

INDEPENDENT REVIEW
OF THE GREENHOUSE AND ENERGY MINIMUM STANDARDS (GEMS) ACT 2012
DRAFT REPORT NOVEMBER 2018

Submission by CAREL Industries SpA (www.carel.com)

represented in Australia by

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CAREL Industries SpA and CAREL Australia Pty Ltd. (hereinafter “CAREL” or “We/we”) **support the Greenhouse and Energy Minimum Standards (GEMS)** as suitable policies to reduce the energy consumption, to reduce the direct and indirect emissions of harmful greenhouse gases (GHGs) and to make energy more affordable to Households, Businesses and the Industry. **CAREL also appreciates that the revision process is open** to any stakeholders interested in contributing to the update of the GEMS Policies as the proper way for making them effective and useful for all the actors in the market.

We are positive on the draft document shared with stakeholders and would like to submit our comments here summarized:

1. We have understood that the market supports the GEMS Policies by the market, which is positive.
2. We fully agree that **surveillance is fundamental** for the proper implementation of the Policies and that the necessary resources should be allocated for their effective and efficient outcome.
3. We think, also based on experience acquired in other Countries, that **mandatory requirements are better** than voluntary schemes in order to achieve the goals of the Policies.
4. That **energy labels need periodic revisions** is a fact, but the new labels should be clearly recognizable by the users to avoid misled judgments and decisions: in this regard, **awareness programs are fundamental** to inform and teach users well before the updated labels appear on the market.

For sake of example, this is what the EU will face between 2020 and 2030 when the current efficiency classes (A+++, A++, A+, A, B, ..., G, with A+++ being the top efficiency class) are rescaled

to A-G¹: it will happen that the same products will be marketed with different labels depending on when they are manufactured. Some confusion is foreseeable, so the users will both need time to adapt and awareness-raising programs enacted by the European national governments well beforehand.

5. **On-line sales:** we agree that the energy labels must be shown in on-line sales as well.

6. The introduction of more renewables in the power grid helps to decrease the indirect emissions associated to existing and new electric equipment; associated to energy efficient products, it allows to further electrify the economy and to further reduce the GHG emissions.
The backside of renewables in the grid is constituted by fluctuations of the available power, hence demand-response (DR) devices will necessarily become more and more common to shift their demand when power is available. DR does not improve the energy efficiency (in fact, it merely anticipates or postpones the duty of a device to a time of the day when its demand can be satisfied by the grid), therefore the users may not see any immediate (i.e., financial) benefit on their energy bills², which, along with the fact that DR equipment will likely cost more than non-DR devices, would make users prefer the traditional, less expensive non-DR devices; the benefits, instead, will be medium- to long-term and country-wide benefits thanks to lower generation of GHGs from fossil-fuel-based power plants and reduced costs associated to the management of the grid itself (addition of new infrastructure, maintenance, servicing, and so on).
We think that the introduction of **more renewables in the power grid is one of the correct paths, along with energy efficiency, towards a more decarbonised economy**; however, **awareness-raising programs along with financial schemes to support the introduction of DR appliances** in the market will be required in order to make the break-even point of DR devices more appealing.

7. We agree that the **holistic approach is the next step of the energy efficiency policies**.
So far, energy efficiency policies at product level (MEPS for chillers and residential AC, for instance) have been the mainstream of Governments across the globe and they will remain one of the fundamental pillars of energy efficiency, but products cannot be continuously improved to reduce their energy consumption beyond the limit of convenience: once that limit is reached, energy efficiency must be sought at the system level, and that is the time when the holistic approach must be taken.
When actions are taken at the system level (holistically), management strategies must, firstly, define the goal(s) of the system (e.g., if the system is a building, minimizing the building's total energy input, or the building's running cost of its AHUs, and so on) and, secondly, define those of each single device which is part of the system so that all the devices concur to reaching the system's goal(s). Note that with this approach some devices may operate away from their best energy efficiency condition because the system goal(s) have priority over the devices' goals.
System-level control architectures will gain more and more importance thanks to the holistic approach, and, with them, topics like measurable KPIs³ and cybersecurity.

¹ [REGULATION \(EU\) 2017/1369](#) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2017. The white goods will be the first products to use the revised energy labels, followed by heating devices (heat pumps are among them) and professional devices (professional refrigeration equipment, chillers, etc.)

² A recent report on the smart appliances made for the EU Commission shows that the financial benefits for users are really small, almost negligible (max some €/yr/appliance), whereas the benefits at EU level are much higher both in terms of reduced generation of CO₂-equivalents and of saved costs on the power grid.

³ KPIs: key performance indices

CAREL. Our mission of high efficiency solutions summarises the model that CAREL has adopted, both the starting point and the final objective that enclose the entire process, from conception to production and marketing of our systems.

As an innovative consultant and technological partner, CAREL anticipates market requirements, proposing energy efficient solutions that guarantee the highest performance through continuous improvement to progressively going beyond the previously achieved targets.