

Position paper on the recasting of the EU Energy Performance of Building Directive (2002/91/EC)

Directive 2002/91/EC on the energy performance of building was adopted on 16 December 2002 and although transposition by member states in their national building regulation and construction practises appeared to be long and difficult, it has brought very significant changes and has framed the Energy Efficiency actions on the building sector.

The recast launched by the European Commission offers the opportunity to enhance and extend this frame taking into account learning as well as eco system evolution:

Action on existing buildings is as important (if not more) than action on new buildings specifically in line with the 2020 targets adopted in last march 2007 by European Council.

Existing proven technologies are available and all potential solutions shall be used including behavioural change enablers:

Beyond thermal insulation and use of high efficiency equipments, active control systems such as Building Automation and Control Systems (for heating, ventilation, air conditioning, lighting, etc).

Building automation comprises all products, software and services for the automatic regulation and control, monitoring and optimization such as operation, human intervention, and management to achieve energy-efficient, economical, and safe operation of technical building services (see EN ISO 16 484-1).

The European Standard EN 15232 "Energy Performance of buildings – Impact of Building Automation Control and Building Management " (Mandate M343) defines the conventions and processes for the assessment of the impact of building automation systems and technical building management measures on the energy efficiency and energy consumption of buildings.

Measuring, controlling, regulating, optimizing functions and monitoring the energy used by type of energy and by energy usage can be provided by technology at an economical cost and shall be a strong mean to change behaviour of building occupants which is mandatory to reach the targets. All this are carried out by the building automation system management function. Management functions are performed by the software of the building automation system.

Making consumption data available and publishing benchmark data by type of building and usage would foster implementation of saving actions; the public sector should take the lead in such a move and build the references.

It will be useful to get a European harmonised methodology of calculation of the energy performance of buildings on the basis of the EPBD requirements. The decision to let this at national or regional level, leads to confusion of the users and to additional work and expenses for the industry.

Services of all equipments by qualified personnel shall be made mandatory at installation

and on regular basis along the life of the building to ensure persistence of the performance.

Beyond energy performance certificates including recommendation for implementing saving actions, real implementation of the actions shall be encouraged by incentives and valued in instruments such as "building passports"

Energy Performance Contracting has proved to be a very good model in some member states, specifically in the public sector, allowing financing of the energy savings actions and investments by the future energy savings, extended use of this model should be facilitated and promoted

Training of all building chain actors is necessary and massive actions should be launched in a possible harmonised program across European Union.

All types of building are concerned (residential buildings as well as commercial, tertiary buildings) and elimination of the 1000sqm threshold restrictions in any article of the directive as proposed already by a lot of stakeholders should be applied but furthermore the above mentioned solutions shall be strongly encouraged

The purpose of this paper is to propose inclusion of these elements in the directive recasting.

1/ Use of Building Automation and Control Systems:

2°C drift in temperature can result in up to 15% of Heating or Air Conditioning Energy use which is the first energy usage in building

What is the effect of a double glazing window left opened?

Effective lighting control combined with high efficient lighting bulbs can divide by 2 the energy used for lighting

Building automation includes the automatic control, monitoring, optimization and operation of technological supply equipment (heating, ventilation, lighting, etc). Through the use of building automation the energy consumption will have a sustainable reduction of up to 25%. Building automation systems have a relative short return on investment period.

Reference to Building Automation and Control Systems should be made in:

Preamble specifically in item (9), (10), (14), (15)

CEN standard EN15232 should be referred in item (10) of preamble

Definition of Building automation and Building management should be added in article 2

An article on regular service of Building automation by qualified personnel should be added in line with article 8 and 9

Building automation and control systems (BACS) should be listed in annex 1

2/ Measuring, displaying and monitoring the energy used by type of energy and by energy usage

"You don't change what you don't know; you don't improve what you don't regularly measure"

Users need to get proper energy usage data to adapt their behaviour and real benefits would come from measuring different users/tenants of a building, distributing actual costs rather than distributing based on square meters occupied, or some other more fixed factor

An item in preamble should mention that provision for monitoring energy used by type of energy and by energy usage shall be made whenever having economical meaning (for building with consumption over a certain threshold)

Item (17) of preamble should refer to this in good energy management practises

Reference to this should be made in article 2, definition 2 "energy performance of building": the amount of energy actually consumed of a building and use of data coming from such energy monitoring systems should be encouraged for energy performance certificates of existing non residential buildings (Calculation should be applied for new buildings; measures should be the reference for existing)

3/ Making consumption data available and publishing benchmark data by type of building and usage

Energy Consumption data in a benchmark comparable usable form are rare today across European Union, The energy performance certificate process is a unique source of data which could be very useful to all building chain actors.

This should be implemented at least for residential and public buildings first, with a coordination insured at EU level.

Article 12 should take this into consideration; the annex 1 paragraph 3, complemented by a list of energy usage could be a first structure of this benchmark

Article 7 paragraph 1 refer to a 10 years validity period for Energy Performance Certificate, according to the above, at least for non residential buildings the period should be reduced to 3 years

4/ European methodology of calculation of the energy performance of buildings

It will be useful to get a European harmonised methodology of calculation of the energy performance of buildings on the basis of the EPBD requirements. This calculation method should be based on effective energy demand of the building.

Article 3 should take this into consideration.

The decision to let this at national or regional level, leads to confusion of the users and to additional work and expenses for the industry.

5/ Services by qualified personnel shall be made mandatory at installation and on regular basis along the life of the building to ensure persistence of the performance.

Buildings are subject to numerous modifications and control systems should be adjusted accordingly in order to maintain the energy performance.

A number of Building Automation and Control Systems are not properly installed or maintained, settings are not adjusted to the building occupancy conditions and it has been observed that up to 8% to 10% of energy consumption can be lost due to this.

In line with article 8 on boilers and article 9 of air conditioning a specific article should be added for building automation and control systems; instead of the "inspection concept" this new article should deal with regular maintenance by qualified personnel

6/ Beyond energy performance certificates including recommendation for implementing saving actions , real implementation of the actions shall be encouraged by incentives and valued in instruments such as "building passports"

Fiscal incentives (VAT reduction, Accelerated depreciations, white certificates schemes) should be required to be put in place by all member states; they could be linked to energy performance certificates recommendations implementation

An article dealing with this issue should be added in line with article 11 of the actual directive a new annex could be added with a list of indicative improvement recommendations

7/ Extended use of Energy Performance Contracting should be facilitated and promoted

Energy Performance Contracting has proved to be a very good model in some member states specifically in the public sector allowing financing of the energy savings actions and investments by the future energy savings

A definition of Energy Performance Contracting (in line with the one of Directive 2006/32/EC) should be added in article 2

Article 12 could include the obligation of all member states to:

- Insure local regulations do not prevent or make non efficient by administrative burden the use of the model
- Promote the use of the model specifically in the public sector

8/ Training of all building chain actors

From design, installation, operation and occupancy up to services including certification the actors along the chain are numerous. Massive training (technical as well as behavioural) is necessary to insure alignment and performance persistence.

With the recasting of the Energy Performance of Building Directive the European commission has the opportunity to launch a massive pan European training plan

In line with existing article 12, a specific article could frame this plan to be organised with the European Commission, the Member States and the Stakeholders representative associations

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