

Position Paper on ENER Lot 38 (ecodesign for BACS) following the Consultation Forum of 15 November 2021

Brussels, 10 December 2021

EXECUTIVE SUMMARY

The European Commission is assessing the possibility of introducing ecodesign requirements for building automation and control systems (BACS). The full ENER Lot 38 study on introducing such legislation for BACS was presented and discussed at a Consultation Forum on 15 November 2021.

The European Ventilation Industry Association (EVIA) supports the EU ecodesign and energy labelling policies, and agrees with the need to keep the legislation up-to-date and in line with the latest technological developments. Ecodesign is a tool that has delivered considerable energy efficiency savings across Europe. Nonetheless, we have strong concerns regarding the policy options that have been proposed as for regulating BACS.

This paper provides EVIA's position following the Consultation Forum of 15 November 2021. In the first part, we explain our concerns on the definitions, scope, and the approach. In the second part, we highlight general concerns on the study's proposals. In the third part, we elaborate our views on the ecodesign policy options for BACS. The fourth and last part continues with our comments to the energy labelling proposals.

- **Precedence of vertical regulation over horizontal regulation.**
- **Avoid double regulation of products.**
- **Ensure a technology neutral approach aligned with Better Regulation principles.**
- **Foster sustainability and material efficiency by introducing information requirements.**
- **Consider information requirements on functionality.**
- **Base information requirements for interoperability on a common reference ontology.**
- **Avoid regulating sensor and control accuracy in ecodesign.**
- **Remove internal power consumption requirements.**
- **Postpone energy labelling proposals.**

The European Ventilation Industry Association (EVIA) welcomes the opportunity to provide comments to the ENER Lot 38 study on establishing ecodesign requirements for building automation and control systems (BACS). EVIA is a strong supporter of the EU's legislative framework for energy-related products (ErP), as it contributes to the realisation of energy efficiency and Europe's climate objectives.

Nonetheless, we believe that various aspects could be further optimised. Please see our recommendations with more detailed explanation below. Note that our paper is split into three parts:

- Chapter 1: Definitions, scope, and approach
- Chapter 2: General statements
- Chapter 3: Ecodesign requirements for BACS
- Chapter 4: Energy labelling requirements for BACS

1. Definitions, scope, and approach

EVIA understands that BACS can be and are defined in the Final Report according to EN ISO 16484-2, which specifies three levels of BACS hardware:

- BAC hardware at the building management level;
- BAC hardware at the building automation level; and
- BAC hardware at the building field level.

EN ISO 16484-2 does not consider that BACS incorporated in technical building systems (TBS) comprise a distinct BACS hardware level, as their primary function is to provide a non-BACS service. Nevertheless, BACS incorporated in TBS are of relevance as noted in the Final Report as they “may incorporate such a level and/or interface to the general BACS hardware levels.”

Indeed, many of the policy recommendations detailed in Task 7 are applicable to BACS incorporated in TBS and the Commission is explicitly invited to manage this interface by either:

- a. Amending the vertical product Lots to better address BACS; or
- b. Introducing a new horizontal ErP regulation.

EVIA firmly believes that the Commission must opt for a vertical approach to addressing BACS incorporated in TBS by amending the vertical product-specific ecodesign implementing regulations. EVIA strongly opposes option b. on the introduction of a horizontal approach.

In this regard, for EVIA the most important vertical product Lots are ecodesign Regulation (EU) 1253/2014 and energy labelling Regulation (EU) 1254/2014 on ventilation units (ENTR Lot 6). The control logic/control strategy is delivered in the TBS, in this case a ventilation unit. As such, it is also important to stress that the control logics of the three BACS hardware levels cannot be allowed to override the control logic of the TBS in providing the essential non-BACS service, i.e., ventilation, heating, and cooling.

It may be possible that the three levels of BACS at the building level could be regulated by a specific ‘ENER Lot 38 (BACS)’ ecodesign regulation or under the Energy Performance of Buildings Directive (EPBD). Please note that the EVIA submission primarily concerns the BACS on the level of the technical building systems, which further highlights the need for a vertical approach for BACS.

2. General principles

i. Precedence of vertical regulation over horizontal regulation

BACS incorporated in TBS should be regulated vertically. A vertical approach (on the level of the BACS components incorporated in a TBS system instead of the BACS hardware at the building level) will lead to optimal results in terms of energy savings and better performance of the systems that, thereby fostering health, wellbeing, and comfort improvements for the end-users. As such, EVIA strongly encourages the Commission to pursue a vertical legislative approach for products, within the product specific ErP Lots rather than a horizontal (more general / one-size-fits-all) approach.

EVIA believes that a one-size-fits-all approach is sub-optimal in terms of achieving energy savings, as evidenced by the success of the vertical product specific Lots, and that this also applies to the regulation of BACS incorporated. As such, ecodesign requirements for BACS should not interfere with the logic and

purposes of the individual product groups that are connected to the BACS system and fall within the scope of EN 15232.

ii. Avoid double regulation of products

EVIA highlights the importance of avoiding double regulation of products. Therefore, the scope of ecodesign requirements for BACS incorporated in TBS has to be carefully considered, in order to avoid double or even different and nonaligned requirements for various product groups. As an example, controllers and functions are also regulated individually for various vertical product groups (e.g., for space heaters, ventilation, or for lighting). Within their product groups individually the requirements for controllers and functions have already been optimised. Avoiding double regulation is another strong rationale for pursuing a vertical approach to regulating BACS incorporated in TBS.

Furthermore, it is equally important to ensure that the control logic of a BACS hardware at the building level cannot be allowed to override the control logic of the BACS incorporated in a TBS. The purpose of an individual TBS, and the control logic of incorporated BACS, is to deliver essential services in the form of ventilation, heating, and cooling. Interfering with the product-specific legislations of individual product Lots may lead to sub-optimal or negative results in terms of energy savings and health, wellbeing, and comfort for the end-user.

iii. Ensure a technology neutral approach aligned with Better Regulation principles

At all times, ecodesign requirements must remain technology neutral and technologically non-prescriptive. Moreover, any requirement must be proportionate in not requiring the disclosure of proprietary business information/trade secrets.

3. Ecodesign for BACS

i. Foster sustainability and material efficiency by introducing information requirements

EVIA is supportive of the need for material efficiency requirements and indeed has proposed concrete suggestions for the integration of such requirements in the context of the ongoing revision of ENTR Lot 6 (ventilation). We firmly believe that material efficiency requirements for BACS incorporated in TBS can be effectively regulated in the vertical product-specific ecodesign regulations. We note that requirements on spare parts availability, ease of disassembly, and on conditions and access to RMI are increasingly prevalent across ErP following precedents established in the 2019 Winter Package.

Therefore, EVIA strongly recommends that material efficiency requirements for BACS incorporated in TBS are integrated into the vertical product-specific ecodesign regulations. Most clearly, such requirements will need to include an Annex listing spare parts for BACS components. This can be achieved in a first generation of regulation for BACS incorporated in TBS.

Despite abovementioned, EVIA notes that material efficiency for BACS incorporated in TBS can be exceptionally challenging due to the fast pace of technological developments. The reason for this is that the availability of BACS componentry could be highly dependent on the availability of specific parts. For example, microprocessors are phased out from time to time, and after a microchip is discontinued, the same controller/thermostat/etc. cannot be manufactured again. As such, providing for upgradability of BACS componentry incorporated in TBS is essential. This issue was raised by a number of Member States during the Consultation Forum.

Looking further ahead, EVIA is concerned that a choice of policy recommendations is made to guarantee a Minimum Service Life Expectancy (MSLE) or to pursue reparability scoring. The Commission is pursuing and testing reparability scoring in the context of the work to establish ecodesign requirements for smart phones and tablets. In addition, reparability scoring features strongly in the draft reports published as part of the ongoing revision of the MEErP methodology, which is heavily based on EN 45554 – ‘*General methods for the assessment of the ability to repair, reuse and upgrade energy-related products*’.

As material efficiency requirements are increasingly integrated and subsequently upgraded across ecodesign, EVIA strongly supports ensuring that key principles on approach are applied consistently across ErP. Whilst approaches to reparability scoring are themselves at a nascent stage and will need to be considered carefully for application in vertical product-specific ecodesign regulations, a coherent approach is preferable to introducing an untried and untested concept in the form of MSLE.

The warranty proposals are not in line with the current business practices and are already regulated in other regulations. A coverage of 15 years is only realistic if new versions of BACS are backward compatible, which means that replacing products that fail within 15 years is unacceptable and would increase the costs of products and even require product insurance.

Abovementioned also means that the proposed hardware and software service lifetime requirements are not realistic. Aside from the fact that they would increase costs for end-users and basically require a life insurance against the product’s survivability, we also doubt the methodology on which the lifetime requirement period is established.

ii. Consider information requirements on functionality

EVIA supports a requirement to demonstrate EN 15232 class compatibility with a series of benchmark/references buildings. However, a minimum requirement to declare B-class or above is premature. As noted in the Final Report, the standardisation basis is not in place under EN 15232 detailing the benchmark/references buildings against which EN 15232 compatibility can be declared. No suitable European measurement method is currently available. Therefore, this standardisation gap does not provide the foundations for a level playing field among manufacturers undermining the application of the requirement and its verification by market surveillance authorities.

Thence, we recommend that in a 1st Generation of regulation for BACS incorporated in TBS that an information requirement is included to declare EN 15232 class, as well as function and control level (0 to 4) in the Annex of the vertical product-specific ecodesign regulation. Declaration of this information requirement should be to a transitional method, as suggested in the Final Report. This transitional method should be established on the basis of consultation with EECLF stakeholders during a scheduled review of the vertical product-specific ecodesign regulation.

In a 2nd Generation, underpinned by a revised and harmonised EN 15232, a minimum requirement that only B-Class or above can be placed on the market can be introduced. EVIA suggests that such a requirement is tailored to the application, for example for new buildings, deep renovations, or different segments of the building stock. Due care and attention needs to be given to verification by market surveillance authorities.

iii. Base information requirements for interoperability on a common reference ontology

By consequence of applying the principle of technological neutrality and Better Regulation, EVIA rejects two of the policy recommendations proposed in the Final Report. First, a requirement for TBS manufacturers to disclose information on proprietary communications protocols is incompatible with respecting manufacturers intellectual property. Second, it would be detrimental from an innovation perspective to establish a closed list of open communication protocols against which manufacturers would be required to declare compatibility due to inertia effects. Most significantly, a closed list would reduce competition among the providers of open communication protocols who would have an incentive to keep the list closed to new entrants, thus leading to regulatory capture.

EVIA is convinced that an elegantly proportionate solution to the interoperability issue can be found. We note positively that the Commission restarted work on ENER Lot 33 (demand-side flexibility) in August 2021. The Commission's Joint Research Centre (JRC) is developing a voluntary Code of Conduct with the dual aims of defining "the principles for data sharing among appliances [and] home and building automation systems" and to support the "development of interoperability requirements for energy smart appliances." In respect to ensuring the interoperability of BACS incorporated in TBS, it would only be necessary for manufacturers to declare to an information requirement compatibility with at least one communication protocol that is compatible with a standardised reference ontology.

Concerning the existing provision in the EPBD under Articles 14 and 15, interoperability for installed BACS products should continue to be provided for in the EPBD. Articles 14 and 15 require "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." If a compatible open communication protocol using a standardised reference ontology is introduced as a minimum requirement, interoperability at the building level would de facto be ensured.

EVIA continues to support expanding this requirement beyond the scope of Articles 14 and 15 EPBD, which are dedicated to heating and cooling respectively. Standalone ventilation systems, as well as other TBS should be included, and the scope of the requirements should be lowered below the 290 kW threshold, so that medium-sized non-residential buildings are included in the scope.

iv. Avoid regulating sensor and control accuracy in ecodesign

It is unclear how the consumption of components can be measured, because they are often part of a complete product or of a system. Additionally, sensor accuracy is not standardised and would lead to issues on price and data privacy. As standards need to be improved, it is inappropriate to regulate the sensor accuracy under ecodesign.

It is EVIA's understanding that the final report addresses 'control accuracy,' which reflects the accuracy of the BACS in function and not the accuracy of the sensor in isolation ('sensor accuracy'). EVIA would welcome control accuracy requirements in principle. However, as air flow sensors are, for example, integrated into the ventilation unit as a product, control accuracy requirements should be provided for the context of the ventilation unit in the ecodesign regulation. This would extend to possible future accuracy requirements for all packaged products, including the necessary sensors for the correct and described function. Such requirements could be set for ventilation units by extending EN 16798-3 non-residential buildings - Performance requirements for ventilation and room-conditioning systems.

Control accuracy depends on the application. Also, depending on the building envelope, the control accuracy needs to have varying degrees of preciseness. A too high accuracy may lead to higher consumption and an inefficient product operation. As such, control accuracy can become the determining factor for the (in)efficiency of the system, and it is therefore an integral part of the vertical product group.

It is clear that sensor and control accuracy and the position sensors have within BACS need long-term considerations, also taking into account air quality. As sensor can be part of an integrated BACS product and the sensor accuracy needs to be considered in this combination, EVIA urges the Commission to draft a standardisation request.

v. Remove internal power consumption requirements

EVIA rejects the recommendation in the Final Report to set internal power consumption requirements. Such a requirement would be wholly inappropriate for BACS incorporated in TBS. Any use-related energy efficiency savings that are derived from the incorporation of BACS in TBS are intrinsic to the design parameters of the TBS in respect to the control logic/control strategy. EVIA has long advocated for controls to be regulated under GROW LOT 6 and has worked closely with the Policy Officer and consultant on the review/revision to introduce a controls bonus. In the case of the energy efficiency of the incorporated BACS components the use-related energy savings that they empower vastly outweigh their internal power consumption.

4. Energy labelling for BACS

i. Postpone energy labelling proposals

EVIA believes that the study is currently not mature enough to support an energy label for BACS. We propose to first start with ecodesign requirements in the form as product information. On the long term, EVIA believes that BACS could fall within the scope of energy labelling if it is regulated as part of the EPC under the Energy Performance of Buildings Directive.

About EVIA

The European Ventilation Industry Association's (EVIA) 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 aims 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.