

In short!



Pushing the limits of energy efficiency with policy

Source: Dalhammar, C. (2016). "The Setting of Progressive Energy Efficiency Performance Standards for Products through the Ecodesign Directive." Nordisk Miljörättslig Tidskrift (1): 21-41.

Setting energy efficiency targets for manufacturers can make them improve their products. The EU uses the Minimum Energy Performance Standard, or MEPS, with requirements that limit the amount of energy a product can use. These MEPS requirements can be found in the Eco-Design directive, and

Dalhammar has explored possible ways to set more progressive MEPS requirements to push design for energy efficiency forward. Can they be used for “technology forcing”, i.e. setting standards to levels that cannot be met by current technology, and thus forcing manufacturers to innovate?

There are numerous ways the EU promotes energy efficiency; taxes, public procurement and labelling are but a few. One important part is the Eco-Design directive, a framework covering all energy-related products that allows eco-design criteria to be set for different product groups. For energy efficiency, this means that a group of experts determine the MEPS, and only the products that meet these criteria can be sold in the EU. The experts take energy savings, consumer cost and competitiveness into account. The lowest performing products are kept off the market, which means the minimum level in the industry is raised. So far, this has proved to be a cost-effective way to improve energy efficiency.

However, the MEPS has created an unwanted “rebound effect”. As our appliances become more energy efficient we can afford to use them more, or use the money we save to buy more stuff – so in the end, the total energy use is not going down. Another issue is that the legal process for setting the MEPS is too long, so that when the standard is implemented it is already outdated and too easy to comply with. To strengthen the standards, one thing we can do is use the top runner in all product groups as a benchmark when setting the standards and to consider that the price of top-performing products goes down when they start reaching economies of scale, meaning it is possible with stricter standards.

So, the minimum level is raised – but how can the MEPS also create incentive for the best to become better? It is risky for decision-makers to use “technology forcing”, because if they misjudge the technological development they might have to back down from the standard and lose credibility. A suggested solution to this is to use multiple tiers: one that is easy to reach and lies in the near future; a second that is tough to reach and lies a few years away; and possibly even a third, pushing the technology development further. This allows for more flexibility in the system. A softer approach could be to use “aspirational targets”, which are not legally binding but that together with other policy measures can make the manufacturers more willing to research new technology.

To meet the two degree goal, it is crucial to reduce our energy consumption, and if these measures do not work it may be time to bring in “sufficiency standards”. In principle, it means that larger appliances or appliances with more functions may not use more energy beyond a set limit. Taking TVs as an example, screens above a certain size cannot use more energy than smaller TVs. This could help curb the “rebound effect” of the MEPS. Of course, in the ideal case the manufacturers would always be keen to invest in research and development. Voluntary instruments used ambitiously reduce the need for binding standards such as MEPS. As the world works today, however, there is still room for a more progressive MEPS to push the limits of energy efficiency forward.