

Mechanical & electrical contractors' recommendations for the implementation of the new Energy Performance of Buildings Directive

The importance of inspections

September 2018

Introduction

The revised Energy Performance of Buildings Directive ([2018/844](#)) presents a unique opportunity to modernise Europe's ageing building stock, making it cleaner, smarter and more efficient.

The millions of mechanical and electrical contractors represented by our two associations - GCP Europe and AIE - will play a crucial role in the transformation of European buildings. Mechanical and electrical service companies design, install, maintain and operate all heating, cooling, ventilation and electrical components and systems in the built environment, ensuring that they are safe and of high quality and that they work and interact properly. Mechanical and electrical contractors are the integrators of all emerging building technologies and solutions. In addition, they are key advisors to building investors, owners and occupants.

Our associations, as well as our member organisations, are supporting the uptake and upgrade of installers' qualifications and skills at EU and national level, ensuring that installers keep up with fast evolving building applications and that they meet the expectations and requirements from customers and regulators.

Important changes to the Directive increasing its ambition

- The new Directive focuses more than the previous one on building renovation. Importantly, national **Long Term Renovation Strategies** (previously included in the Energy Efficiency Directive) have been strengthened. These strategies are required to include a detailed description of measures to reach a highly efficient and decarbonised building stock by 2050, with 2030 and 2040 milestones. National mechanical and electrical installers associations will share their expertise and data during the stakeholders' consultations organised in the planning phase of the national Strategies.
- **Building Renovation Passports** are defined by the new Directive as documents which national governments may decide to introduce in the future as a complement to Energy Performance Certificates to support increased and well-planned renovation. Mechanical and electrical contractors will greatly contribute to the preparation of these documents, providing complete and reliable information to building owners about the renovation steps to take to optimise the energy performance of buildings.
- Minimum requirements for ducting and recharging installations for **electrical vehicles (EV)** in new and renovated buildings have been introduced to boost the decarbonisation of transport. National electrical contractors' associations will actively support national

authorities responsible for organising the EV infrastructure roll-out, making sure that procedures are efficient and simple and that EV infrastructure is safe and of good quality¹.

- The importance of improving **fire safety** when planning and implementing building renovations is stressed by the new Directive. As buildings become old and technologies and applications within them evolve and increase in number, fire risks grow, and mechanical and electrical contractors will play a key role in updating and replacing obsolete installations and their components².
- The newly adopted Directive introduces a new **“Smart Readiness Indicator” (SRI)**. The inclusion of this indicator underscores the legislative shift towards promoting the uptake of smart technologies in the building sector. This new tool will provide Member States, on an optional basis, a framework to assess building “smart readiness”, i.e. the ability to adapt operations to the needs of the occupant and the grid. The SRI aims to raise awareness about the different range of smart services and functionalities, and has a great potential to encourage the roll-out and uptake of digital technologies. This positions **“smartness”** as a complement to energy efficiency.
- The deployment of smart technologies will be more directly boosted by the incentives/obligations introduced by the new Directive to install **continuous electronic monitoring systems** in large residential buildings, **Building Automation and Control Systems (BACS)** in larger non-residential buildings, as well as **devices to regulate individual room temperature levels**. Importantly, the Directive says that these technologies should not only bring efficiencies, but also improve **indoor climate conditions**. Mechanical and electrical contractors will provide key advice to building managers on the most appropriate technologies and solutions, on their adjustment and optimisation. Furthermore, they will make sure applications work properly throughout their whole life-time.

Inspections: the missing link

The important assumption taken by the EU legislators is that digital solutions will at least partially replace the need for inspections, as devices will be able to foresee, detect and address possible sub-optimal functioning or malfunctioning.

The Directive does highlight the importance of key moments when heating, cooling and ventilation systems or parts thereof are inspected, installed, upgraded or replaced. The text stresses that on these occasions, the performance of the equipment, as well as the capability of the systems to optimise their performance under average operating conditions, need to be re-assessed.

Yet, the Directive exempts buildings from inspection requirements when they are equipped with continuous electronic monitoring systems and with BACS, and it still allows “advice programmes” as an alternative to inspections.

Mechanical and electrical contractors **strongly advise national authorities to go beyond the requirements set by the Directive on inspections**, for the following reasons:

¹ Specific recommendations on implementation of EPBD minimum EV infrastructure requirements from AIE can be found [here](#)

² Specific recommendations on measures to strengthen electrical fire safety can be found [here](#)

- Although BACS have been on the market for almost 30 years, **the ability to predict, detect and address sub-optimal functioning or malfunctioning is limited and/or not fully exploited**. This is particularly the case of the ones installed decades ago and the ones introduced in small buildings. Hence, regular inspections are needed, to make sure that consumers fully benefit from digitalisation throughout the whole life-time of the applications.
- **The usage of buildings changes overtime, as the needs of the occupants evolve after continuous use**. There is a need to introduce periodic maintenance and inspections of technical equipment and BACS, so that the competent experts can provide guidance on how to adapt the facilities to maximise energy savings and meet the needs of the occupants. In some Member States, such as France, we have observed a concerning trend where old BACS are not properly maintained and have been shut off because reconfiguration is perceived as too costly.
- Energy management systems are another application introduced in our building stock. They usually go hand in hand with emerging solutions such as solar PV, batteries and electric vehicles. **Especially in the case when these technologies are added on to the installations of existing buildings, the risk of a too high strain on such installations increases**. This may lead to a surge in accidents, e.g. electrocutions, and fires. To keep high safety standards, regular inspections of all building installations, both mechanical and electrical, are very much needed.
- As hinted at in recital (39), countries which have introduced inspection schemes for small buildings may have invested significant administrative and financial resources and **it would now not make sense to drop these systems because the Directive no longer requires them**.

Lastly, we would like to emphasise that the building should be understood as a system with multiple components interacting: energy management, functioning and coordination of technical building systems and solutions to obtain optimal indoor-air quality conditions to protect human health. Installers develop and implement complex systems and are thus best positioned to be the ones to conduct inspections.

GCP Europe and AIE, as well as their national member organisations, are at the full disposal of public authorities who will implement the new EPBD, to make sure that the transformation of Europe's building stock is based on high quality, safe and long-lasting systems and installations.

About us

GCP Europe is the voice of the efficient building engineering services at EU level – heating & cooling, ventilation, air condition and plumbing systems in buildings including smart controls, metering and system integration. With 18 member associations in 14 countries, GCP Europe is a powerful network in this sector in Europe.

AIE, the European Association of electrical contractors, represents through its 14 national member associations about 125,500 specialist contracting companies employing about 1,200,000 workers in the EU-countries and beyond. The AIE represents companies from all sizes, the big majors and a majority of small and medium size enterprises. AIE member companies have an in-depth knowledge



and high-quality expert skills to carry out all kind of electrical engineering and infrastructure works (high, medium and low voltage). The overall turnover of the AIE member association sector is approximately 137 billion Euros.