

Minimum requirements

Experience with industrial products

In industry, where economy is everything, energy-related improvements are only implemented if they are worth it and the payback times are short. Much of the potential for improving energy efficiency is never recognised because energy seems to be unimportant, companies lack the relevant expertise and pay little attention to it. Minimum requirements have proved successful in many countries, i.e. from a certain point in time, inferior products (motors, pumps, fans, etc.) are no longer available on the market.

The path to minimum requirements

Minimum requirements for energy performance in Switzerland always need a legal basis (the Swiss Energy Act; Energiegesetz Eng) and a respective Federal Council decision (Ordinance on energy efficiency requirements for mass-produced systems, vehicles and appliances, EnEv, Annex). The Federal Government therefore has a means of enacting minimum requirements for explicitly specified, mass-produced products and of gradually tightening these requirements according to a predetermined schedule.

The European Ecodesign Directive

For many years now, most minimum requirements have initially been specified at European level based on the Ecodesign Directive. This is done according to a specified plan, which involves carrying out energy, technical, economic and ecological assessments. With this, it can be avoided to have additional costs for extra material in a product that would negate the energy savings. It also needs a process of consensus at European level in which the European Commission, industry and environment representatives play an equal part. Generally, once the decision has been made, and following a consultation and a transition period, the European minimum requirements

are transposed directly into Swiss law. In doing so, direct reference is made to the text of the original European Directive.

Minimum requirements for motor driven systems or components

Minimum requirements are currently approved only for products and not for systems. Systems, i.e. arrangements of a group of components, are not yet covered by the European Directive.

Product	EU: Ecodesign Directive No.	Switzerland: EnG, EnEv Annex No.
Motors	640/2009	2.7: Since 1 January 2017, only IE3 from 0.75–375 kW or IE2 with VFD
Circulation pumps	641/2009	2.8: Since 1 August 2015, 1–2500 W hydraulic power, Energy Efficiency Index (EEI) ≤ 0.23
Water pumps	547/2012	2.9: Since 1 January 2015, BEP $\eta_h \geq 0.4$ MEI
Fans	327/2011	2.6: Since 1 January 2015, P = 125 W–2500 kW, minimum requirement for the energy efficiency = 2 nd tier

Table 1: Minimum requirements in the EU and in Switzerland

The minimum requirements are binding in Switzerland as of the date they come into effect. This means that no new systems with non-compliant components may be sold nor installed. There is no obligation to replace existing systems that are still running well.