



AIE recommendations for implementation of electric vehicle infrastructure requirements laid down in new Energy Performance of Buildings Directive

AIE – the EU association of electrical contractors – welcomes the obligation established by the new Energy Performance of Buildings Directive to equip new and renovated buildings with electric vehicle conduits and charging points.

To reduce the tremendously negative transport impact on health and environment, Europe urgently needs to move away from combustion engine vehicles and embrace the electromobility revolution.

The benefits of electromobility are not just limited to health and environment: the entire EU economy will gain from the growth of electromobility. In the electrical contracting sector alone, **the design, installation and maintenance of electric vehicle infrastructure is making the electrician career more attractive for young and talented professionals, leading to the creation of thousands of new jobs.**

The EU is encouraging EV infrastructure deployment via several initiatives, addressing both public, fast charging stations and private, mostly slow, charging equipment.

As regards publicly accessible EV infrastructure, AIE supports the currently debated actions to accelerate the implementation of the Alternative Fuels Infrastructure Directive. Although customers will mainly charge their cars at home or at work, the number of public, fast charging stations must be increased to facilitate long-distance travel. In addition, the combination of DC EV chargers with on-site electricity generation, e.g. PV, should be further explored.

In relation to the roll-out of EV charging equipment in new and renovated buildings required by the new EPBD, AIE would like to put forward the following recommendations:

Facilitate coordination between project developers and grid operators

Electric vehicle charging infrastructure in buildings must meet customers' needs (e.g. in terms of charging time and flexibility), must be well-suited for the characteristics of the pre-existing electrical installation and of the surrounding environment and must fulfil all relevant grid requirements.

This means that customers, designers and installers, product manufacturers and distributors and grid operators have to be involved in the infrastructure deployment process.

To this aim, where this is not done yet, **national public authorities should define clear and streamlined procedures to facilitate proper communication and coordination among all these stakeholders.**



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Recognize key role of electrical contractors

Electrical contractors play a key role in EV infrastructure deployment, as they can design, install and maintain the infrastructure.

Even when they only take care of project execution and maintenance – because the planning is done by other parties, such as the manufacturers or wholesalers – they bear a great responsibility. Indeed, in this case they have to examine the project and the equipment, ensuring that relevant national and/or EU rules and standards are met.

Against this background, where this is not done yet, national public authorities should **make sure that installers have the proper knowledge and skills on EV infrastructure deployment**, facilitating the introduction of comprehensive modules on electric vehicles into the education and training systems as well as into apprenticeship programmes. Moreover, national authorities should **raise customers' awareness about the importance of selecting qualified installers** for EV infrastructure planning, deployment and maintenance, making sure projects are safe and reliable.

Consider the long-term EV uptake potential in the design of new and renovated buildings

The new EPBD requires that only some of the parking slots of new and/or renovated buildings be equipped with conduits and/or charging points.

However, considering that sooner or later EVs will become mainstream, AIE strongly recommends national authorities to ensure that sufficient space and connection capacity are available for additional charging points, which may be needed in the future.

Firstly, there should be **sufficient space for low voltage panel boards and for cable ducts from low voltage panel boards to garages and parking lots**. This could be addressed in national building codes and, more generally, in design rules for new buildings and existing buildings undergoing deep renovation. This will entail a small increase in construction costs, but it will create significant cost savings over time, as penetration of electrical vehicle increases, and thus, the need for charging increases.

Secondly, there should be **sufficient space inside the low voltage panel boards**, to ensure cost-effective extensions of the installations over time, including smart control units for prioritizing, billing etc, as charging needs increase at the premises. Space needs could be addressed in national standards and regulations for electrical installations and safety.

Thirdly, **electricity supply from the grid should be dimensioned so that, in 15 years, nearly all parking lots will have power supply for EV charging**. Smart energy management should of course be envisaged



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to ensure cost-effectiveness, ability to react to price signals, prioritizing mechanisms, integration with Building Automation and Control Units etc.

Make EV infrastructure deployment more efficient via extended standardization

For EV infrastructure deployment to be efficient, there is a need for more standardization. The EU has agreed on the use of standardized Type 2 plugs. This is an important step in the right direction, but more should be done at least on two fronts:

On the one hand, there should be harmonized rules related to the **electrical material within charging points**, to ensure equal level of electrical protection across Europe.

On the other hand, **communication about location, utilization and characteristics of charging stations** should be standardized at least at national level, making sure that all customers can be provided with the same high level of information, services and flexibility.

Conclusions

Electromobility is not only beneficial for health and environment. It will also drive the creation of new qualified jobs in Europe, including in the electrical contracting sector. Electricians have a key role to play in EV infrastructure deployment. National authorities in charge of the implementation of recently adopted EU EV infrastructure requirements should involve electrical contractors' representatives in EV infrastructure roll-out discussions and should make sure that electricians are well prepared and have the right tools to embrace the upcoming EV revolution.

The following AIE national association members are happy to provide their knowledge and expertise to national authorities:



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