

Discussion: Motor Minimum Efficiency Standards

**New IE-legislation: Surpass or survive?
First experiences of CEMEP LV A.C. Motors
and lessons learned**

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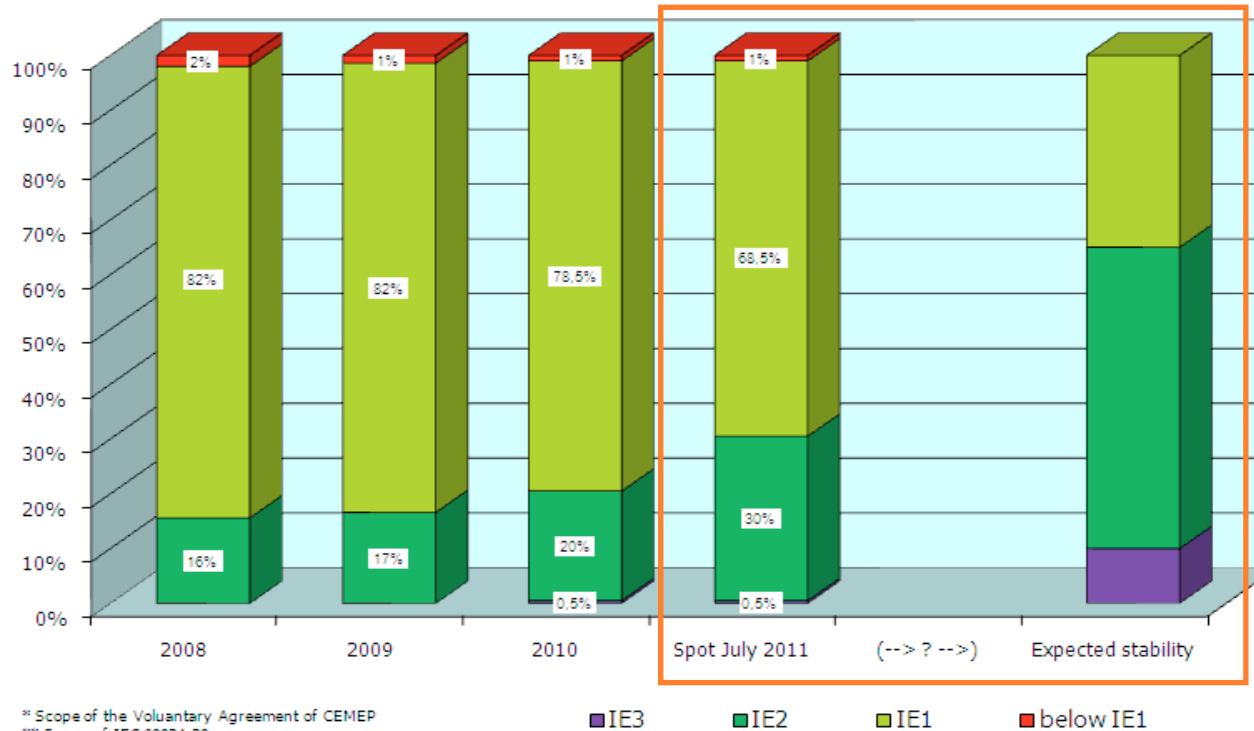
European Committee of Manufacturers of Electrical Machines and Power Electronics

Overview

1. Market penetration of IE 2 motors during summer 2011 and lessons learned
2. Thoughts about financial promotion within member states in Europe
3. Some visions for the future
4. Summary

1. Market penetration of IE 2 motors during summer 2011 and lessons learned

Market share of electric motors in Europe (Three-phase induction motors)
until 2009 in power range from 1.1 to 90 kW*; from 2010 in the power range from 0.75 to 375 kW**

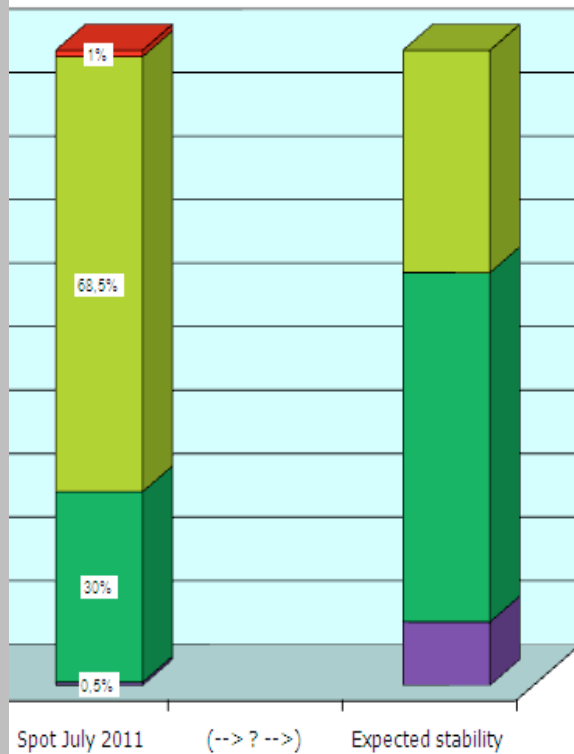


Since June 2011 the market share of IE2 motors has reached about 30% due to the legislative regulation No. 640/2009. Expected stability means „up to 2015“.

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1. Market penetration of IE 2 motors during summer 2011 and lessons learned



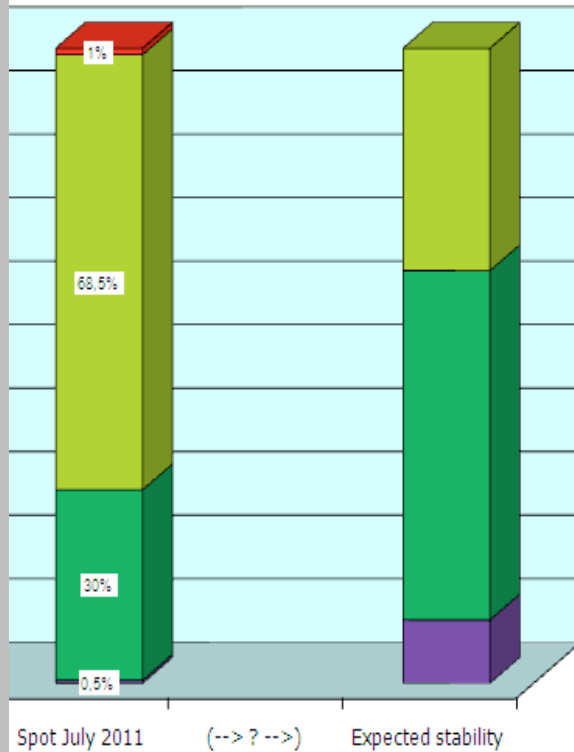
Why is the today's expectation for IE2 plus IE3 only 2/3 and not 100%?

How long does it take to have the market be transformed?

- about 1/3 of the motors are expected to be really outside of the scope of IE-legislation
- there are a lot of negotiations with customers to explain the legislative exceptions
- how does the market surveillance act in practice?

Some customers seem interested also in IE4?

1. Market penetration of IE 2 motors during summer 2011 and lessons learned



Legal exceptions are appropriate but they are difficult for communication and technicians.

How will the market surveillance officially understand those concerns?

- how to control „specifically designed“ for e.g. a certain temperature range?
- how to control „specified use“ versus „specific design“?
- when is a „motor with a brake“ a „brake motor“ ?
- what means „nominal speed“ in a PDS application?
- shall the nameplate be oversized?

2. Financial promotion of member states in Europe

Subsidies in USA: 5% of motor invest Market share IE2: 20%

Market share IE3: 70%

14% of converter invest

Subsidies in China: 1,4 - 6% of motor invest Market share IE2: 3%

Market share IE3: ?

Subsidies in Europe: anecdotic

Market share IE2+IE3: 30%

Subsidies in Europe shall be competitive and adequate to support the market transformation also for future technologies

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3. Vision for the future

- Standardization has been started under the light of the mandate M /476 to describe the needs for a system efficiency description with pumps as a pilot application
- Future technologies for driven systems (e.g. with permanent magnet motors) need to be embedded to a common understanding, but the technical development shall not be blocked by legislation
- The asynchronous motors shall be protected as a cheap but effective technology .
- About 30 % of the worlds motor and drive demand are produced in Europe, about 160.000 people are there involved in production.

4. Summary

- European market transformation is “on-track”
- Concerns in understanding the legal exceptions shall be streamlined to practical needs and need more explanations to customers
- Market surveillance shall be defined and supported see examples in USA
- Subsidies in Europe need to be defined and shall be comprehensive and competitive to other markets
- Efficiency of a “Driven System” needs to be described, IE classification will be then much more complicated especially with new technologies
- End customers of driven systems shall be invited as stakeholders

Comparison of Efficiency Classes as of August 2011

