

SYNTHESIS REPORT

IMPACT OF EPBD ON SEVERITY OF REQUIREMENTS



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- ❖ **EPBD imposes MS to set requirements without any specification about the severity of the requirements. As such, MS can fulfil the EPBD without increasing the pre-existing levels of energy performance requirements.**
- ❖ **In this presentation we try to identify what was the impact of the EPBD on the severity of national requirements, as well as the impact on the energy performance of the building stock.**
 - ❖ How has the EPBD implementation changed national requirements?
 - ❖ What has been the impact (if any) of the EPBD implementation on the severity of those requirements in terms of energy efficiency and indoor climate?
 - ❖ Has EPBD implementation already succeeded to reduce the energy use of the building stock in Europe?
- ❖ **The results shown are a summary compilation of the views of the ASIEPI experts on their national situations. The results are preliminary and based on draft reportings.**



- ❖ **Countries that had requirements indirectly referred to the energy performance of buildings (U-values, or ventilation rates).**
 - ❖ Finland, Belgium, Greece, Hungary and Poland
 - ❖ For these countries the implementation of the EPBD meant a complete revision of their national legislation and the imposition of new relative regulations, which set minimum requirements for energy efficiency and adopt energy certification.

- ❖ **Countries that already had regulations directly referred to the energy performance assessment of buildings.**
 - ❖ Czech Republic, Denmark, France, Germany, Italy and the Netherlands
 - ❖ The implementation of the EPBD, provided an opportunity to reconsider their national regulations in terms of energy efficiency.



- ❖ The implementation of the EPBD forced MS to update their national regulations.
- ❖ Quite a number of countries (f.e. Czeck Republic, Greece, etc.) first introduced certification, RES feasibility study etc.
- ❖ In most cases the existing energy requirements became stricter (eg. lower limits for energy consumption), or were widened (certification applying to existing buildings as well).
- ❖ Some countries requirements were not affected f.e. Germany,
- ❖ In Poland, specific requirements for heating paradoxically became looser.



- ❖ Most MS just meet the requirements as set in the EPBD.
- ❖ Some interesting approaches go beyond that:
 - ❖ Denmark
 - ❖ all cost effective measures obligatory in case of renovation;
 - ❖ some individual measures independent of size of renovation;
 - ❖ measures with pay-back time <5 years for public buildings;
 - ❖ lifetime of certificate 5 years.
 - ❖ France
 - ❖ valid for renovation of small buildings
 - ❖ feasibility study on RES in case of renovations > 1000 m²
 - ❖ Germany
 - ❖ no 1000 m² threshold for renovation
 - ❖ minimum 15% RES for new buildings;
 - ❖ some federal states require RES for major renovations
 - ❖ Finland
 - ❖ legislation allows local building authorities to decide whether the building regulations will be applied to the renovation or not.



- ❖ Pre-existing requirements focused on ventilation requirements
- ❖ Summer comfort and reduction of cooling loads, newly introduced in Belgium, Finland, France, Germany, The Netherlands and Greece.
- ❖ Denmark and Poland did not change existing requirements.
- ❖ The Netherlands imposed additional requirements for daylight and view



- ❖ Half of MS already had a certification scheme
- ❖ Changes may have occurred
 - ❖ Denmark
 - ❖ change from operational to asset rating
 - ❖ In the Czech Republic, where certification is applied only to new and renovated buildings, all issued certificates are categories C and above, so the classes "D" to "G" remain entirely unused for buildings which are assessed in terms of energy performance as poor and therefore requiring the implementation of saving measures.



- ❖ It is difficult to isolate the impact of the EPBD on the building market.
- ❖ There is no clear evidence that building prices are directly affected by the EPBD.
- ❖ Wherever an increase of prices as a result of the EPBD/high energy performance is expected, it has to be compared against the energy savings.
- ❖ In some cases owners of better performing buildings will be able to demand higher prices for them.
- ❖ In Poland, as new requirements are less demanding than the old ones and due to overall economy crisis, even the opposite could be expected: that new constructed buildings should be cheaper than before.
- ❖ **New building products and innovative techniques penetrating the market**
 - ❖ condensing boilers, improved insulation and glazing, heat pumps, mechanical ventilation and heat recovery systems, DC fans, improved lighting systems, demand ventilation and renewables like solar thermal collectors, photovoltaic cells, wind turbines and others.



Better data of building products and creation of databases

- ❖ All MS incorporated a RES study to the energy efficiency regulations.
- ❖ Most MS have no specific regulation that makes the use of RES obligatory for buildings.
 - ❖ Germany: 15% minimum use of renewable energy for all new buildings and existing that undergo major renovation.
 - ❖ Italy: 50% of domestic hot water uses come from solar thermal systems. Also the PV system for at least 1 kWp minimum per dwellings is mandatory.
 - ❖ Spain: solar DHW obligatory, pv for no residential buildings
- ❖ Individual incentives to motivate citizens to use RES in buildings
 - ❖ tax incentives
 - ❖ increased tariffs for the energy fed to the grid
 - ❖ simplified procedures



Preliminary list of primary energy conversion factors

Conversion factors						
	electricity	wood	pv	RES	Oil and gas	biomass
France	2.58	0.6-1	2.58			
Germany	2.6	0.2	0.0 (not fed into grid)	0.1	1.1	1.1/0.5
Greece	2.9				1.1	1
Hungary	2.5					0.6
Belgium	2.5	1.0	2.5	-	1.0	1.0
Poland	3.0		0.7	0.15	1.1	0.2



- ❖ Normally no changes shown in existing schemes regarding the qualification requirements of energy experts (f.e. Czech Republic, Denmark, Poland).
 - ❖ In Germany, no change of qualification requirements of experts responsible for assessment of new buildings, but the criteria have been enlarged for the new group of experts covering existing or non-residential building audits.
- ❖ Countries that did not have a certification scheme before, are now defining their experts groups, qualifications and criteria, in order to comply with the recommendations of the EPBD.



❖ **Changes in legislation? Definitely!**

- ❖ All countries used the opportunity either to impose requirements for the first time, or to re-evaluate their existing ones.
- ❖ Countries who already had requirements in the past, tend to make requirements even more strict: to include additional building types, insert obligations for the use of renewables and go beyond the exact obligations imposed by the EPBD.
- ❖ On the contrary, countries which for the first time impose energy requirements, tend to be more conventional and uninventive.

❖ **Changes in energy consumption and better buildings? Measurable evidence is hard to get, difficult to isolate only EPBD impact**

- ❖ The actual impact of the EPBD on the building stock in terms of performance is difficult to isolate and measure. Denmark seems to have a first overview which shows a rather constant consumption over the years, in spite of an ever growing number of m². This is considered to be a result of better insulation and improved boiler efficiencies. Similar reduction in energy consumption is assumed to be the case in other countries as well.
- ❖ Also the impact on the building market and more specifically an increase of the building prices as a result of the EPBD, is not clearly visible. However it is clear that the EPBD affected the market in ways of introducing new improved building products.



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