS REGULATIONS FOR MOTORS ON NEECA WEBSITE

- Visit www.neeca.gov.pk
- Hover over the "Regulations" tab on the top menu
- Click on "PELR" from the dropdown
- Then select "PELR for Motors“
- A dedicated page with regulations and guidance for motors will be open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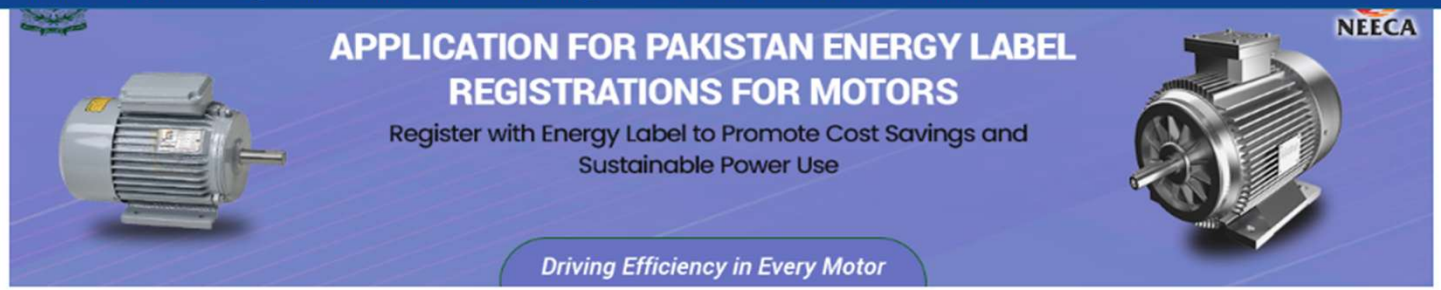


Welcome to NEECA's Registration Portal

- Home
- Overview
- Sample Label
- Contact Us
- FAQs

The Pakistan Energy Label Regulations for Motors establish Minimum Energy Performance standards for electric motor efficiency across various sectors, recognizing the critical role that electric motors play in Pakistan's domestic, industrial, and commercial power consumption. These regulations require compliance with a star rating system of 1 to 5 stars, where the higher star rating means a more efficient motor. These star ratings are linked with the IE motor classification code of International Electrotechnical Commission (IEC). As electric motors are widely used in applications such as fans, pumps, compressors, and conveyor systems, they constitute a large portion of total electricity usage. These regulations apply to electric motors of designated sizes and types, encouraging manufacturers and importers to meet NEECA's approved MEPS, register their models, and label each motor with the Pakistan Energy Label. This labeling system aids consumers and businesses in identifying high-efficiency motors, reducing operational costs, and advancing Pakistan's broader goals of energy conservation and environmental sustainability.

Click here to download the Motors regulations.

Download the PDF: Completely fill the PDF form, and submit with the necessary documents.

Download PDF

Send To:

Address:	NEECA Building, Sector G-5/2, ISLAMABAD.
Name:	Mr. Muneeb Ahmad, Assistant Director (Industry)
Email:	ad.industry@neeca.gov.pk
Phone:	051-9214671

Fee Structure

Sr. No	Fee Type	Fee in Pak Rs.
(1)	(2)	(3)
1	Company/Firm Registration Fee (One Time)	~~100,000/-~~
2	Product Registration Fee (One Time)	Nil
3	Model Registration/Renewal Fee (2 Years)	As per table below
4	Pakistan Energy Label / Security Sticker Fee	As per table below

Type of Motor	Model Registration Fee	Pakistan Energy Label/ Security Sticker Fee
New 3 Phase > 5kW	7,000	0
Second Hand 3 Phase > 5kW	500	0
New 3 Phase < 5kW	350	20
Second Hand 3 Phase < 5kW	500	0
Single Phase	350	20

INDUSTRY ACCELERATOR PROGRAM

NEECA'S SUPPORT TO IAP BY CLASP & SAMA^VERTE

- The program focused on two appliances initially:
  - Water Heaters
  - Electric Motors
- Both appliances are critical for NEECA given that:
  - Due to scarcity of natural gas in the country, focusing on efficient water heating appliances became critical for NEECA by 2021
  - Electric Motors consume more than 50% of the load consumed by all appliances generally around the world and are the most important appliance for any energy efficiency regulator
- NEECA has throughout remained abreast with the interventions, findings, and the breakthroughs achieved by the program
- The program has helped NEECA with valuable insights helping with decision making. Various initiatives by NEECA like the *NEECA enlisted labs criteria* have culminated as a result of knowledge sharing done via CLASP's Industry Accelerator Program

KEY RESULTS – WHAT THEY MEAN FOR NEECA

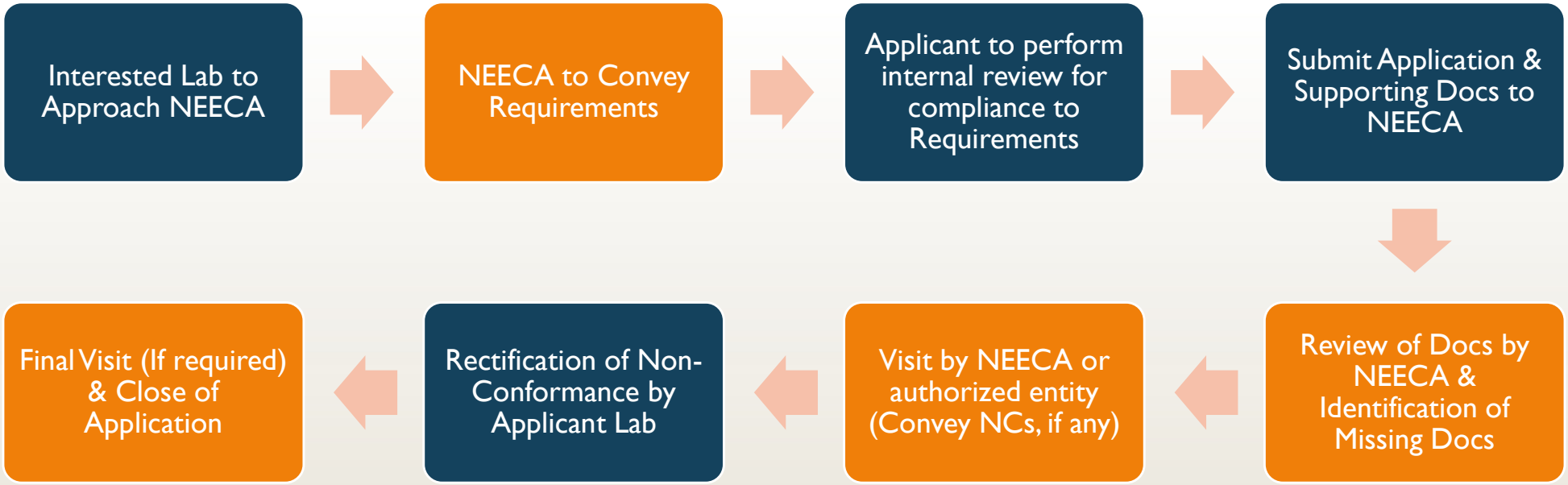
- Development and reliable production of IE1 motor in the size range 5.5 to 11 KWs gives us the confidence that MEPS can be implemented and then adhered to by local manufacturers
- Development and reliable production of IE1 single phase motors in the size range 1hp and 2 hp is also a critical result as most of the production locally is being done in the single phase category.
- The future outlook where it is expected that before the end of 2026 Pakistani manufacturers will be able to build IE2 motors reliably is very encouraging.
- Where NEECA believes that some consolidation might take place in the local motors industry; the IAP has played a major role in safe guarding local jobs by equipping the local industry with tools and means to manufacture high quality products.
- A lot of work during the IAP went into improving test labs. The fact that some labs are now able to test up to international standards is a huge breakthrough for the country. This should help strengthen the labeling program immensely.

LAB ENLISTMENT WITH NEECA

- Enlistment Categories

- Enlistment Categories
  - Local Lab Basic Category
  - Local Lab Professional Category
  - International Laboratory

- Proposed Enlistment Process for NELs – Local Labs



- Proposed Enlistment Process for NELs – Local Labs

NEECA
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Thank You!

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