



Factsheet on understanding  
BACS requirements

# PUBLIC SECTOR ORGANISATIONS



## Introduction

The EU Energy Performance of Buildings Regulations 2021 (S.I. 393 of 2021) requires building owners to install building automation and control systems (BACS) in buildings where the effective rated output of heating, air conditioning and ventilation systems is above 290 kW by 31st December 2024. The Regulations transpose requirements of the European Union Energy Performance of Buildings Amending Directive 2018/844.

## What needs to be completed

The building heating, air-conditioning and ventilation systems need to be reviewed to determine the size of the systems. Where the combined systems are larger than 290kW then a building automation and control system will need to be installed in accordance with the functionality outlined in Paragraphs 1.1.1 and 1.1.2 of the Energy Performance of Buildings Regulations 2021 Technical Guidance, where technically and economically feasible.

## Who is required to comply with these requirements?

Public Bodies who own or occupy buildings, where the combined effective rated **output of the heating, air-conditioning and ventilation systems in a building is above a threshold of 290 kW**, should complete an assessment of these systems to determine if the requirements of the regulations apply.



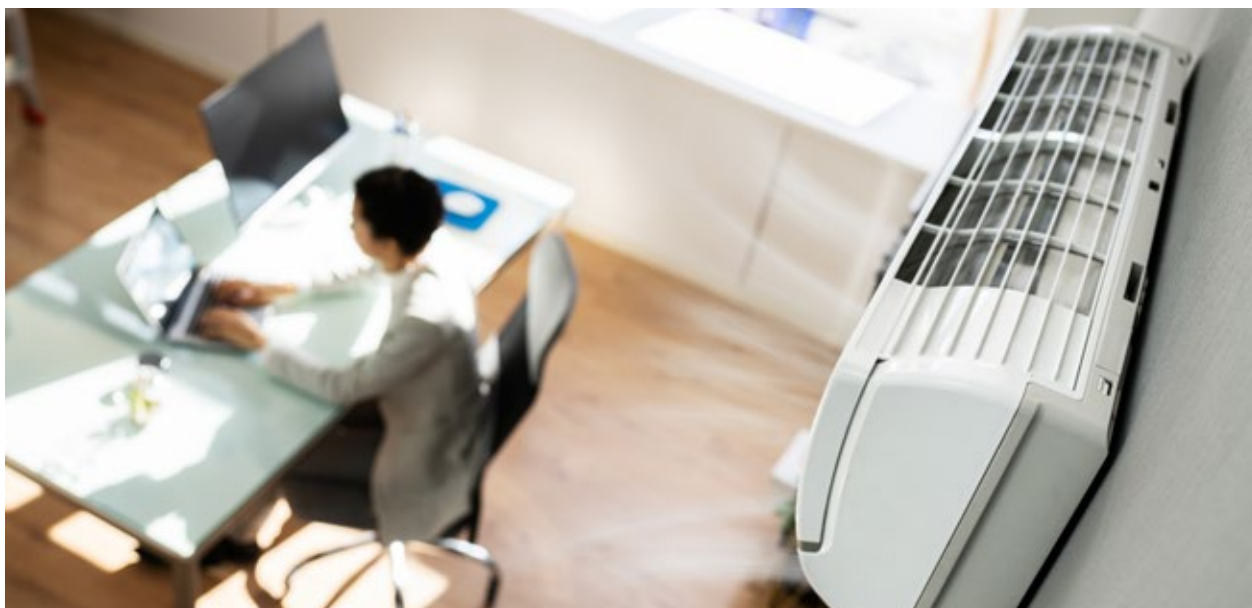
## Benefits of installing BACS

- Better control of energy using equipment leading to greater energy efficiency and more comfortable room conditions;
- Delivery of energy savings from more effective control;
- More effective maintenance;
- Easier fault detection of equipment;
- Enhanced information on energy consumption;
- Improved energy management in the various building spaces.

## The process of demonstrating compliance

- 1 Determine if the Regulation applies to the building by assessing the effective rated output of the heating, air-conditioning and ventilation systems.
- 2 If the Regulations apply, assess if a building automation and control system is in place and if the functionality of the system meets the requirements of Paragraphs 1.1.1 and 1.1.2 of the EPB Regulations 2021 Technical Guidance.
- 3 Install the required Building Automation and Control system by 31st December 2024 if it is technically and economically feasible (typically, a maximum payback time of 10 years for public buildings is considered feasible).
- 4 If installation of the required BACS functionality is deemed not technically or economically feasible, this needs to be confirmed by a competent professional, following an assessment on the technical and economic feasibility of installing a Building Automation and Control system in the building.

The information that is required to complete the assessment is based on the effective rated output of the installed building services related to the heating, air-conditioning and ventilation systems throughout the building, including landlord and tenant-controlled systems (if appropriate). Process related heating and cooling is excluded from the assessment. The installed capacities can be obtained from system design files, operations manuals or nameplate data obtained from a site survey.





## Who is going to check this?

The building control authority is responsible for enforcement of the Regulations. Additionally, certification bodies may request an assessment of compliance to the Statutory Instrument as part of a legal review. Building owners are responsible for ensuring that buildings comply with the Building Regulations.

## Portfolio review

Public sector organisations will typically have multiple buildings of a varying scale and complexity. To identify the buildings that fall under this regulation, an assessment of the building stock will be required. The assessment will need to establish the heating, air-conditioning and ventilation systems effective rated output for each building in order to determine how many buildings fall under the requirements of the Regulations.

The data that is required to be collected includes the rated capacities of the heating, air-conditioning and ventilation systems of all of the buildings in the portfolio and if the total system installed capacities exceed 290 kW then the regulations apply. An example of the data collection of the portfolio of buildings is outlined below:

Building	Total rated capacity	Applicable
Leisure centre	1280 kW boiler & 250 kW chiller	Yes
Main office	320 kW LPHW boiler	Yes
Regional office 1	280 kW boiler & 2* 12 kW AC units	Yes
Regional office 2	150 kW boiler	No
Etc.	Etc.	Etc.

As seen in the table above, the leisure centre, main office and regional office 1 are required to comply with the regulations. These buildings may already have some BACS functionality in place to control the heating, air-conditioning and ventilation systems. These systems will need to be assessed against the functionality requirements outlined in Paragraphs 1.1.1 and 1.1.2 of the EPB Regulations 2021 Technical Guidance and upgraded or replaced to meet the full BACS requirements of the Regulations.

## Building automation and control functionality

The functionality of the BACS should be as outlined in Paragraphs 1.1.1 and 1.1.2 of the Energy Performance of Buildings Regulations 2021 [Technical Guidance](#).

## FAQs

**Q1. Is there an organisation wide approach which could be adopted for all buildings?**

No, the regulations apply per building and the heating, air-conditioning and ventilation systems will need to be assessed for each building to determine if the Regulations apply.

**Q2. Do the regulations apply to the building owner or the tenant in the case of Public Buildings?**

The responsibility for compliance with the regulations apply to the building owner (but the tenant may also need to comply if they have control over the building heating, air-conditioning and ventilation systems).

**Q3. What level of accuracy is needed for the cost estimate to establish the economic feasibility of installing BACS?**

The feasibility costs are only necessary if the measures are not being implemented and these costs are to be provided by an independent competent person.

**Q4. Is energy metering required at a building level or is it required for the energy systems that fall under these regulations?**

The requirement is to install energy measurement for the energy systems that fall under these regulations, i.e. the loads that make up the 290 kW even if these are multiple smaller systems.

**Q5. If all air-conditioning units are controlled in their respective rooms, i.e. not centrally controlled, do all of the split units need to be networked back to a central point?**

Yes, the individual systems need to be networked back to a BACS.

**Q6. Is process related heating, or cooling, included in the requirements assessment?**

The guidance provided in this document for space heating, cooling, lighting and ventilation systems are appropriate for typical conditioned spaces intended for human occupancy.

*Source: Technical Guidance Document L 2021 for Buildings other than Dwellings*

Where a building has specialist processes, alternative operational procedures or ventilation requirements other than those required for human occupancy, different performance specifications may be appropriate. In this context “specialist processes” can include any activity or operational profile where the resulting need for heating, hot water, ventilation or air conditioning is significantly different to that required for human occupancy.



### For further information:

- [Energy Performance of Buildings Regulations 2021 – Technical Guidance](#)
- [Statutory Instrument No. 393/2021 – European Union \(Energy Performance of Buildings\) Regulations 2021](#)
- [Factsheet to assess BACS compliance requirements](#)