

ErP fit for the digital age – delivering on the EGD’s ambition

The importance of delivering connectivity/use for buildings and technical building systems

The EU’s legislative framework for energy related products (ErP) is widely held to be a success in contributing to the realisation of the EU’s energy efficiency and climate change targets. As it is successful the ecodesign and energy labelling framework will be called on again to support the increased ambition in the European Green Deal (EGD) to achieve climate neutrality by 2050.

The success of ErP, however, means that the most economically efficient energy savings attributable to improvements in the technical design of the products already under its scope, have already been realised. Looking ahead the contribution of products already covered by ErP to the EGD in the form of savings from product design will feature diminishing cost-benefit returns.

Therefore, the next frontier for energy savings under ErP, in the era of the EGD, will not only come via more efficient product design. To leap forward in line with the EGD’s ambition, the next generation of energy efficiency gains will be delivered by more efficient, effective, and smarter use of technical building systems. Smarter use that will be delivered built in at the technical building system level and via information coming from technical building systems operating together at the building level.

Therefore, EVIA consider it essential that the European Commission progresses and delivers tangible measures through ongoing preparatory work, towards an ErP framework and buildings legislation that is fit for the digital age. As such EVIA call for the Ecodesign Work Plan 2020-2024 and the review of the MEErP methodology to prioritise the following to deliver on connectivity/use:

- **Alignment with the 2021 revision of the EPBD:**

- Provide for a dedicated Article on Building Automation and Control Systems (BACS) setting out standard interoperability functionalities. This Article should be based on Articles 14 and 15 EPBD, EN 15232 and include interoperability requirements using SAREF4ENER/SAREF4Buildings as the reference ontology.
- Extends Articles 14 and 15 EPBD to cover the inspection of stand-alone ventilation systems in addition to air-conditioning systems, and link to the new dedicated BACS Article.
- Revises the calculation methodology for the Smart Readiness Indicator (SRI) so that it better reflects use/connectivity savings and IAQ/IEQ improvements derived from responsiveness to the needs of building occupants. The harmonised implementation of the SRI should be made mandatory on the basis of this calculation methodology.

- **Progress with an ecodesign regulation for BACS (LOT 38) that in its first iteration:**

- Provides for information requirements on the internal power consumption, functionalities and interoperability of the BACS hardware. These aspects should be agreed together between technical building system/product manufacturers and BACS manufacturers.
- Includes a review clause with a view to the possible future introduction of minimum requirements and indicates a pathway for a standardisation request (sReq) to expand ISO 16484 and EN 15232 to provide a calculation methodology.

- **Use of the MEErP review to integrate connectivity/use across ecodesign and to empower consumers by tackling smart-washing via:**

- Explicit Articles on connectivity/use to be included in product ecodesign regulations that specify the minimum requirements for a product to be defined as smart.
- Use this basis for an Article in corresponding energy label regulations setting the requirements for the calculation methodology for a smart readiness icon, building on the preparatory on smart appliances (LOT 33).

A balanced technical building system/BACS approach

EVIA is generally supportive of an approach to connectivity/use in the context of Ecodesign that provides for connectivity/use at the product level, i.e. a technical building system like a ventilation unit, and the building level, i.e. Building Automation and Controls System (BACS). Energy savings derived from smart functionalities within the product/technical building system must remain as energy efficiency attributable to the product/technical building system design. For example, integrated controls should be regulated in the specific product/technical building system ecodesign regulation, which for ventilation units is Regulation (EU) 1253/2014. This is essential, also to ensure that product/technical building system manufacturers are incentivised to deliver improvements in Indoor Air Quality (IAQ) and other Indoor Environmental Quality (IEQ) aspects.

As such, EVIA has proposed a controls bonus in the context of the Regulation (EU) 1253/2014. Such energy savings must not be appropriated by BACS at the building level, rather energy savings from connectivity/use at the building level, should be in addition to those provided for by the products/technical building systems, unless the products/technical building systems do not feature smart functionalities.

Minimum requirements for smart products/BACS

Building level - Building Automation and Control Systems (BACS)

EVIA fully support the ecodesign preparatory study for BACS, that is due to conclude in December 2020. However, the preparatory study should be used to establish information requirements for the self-consumption of the BACS hardware in an ecodesign regulation, with a view to the future introduction of minimum requirements. The initial BACS ecodesign regulation should state this explicitly in its review clause, with a pathway to then be developed via a standardisation request (sReq) to expand ISO 16484 to provide a calculation methodology. EVIA recommend that the ecodesign regulation for BACS also details interoperability requirements, based on a clear definition, to facilitate open connections between products/technical building systems and BACS. SAREF4ENER/SAREF4Buildings should be the reference ontology.

EVIA's preference is for BACS requirements (i.e. the BACS control and monitoring functionalities) to continue to be regulated under the Energy Performance of Buildings Directive's (EPBD). This is currently the case under Article 14 (4) and Article 15 (4) on the technical inspection of heating and air-conditioning systems, respectively, as follows:

- a) *continuously monitoring, logging, analysing and allowing for adjusting energy use;*
- b) *benchmarking the building's energy efficiency, detecting losses in efficiency of technical building systems, and informing the person responsible for the facilities or technical building management about opportunities for energy efficiency improvement; and*
- c) *allowing communication with connected technical building systems and other appliances inside the building and being interoperable with technical building systems across different types of proprietary technologies, devices and manufacturers.*

EVIA suggest that, in a future revision of the EPBD, the BACS control and monitoring functionalities are improved and provided for in a dedicated Article. It is EVIA's longstanding position that the EPBD should provide for the inspection of stand-alone ventilation systems.

Product/Technical Building System level:

EVIA note that the energy saving functions for BACS are described in detail in EN 15232:2012 Standard: Energy Performance of Buildings – Impact of Building Automation, Controls, and Building Management. In order to deliver on the promise of these connectivity/use energy savings at the technical building system level, EVIA suggest that the revision of the Methodology for the Ecodesign of Energy related Products (MEErP) is used to ensure that all technical building system ecodesign regulations integrate explicit Articles on connectivity/use that cover both controls incorporated in products and BACS, referencing the ecodesign regulation and the dedicated EPBD Article. Please see more detailed below.

Enabling smart products/BACS

Requirements at the building and product/technical building system levels must be accompanied by a complimentary labelling scheme to pull smarter products and buildings on to the market. This is particularly important to protect consumers by preventing ‘smart-washing’ as a result of misleading claims as to contributions to improved energy efficiency and IAQ performance, and to ensure a competitive level playing field. The following suggests a route forward building on the ecodesign preparatory work on smart appliances and on a revised Smart Readiness Indicator (SRI) under the EPBD.

Product/Technical Building System level:

At the technical building system, product level, EVIA support the proposal in the Commission’s preparatory study on smart appliances to set minimum requirements for smartness at the product level. The study suggests the inclusion of a smart icon on the energy label for products covered by energy labelling or in the information requirements for those that fall outside of the scope of labelling.

EVIA propose that the approach in the preparatory study be used as the basis for integrating smartness at the product level via the revision of MEErP. As stated above, the revision of MEErP should require explicit Articles on connectivity/use to be included in product ecodesign regulations that specify the minimum requirements for a product/technical building system to be defined as smart. This should cover both the control functionalities incorporated in the product/technical building system and the connection with the BACS, as well as data protection, cybersecurity, access to repair and maintenance information, and interoperability. This basis in the ecodesign regulation for a product/technical building system would then provide the basis for an Article in the corresponding energy label regulation setting the requirements for the calculation methodology underpinning the smart readiness icon for that product/technical building system.

Ventilation units were not included in the scope of the preparatory study on smart appliances. However, EVIA is convinced of the need to set specific definitions for the smart residential and non-residential ventilation units to protect consumers and prevent fragmented approaches at Member State level from creating barriers in the Single Market. As such, EVIA is actively exploring commissioning an independent research institution or consortium to define the definitions and functionalities of ‘smart ventilation’ and its contribution to improved IAQ and energy efficiency, for both residential and non-residential ventilation. Ultimately this study would be intended to provide a basis to ensure that standards are developed and in place to support the Commission in setting legislative requirements under ecodesign and energy labelling that account for the specificities of residential and non-residential ventilation. For

residential ventilation this would be expressed via a smart icon on the energy label and for non-residential ventilation in the product information.

System level:

With a view to further delivering on the potential of connectivity/use savings, EVIA support the Commission's work under the EPBD to develop a Smart Readiness Indicator (SRI) at the building level. The SRI's eventual incorporation in building Energy Performance Certificates (EPC) will assist in driving the installation of smart-ready products/technical building systems.

Unfortunately, as it stands the draft calculation methodology significantly under-weights the impact criteria covering responsiveness to the demands of building occupants, thereby relatively neglecting the energy savings and IAQ/IEQ improvements that can be derived from smart use/connectivity. This does not allow the SRI to fully deliver on the potential for use/connectivity to deliver for the EGD as outlined above.

EVIA, would note that the SRI will initially only be a voluntary measure which is likely to hold back uptake by the Member States. In addition, the Delegated Acts give Member States who implement an SRI the flexibility to adapt the calculation methodology which could lead to fragmented implementation across the EU and hinder comparability between Member States' schemes.

For EVIA to support a mandatory SRI in the revision of EPBD (expected in 2021) it shall include a pathway by 2023 to revise the calculation methodology to better reflect responsiveness to the needs of the building occupants.

About EVIA:

The European Ventilation Industry Association (EVIA)'s mission is to represent the views and interests of the ventilation industry and serve as a platform between all the relevant European stakeholders involved in the ventilation sector, such as decision-makers at the EU level as well as our partners in EU Member States. Our membership is composed of more than 40 member companies and 6 national associations across Europe, realising an annual turnover of over 7 billion euros and employing more than 45,000 people in Europe.

EVIA aim to promote highly energy efficient ventilation applications across Europe, with high consideration for health and comfort aspects. Fresh and good indoor air quality is a critical element of comfort and contributes to keeping people healthy in buildings.