

## SYSTEM BALANCING: A GREAT OPPORTUNITY FOR ENERGY SAVINGS AND COMFORT

Thursday 8 July | 14:30-16:00 CEST  
EVENT SUMMARY

**Simone Alessandri (eu.bac)** welcomed all the guests, speakers, thanked the other co-organisers and introduced the session.

**Pau Garcia Audi (DG ENER)** opened the session with a view on how the renovation wave can contribute to optimizing heating and cooling systems. He underlined the objective to at least double the renovation rate in the next 10 years (35 million buildings). He noted that renovating is not an objective in and of itself, rather it is to establish efficient heating and cooling systems that can respond to the needs of the user, and the energy grid. He underlined the Elements of the Energy Performance of Buildings Directive (EPBD) which the Commission believes are the most important to achieve this: Minimum Energy Performance Standards (MEPS), Energy Performance Certificates (EPCs) and finance. Finally, Mr Audi acknowledged that we must stop thinking of the building as an island, and instead find ways to integrate it into the larger energy network through smart and responsive systems.

**Claudio Ardizzoia (Caleffi)** introduced the audience to System Balancing. He presented the [eu.bac Guide to System Balancing](#) and highlighted the benefits in reducing energy consumption by implementing these systems. He explained that way to achieve thermal comfort and efficiency is to supply every terminal unit with the right flow rate in every load condition. The role of the balancing and control point is to guarantee the nominal design flow rate and adapt the flow rate in response to changes in thermal load. He demonstrated the difference between unbalanced systems compared to systems with static and dynamic balancing valves. He concluded by introducing the [Technical Manual](#) developed in Italy for in-depth analysis of systems.

**Guillermo López Alonso (MITECO)** presented the recently introduced system balancing requirements in Spain. These can be found in the Spanish Regulations on Thermal Installations in Buildings (RITE) chapter "C" on Control and Thermal Installations. The requirements stipulate that new buildings with variable flow and total heat generation capacity of over 70 kW must have stabilization of the differential pressure at design. Mr Alonso explained that for the RITE 2023 revision, legislators are considering requiring constant periodic system balancing provisions.

**Elena Allegrini (ENEA)** talked about tax relief in Italian building renovations, heating plants and the opportunities for system balancing technologies to be covered by the tax relief. She introduced four supporting schemes: BONUS CASA, ECOBONUS, SUPERBONUS and BONUS FACCIATE, of which the first three cover heating system improvements. She presented the annual report covering the year 2019 with the progress of the different schemes. Finally, Ms Allegrini noted that System Balancing measures would have access to tax relief through the three tax relief schemes together with the replacement of existing heating plants.

**Bruno Pedrotti (Danfoss)** provided the industry perspective on what measures at the EU and national levels would help realize the full potential of System Balancing. He started with market trends by explaining that while there is a strong uptake of System Balancing in new tertiary buildings, that is not the case in residential buildings. He then pointed out the barriers to market uptake: non or weak existing regulatory framework, split incentives for rented buildings, cost if not done at the right time, lack of knowledge and dedicated funding. Mr Pedrotti concluded by calling for clearly defined requirements in the revised EPBD and national legislation as well as the need for public funding.

**Florent Trochu (ACR)** concluded the presentations with a look at French initiatives. He introduced three key benchmarking tools for assessing Balancing systems: the Guide for Smart Hydraulic Systems, the French version of the eu.bac study on balancing systems and the revision of EN ISO 52120-1. He addressed the French market trends explaining that dynamic balancing valves have experienced a growth of 3 to 30% over 2020 (depending on the range). Mr Trochu concluded by stressing the need for a standardised approach to support innovation and market efficiency solutions.

Moderated by **Simone Alessandri (eu.bac)** the panellists then moved to the Q&A session. Pau Garcia Audi (DG ENER) pointed out that EPBD must remain technology-neutral, therefore it would be difficult to call for specific provisions, however, it is important to ensure that SB advantages can be reflected in the energy performance calculations. Elena Allegrini (ENEA) expressed support for sharing best practices like ones heard from Spain around Europe. Bruno Pedrotti (Danfoss) explained that the residential sector would benefit most from SB regulation. Claudio Ardizzoia (Caleffi) once again underlined that SB is a well-established technology being used for over 30 years in Europe, therefore it is time to begin taking advantage of its full potential. Florent Trochu (ACR) touched upon the challenges of bringing European standards to the international level.

**Renato Brocchetta (AVR)** provided concluding remarks by thanking all the speakers. He noted once again the role which System Balancing can play in achieving the European GHG reduction targets. Nevertheless, he acknowledged the existing barriers for which legislative and non-legislative measures are needed. Finally, he voiced support for industry initiatives like this webinar, which highlight the topic.