

## REHVA position on mandatory third-party conformity assessments for electric heat pumps

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Under the current regulation electric heat-pumps are subject to self-declaration and voluntary third-party certification (Annex VIII of [Directive 2009/125/EC](#)), while fossil fuel fired (combination) heaters are subject to some form of mandatory third-party conformity assessment (Modules B+C/D/E as per Annexes III and IV of the [Boiler Efficiency Directive 92/42/EEC](#)).

In the assessment process of [Regulation \(EU\) 813/2013](#) on eco-design requirements for space heaters and combination heaters, conducted by the European Commission, REHVA as professional non-profit organisation representing more than 120 000 HVAC engineers and energy experts wants to stress some important points related to the use and testing of heat pumps.

We want to pay attention to the fact that the use of heat pumps is currently rapidly increasing as in many MS a general movement from fossil fuels to renewable electricity and to the use of heat pumps can be observed as a result of implementation of EPBD and other energy efficiency and renewable energy targets. Therefore, it can be expected that also many problems with performance of heat pumps can be faced in countries where heating and cooling systems with heat pumps will be extensively taken into use. This positive development will stress the need **for reliable performance data on product but also on heating (and cooling) system level which is the most important for customers**. Reliable data is essential for correct design and dimensioning of heating systems since dimensioning errors can hardly be corrected after installation. Change from niche solution to mainstream solution has to be kept in mind when discussing pros and cons of mandatory third-party conformity assessment.

We want to point out that the preparatory study did not very clearly reported the present state of art situation of heat pump testing and it is not fully clear which problem has to be solved with mandatory testing. The preparatory study report stated that at least 67% of heat pump models placed on the EU market are 3rd party certified (this can mean that one model of a family of products has been tested, and the other family models have been screened - information from Eurovent Certita

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Certification). Latest estimates by ECC show that even some 80% of the products placed on the European market benefit from ISO 17065 voluntary certification by third party accredited laboratories. Such a high level of compliance of heat pumps has been supported by national subsidies/tax relief schemes requiring 3rd party certification. Therefore, it is likely that about 20% of the products represent a problem of possible non-reliable self-declared product data which has been often suspected in the case of low-cost equipment with equal performance data compared to more expensive models. Up to 80% of current products with reliable data can be seen as good achievement, but even a small minority of products with not reliable performance data may disturb rapidly developing markets and remains a serious problem which evidently needs actions in order to be solved in future.

From the customer position, the performance of installed system in operation is the most critical. It is likely that informed customers still feel to be slightly cheated by official eco-design data, because the current methodology does not include for instance circulation pumps and evaporator fans, and thus reports better performance than installed systems in reality. From that perspective, the third-party conformity assessment is not the bottleneck in the market, however the optimistic product data would amplify the problem. It would important to continue to develop the standards and regulation so that the testing will happen with realistic duty points and seasonal performances reported correspond to real performance of heating and cooling systems.

Regarding the mandatory third-party conformity assessment, there are pros and cons which are important to keep in mind in the regulation development process. In principle, mandatory third-party conformity assessment should eliminate the problem of self-declared non-reliable performance data. However, if mandatory third-party conformity assessment would be enabled as **witness testing (i.e. supervised tests in manufacturers' own labs)**, **this does not guarantee the same level of impartiality as testing in an independent and accredited laboratory**. Therefore, to be meaningful, the mandatory third-party conformity assessment should be based on independent and accredited laboratories, that would lead to cost and capacity issues. It could be argued that voluntary certification can respond faster to technological and economic developments in closing loopholes than mandatory schemes. As a matter of fact, the heating, cooling and ventilation sector is highly competitive and dynamic; it is capable of bringing about rapid technological evolutions and it is able to respond quickly to market needs, therefore the testing activities are not static and need always to be under development process. While ISO 17065 imposes clear requirements upon accredited certification bodies ensuring impartiality and reliability, the same is not necessarily true for the concept of notified bodies conducting conformity assessments. As a matter of fact, requirements to become a notified body vary across countries even within the EU.

Previous arguments show that voluntary certification has produced added value to the HVAC market by providing transparency and thus laying the foundations for fair competition and informed customer choice. Therefore, **the movement towards mandatory third-party conformity**

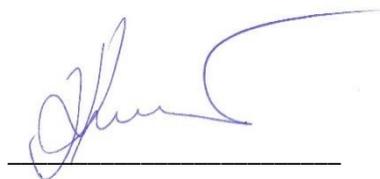
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assessment should be prepared so that the voluntary certification position and role will stay as strong as today. This could mean that the testing scope should be extended for instance so that minimum product performance data could be the scope of mandatory third-party conformity assessment, but at the same time the system performance testing would be prepared and let under voluntary certification as more complex and demanding testing activity. It is important to keep independent laboratories embedded in the HVAC sector through their work and partnerships with researchers, academia, the industry. Through their activity they have had an important role in maintaining industrial leadership in this sector in Europe. Labs also play an important role in training and education being one central element in maintaining training courses and continuous education for HVAC-professionals ranging from technicians and installers through to engineers and researchers.

REHVA would like to prioritize the performance issue of heating and cooling systems. To solve this, i.e. to make it possible that manufactures can declare realistic seasonal performances for main system configurations we see that another development round of product and systems standards would be needed. For reliable performance assessment, the product data should be available for all three European climate zones and the product data should also fit without gaps to systems energy calculation methods. For such, quite a dynamic development, the laboratories should be also capable to respond enough fast, and all existing laboratory measurement capacity in Europe would be definitely needed.



Prof. Stefano Corgnati  
REHVA President



Prof. Jarek Kurnitski  
REHVA Vice-President

Chair - REHVA Technical and Research Committee

*About REHVA: The Federation of European HVAC Associations, founded 1963, joins European associations in the field of building engineering services representing more than 100.000 HVAC engineers and building professionals in Europe. REHVA is the leading independent professional HVAC organization in Europe, dedicated to the improvement of health, comfort and energy efficiency in all buildings and communities. It encourages the development and application of both energy efficiency and renewable energy technologies.*