



Experience in Chile Minimum Energy Efficiency Standard for Electric Motors

October 2024

Ministry of Energy and Superintendency of Electricity and Fuels

Working together

- **The Ministry of Energy** has been in charge of standards
- **The Superintendency of Electricity and Fuels** has been in charge of certification systems

Energy efficiency labeling

Characteristics

- Energy efficiency labeling for motors in our country is based on the NCh3086 Standard of 2008 and IEC 60034-2-1 (2007).
- The label is comparative and shows a scale that goes from letter A (the most efficient or equivalent to IE3) to letter D (the least efficient or lower than IE1).
- This label must be visible and attached or printed near the motor's nameplate



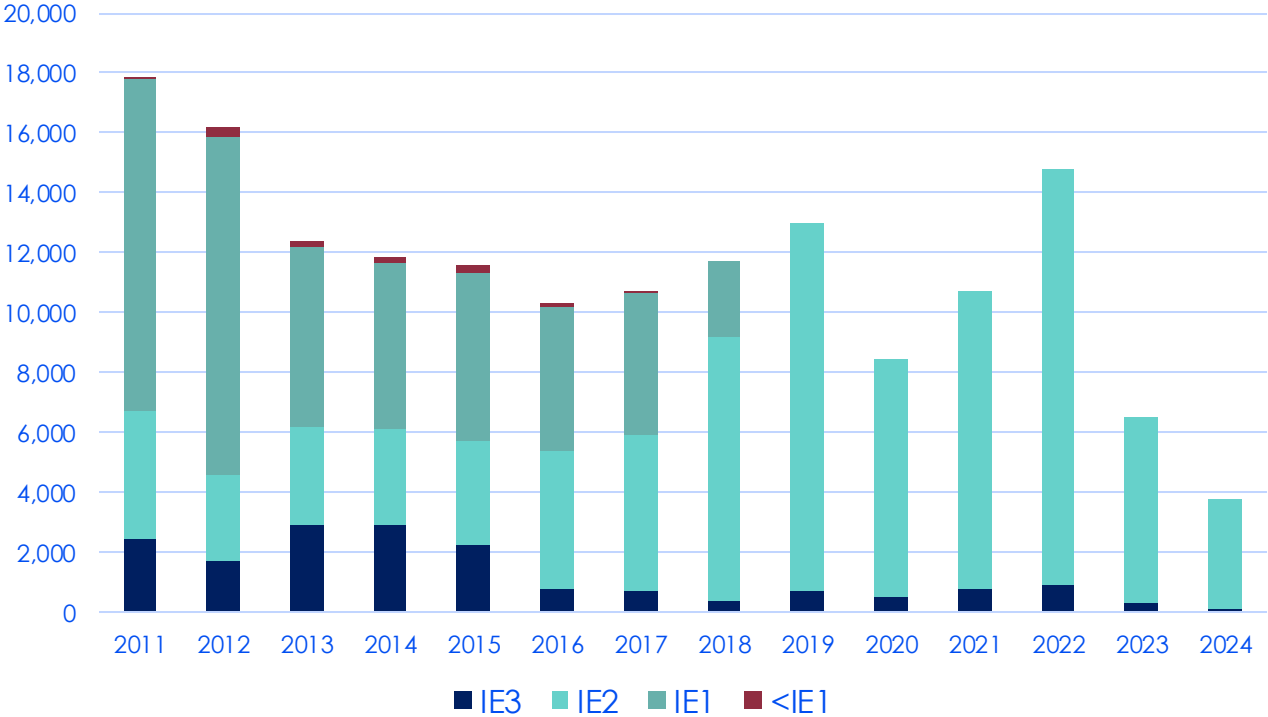
Minimum Energy Efficiency Standard for Electric Motors in Chile

Resolution N 3

- In 2017 in Chile the minimum energy efficiency standard for Three Phase Induction Electric Motors was set according to the following scope:
- **Frequency:** 50 Hz.
- **Voltage:** That can operate at 380 Volts, among other combinations, motors marked as 220/380, 400/600, 400/690 Volts.
- **Speed:** One rated speed.
- **Number of poles:** 2, 4 and 6 poles.
- **Power:** From 0.75 to 7.5 kW.
- **Duty cycle:** S1 (according to IEC 60034-1 standard classification).
- **Enclosure type:** Open or closed (> IP21) with self-ventilation.
- In summary, the standard for motors is that they should be at least **IE2 or more efficient.**

Results of energy efficiency labeling and MEPS implementations

Motors marketed from 0.75 to 7.5 kW



Results of energy efficiency labeling and MEPS implementations

What is the reason for the stagnation?

- **Cost of testing:** few models are tested to spread the costs.
- **Unavailability of energy efficiency testing laboratories:** there are no local laboratories authorized to perform energy efficiency tests.
- **Price competition:** Insufficient knowledge of the benefits of using more efficient electric motors, so the market competes mainly on price.

Law 21.305 on Energy Efficiency

First Plan prepared (2022- 2026)

- Every five years a National Energy Efficiency Plan must be elaborated.
- Among the subjects covered are the productive sectors.
- The measure “Update the minimum standard of Energy Efficiency for Electric Motors” has been defined
- “The current minimum standard will be updated, both to increase its requirement and also to extend its application to motors with power over 7.5 kW, taking into account international regulations in force”.

What could we do to update the standards?

Ideas

- We need to get market data on engines and their power ratings.
- Review alternatives to the certification model we have in Chile.
- Analyze improvement scenarios (e.g. environmental benefits).



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