



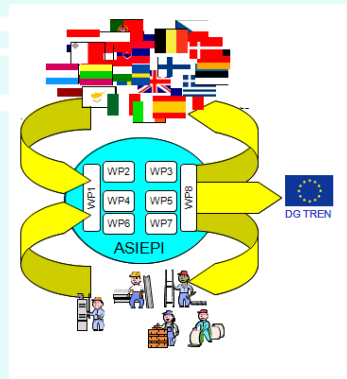
NAPE

Intelligent Energy  Europe



ASSESSMENT AND IMPROVEMENT OF THE EPBD IMPACT (FOR NEW BUILDINGS AND BUILDING RENOVATION)

Impact, compliance and
control of energy legislations
POLAND



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INTERNATIONAL
WORKSHOP

Impact of the implementation of the EPBD on the building stock in terms of energy efficiency?

The legal framework of implementation is based on the national act and accompanying ordinances. Beginning from 1st of January 2009, according to regulation of the Construction Act, the certificate of energy performance is required, for buildings:

- ▣ designated to operation,
- ▣ modernised or renovated, if as a result of investment the change of energy performance took place,

How many buildings could be affected per year (estimations exist?)

Reduction on energy consumption at the building? (is expected? Any figures?)

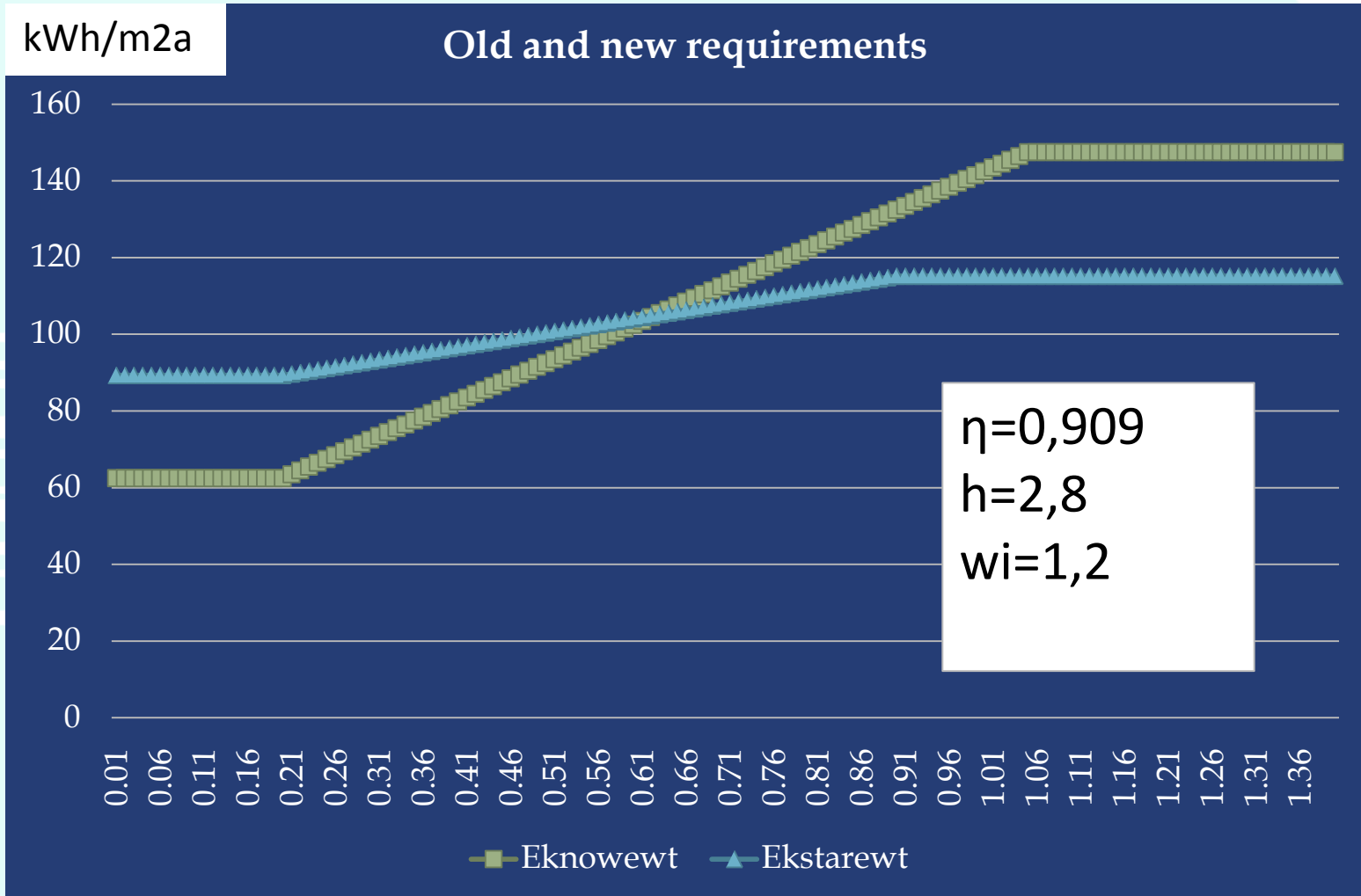
At National level, it is expected any impact in the energy consumption? (Any figures?)

Impact of the implementation of the EPBD on the building stock in terms of energy efficiency?

- ❑ Polish regulation makes provision for two alternative ways of fulfilling energy requirements. The first method is prescriptive and consists of a list of detailed requirements for different building components. The second method is performance based and defines permissible values of specific non-renewable primary energy use or EP, expressed in kWh/(m²year).
- ❑ Both methods allow for a lower energy performance in modernised buildings, with respect to new buildings identical in form and function. In the first method, the mean heat transfer coefficient for the whole building envelope can be 15 % higher than in a typical new building. In the second method, modernized buildings can have a 15% higher primary energy use (EP).



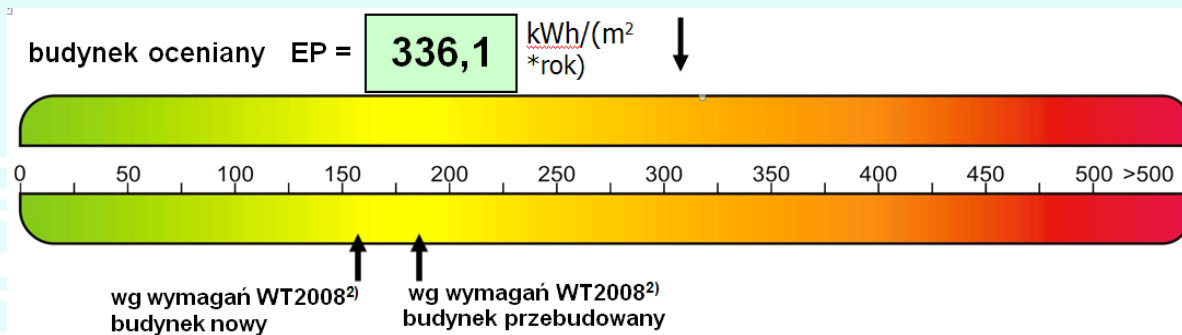
Impact of the implementation of the EPBD on the building stock in terms of energy efficiency?





Impact of the implementation of the EPBD on the building stock in terms of energy efficiency?

- ❑ The requirements are not consistent. In fact, this means that if one chooses according to the component pathway the primary energy requirements cannot be reached.



- ❑ Moreover after looking for reasons why, it comes out that the prescriptive requirements are related to U_0 (a value that does not consider thermal bridging) whereas the old ones were related to U_{kmax} values (thermal bridges included).

Implementation of the EPBD - building prices, the building market and the building products?

Demand for and prices of the residential buildings or apartments are not affected by the EPBD implementation.

Prices of office rent do not depend on energy standard of the building

Some companies are asking for certificate of sustainability compliance - LEED, BREAM etc. due to their corporate policy.

When the new public building is constructed (even with EU funds) the most important is the category of indoor environment quality not the energy standard !!!!

Are the EP requirements tighter/wider/differentiating in any other way from EPBD Art. 7 as a result of achieved performance?

REALITY

Only for new buildings

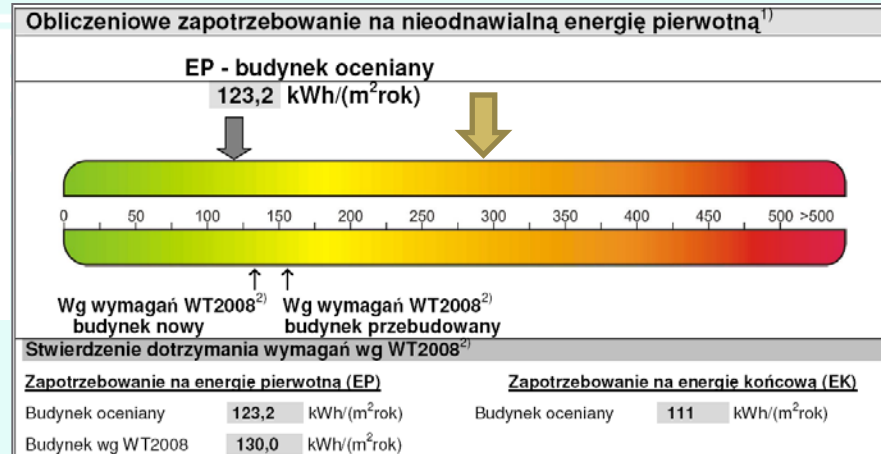
It exist possibility but no indication how to chose representative apartment

1. Member States shall ensure that, when buildings are constructed, sold or rented out, an energy performance certificate is made available to the owner or by the owner to the prospective buyer or tenant, as the case might be. The validity of the certificate shall not exceed 10 years.

Certification for apartments or units designed for separate use in blocks may be based:

- on a common certification of the whole building for blocks with a common heating system, or
- on the assessment of another representative apartment in the same block.

2. The energy performance certificate for buildings shall include reference values such as current legal standards and benchmarks in order to make it possible for consumers to compare and assess the energy performance of the building. The certificate shall be accompanied by recommendations for the cost-effective improvement of the energy performance.



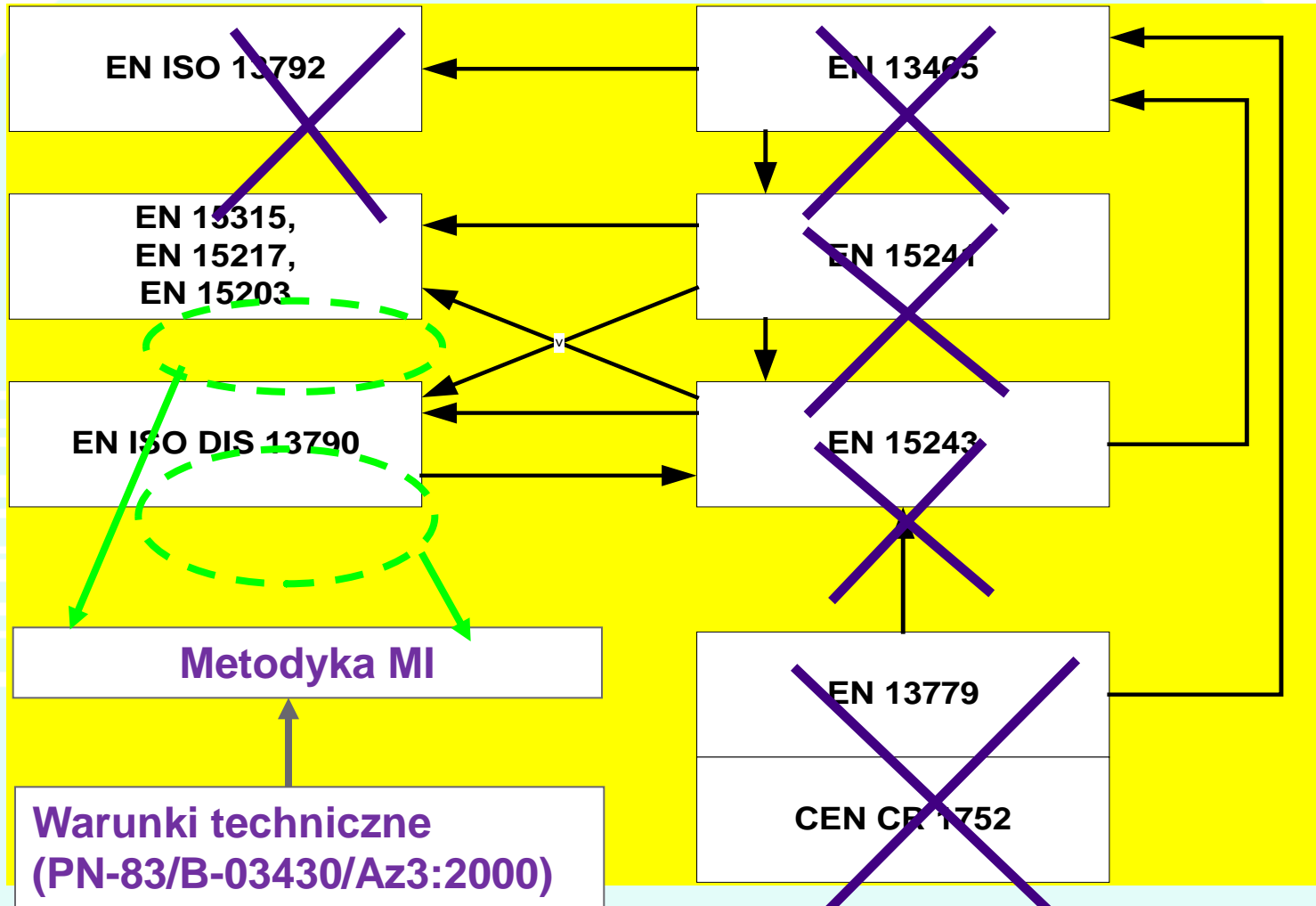


Are the EP requirements tighter/wider/differentiating in any other way from EPBD Art. 7 as a result of achieved performance?

- The scope of the EP requirements is the same as described in Art 7. The only exemption is that the energy certificate is required for buildings that have undergone construction works when the energy performance has been changed. Thus, the threshold of 1000 m² is soon overcome and by this fact Polish requirements are wider than those in Art. 7. However, the certificate is required only if after the construction works conclude, the building needs to get a permit for operation, which unfortunately does not include even major renovations.



Impact of the implementation of the EPBD on the building stock in terms of indoor climate?



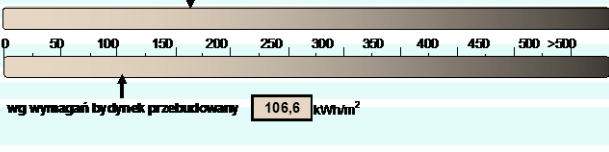
No changes due to EPBD implementation !!!

Regulations related to energy efficiency and indoor climate are there besides explicitly demanded by the EPBD (EP-label, inspection of systems and regulations related to renovation)?

Thermomodernisation and Renovation Act 2009
Replaces old Thermorenovation Act (1998-2008)

A lot of confusion among the experts as T&R act refers to certificate methodology that does not provide information about real end use energy

What are the already up taken technical measures for better energy performance since the implementation of the EPBD?

SWIADECTWO CHARAKTERYSTYKI ENERGETYCZNEJ dla budynku mieszkalnego	
Ważne dla:	
Budynek oceniany	
Rodzaj budynku	zdjęcie budynku
Adres budynku	
Całość/część budynku	
Rok zakończenia budowy/rok oddania do użytkowania	
Rok budowy instalacji	
Liczba mieszkań	
Powierzchnia użytkowa (Af, m ²)	710
Cel wykonania świadectwa <input type="checkbox"/> budynek nowy <input type="checkbox"/> budynek istniejący <input type="checkbox"/> najem/sprzedaż <input type="checkbox"/> rozbudowa	
Obliczeniowe zapotrzebowanie na nieodnawialną energię pierwotną	
budynek oceniany EP = 164,4 kWh/m ²	
	
wg wymagań budynek przebudowany 106,6 kWh/m ²	
Stwierdzenie dotrzymania wymagań wg WT2008	
Zapotrzebowanie na energię pierwotną (EP)	Zapotrzebowanie na energię końcową
budynek oceniany 164,4 kWh/m ² ·rok	budynek oceniany 198,3 kWh/m ² ·rok
budynek wg WT2008 106,60 kWh/m ² ·rok	
Uwaga: charakterystyka energetyczna określana jest dla warunków klimatycznych odniesienia - stacja Warszawa oraz dla normalnych warunków eksploatacji budynku podanych na str. 2	
Sporządzający świadectwo:	
imię i nazwisko	pieczęć, data, podpis
nr. uprawnień budowlanych albo wpisu do rejestru:	
data wystawienia:	

Sometimes due to the primary energy conversion factor in order to get better assessment the investor declares use of biomass ($w_i=0,2$) and in fact after the designation to operation switches to conventional energy source Heat recovery, gs, frsi

Minimum ventilation requirements for certain building types and ventilation systems?

Air flow for an apartment is the sum of the air flows extracted from its different spaces. Examples:

- for kitchens with external windows using gas or coal cookers: 70 m³/h
- for bathrooms (with or without toilet): 50 m³/h
- for toilets: 30 m³/h

In public utility buildings, ventilation requirements are defined by a minimum ventilation rates (outdoor air) per person. Examples for spaces where smoking is not allowed:

- rooms permanently or temporarily occupied by people -20 m³/h
- kindergartens, day nurseries- 15 m³/h
- air conditioned rooms or rooms with no openable windows: 30 m³/h

No changes due to EPBD implementation !!!

Additional regulations related to renewable energy, e.g. the obligation to use a renewable energy source and what types of renewable energy sources are taken into account?

**No such regulations
in Poland**

Country's position on renewable energy (solar collectors, photovoltaic, heat pumps, waste heat from industry, biomass, heat recovery from ventilation or other sources ...) and which conversion factors are used to convert from delivered to primary energy?

The system of financial support for environmentally clean technologies is based on environmental protection funds, i.e. on the National Fund for Environmental Protection and Water Management and funds of particular provinces, as well as on co-financing by the Bank for Environmental Protection, or EcoFund.

These institutions should earmark their funds among other things to support utilisation of renewable energy sources and to provide aid for the introduction of more environmentally friendly energy carriers.

Official target for 2010 aims at 7.5 % of electricity from renewables which is well below the EU target 22.1 %.

No.	End energy carrier		Coefficient <i>w_i</i>
1	Fuel/Energy source	Oil	1,1
2		Natural gas	1,1
3		LPG	1,1
4		Hard coal	1,1
5		Brown coal	1,1
6		Biomass	0,2
7		Solar collector (thermal)	0,0
8	Heat from cogeneration ¹⁾	Hard coal, natural gas ³⁾	0,8
9		Renewable energy (biogas,biomass)	0,15
10	Local district heating systems	Heat from coal fired heat stations	1,3
11		Heat from gas/oil fired heat stations	1,2
12		Heat from biomass fired heat stations	0,2
13	Electricity	Mixed production ²⁾	3,0
14		PV systems ⁴⁾	0,70

¹⁾combined production of electricity and heat, ²⁾relates to the electricity supply from the national network ³⁾in case of lack of information on energy parameters of heat from a cogeneration plant, the assumed value is $w_{H=1,2}$, ⁴⁾photovoltaic panels (production of electricity from solar energy)

Impact of the implementation EPBD on the independence and qualification requirements for assessors and/or inspectors?

Experts qualified for preparing energy performance certificates, according to the Construction Act of the 19th of September 2007, are persons who fall into any one of the following three categories:

- architects and engineers eligible for being responsible for specialised architectural designs and the construction of buildings or installations (after a few years of practice in both design offices and on site, following an exam arranged by the Chamber of Engineers), - no special examination due to EPBD - 120 000 experts
- persons with graduate studies and an M.Sc. degree who have completed a specialised training course and passed the exam at the Ministry of Construction, Spatial Planning and Housing - - approx 1000
- persons who have completed at least one year of postgraduate study in architecture, construction, environmental engineering, energy or related subjects, e.g., in energy auditing for thermomodernisation or energy certificate purposes - approx 3000 in 2008/2009

Compliance and control ¹⁾

- Setting the regulation is part of the work it should encompass measures supporting /forcing its application
 - What is the scope of compliance and control
 - How it is organised
 - Who is responsible for compliance (check and reporting) and control.

¹⁾ Compliance means the fulfilment of EP requirements while control is the mechanism for checking the validity of the assessment, inspection and certification process.

Compliance of the EP requirements and EP certification for buildings

Authorities are checking only the completeness of documentation, in case of non-compliance parties can execute rights in court between them. No administrative quality check of designs or certificates.

Administration intervenes only in case of complaint against building regulation

Control of EP requirements for buildings and EP certification

Control in case of requirements is only formal, it means that there is a checking of existence of designer declaration

Certificates are not registered, administration declares random quality check, but it is not backed up by regulation nor by practice up to now

Sanctions or penalties in case of non-compliance? How are applied?

The only sanctions for non-compliance of the EP requirements can be a withdrawal from a Licensed Association of Architects or Engineers. Those penalized will lose the right to design and supervise construction and/or will be obligated to repay the losses incurred to the building owner according to the sentence issued by a Civil Court.

Withdrawal is only a theoretical possibility as there is an internal procedure within the Associations that gives the designer a chance to redeem their standing. Only a few decision to revoke the privileges of their members by associations have made so far. The civil path case is costly and the process lengthy and is very often completed with a financial settlement or agreement.

Additional incentive policies related to the EPBD (e.g. financial schemes like subsidies, fiscal deduction, favourable interests, soft loans, third party financing, taxes ...)?

The Thermo-Modernisation Programme and Fund, which have been in operation since 1999, provide technical and financial support for energy end-users improvements in residential buildings, reduction of energy losses in heat distribution networks and substitution of conventional energy by non- conventional sources, including renewables.

The premium is 20% refund of the credit used to realise thermomodernisation measure by an investor, when the energy requirements are fulfilled. However after the amendment the conditions are less favouring as before (25% refund).

Organisation of certification market in practice : role of specialised consultancy firms, large size of projects results in a better compliance, requirements by insurance companies

It is not organised is left for self development (free market powers!!!)

No certificates register

No requirements for certificate for sold or rent buildings (due to lack of penalties)

No price regulation

No inspection of boilers and AC – non existence of secondary legislation

Only in a case of new building upon:

- Getting the permit
- Designation to operation

investor or owner should find authorised person and after negotiation agree for preparation of EP characteristic or certificate

There is not central register of authorised persons but a lot of ads in internet even on Polish e-Bay Allegro

Assessor should keep the certificate for 10 years

Assessor is personally responsible for failures of certificate on civil law basis

What are reasons of the Government to do or don't subsidize certain techniques?

Government does not subsidy or favor any building techniques or any energy sources upon political or commercial criteria.

What happens in practice if during the construction or after the completion of a building the proper authorities find out that the building doesn't comply with the EP requirements?

- The rights to perform independent functions (design and/or supervisions of construction works) can be waived for whole professional life,
- Any financial reimbursement can be achieved based on a court decision

Do the proper authorities have enough expertise to check in practice (so not only the paper calculation, but also at the construction side) if buildings and certificates comply with the regulations and standards?

No, in case of need, they hire consultant

Compliance and control of the experts independence and qualification organised in your country?

Compliance procedure is different for every track of qualifications

- Chartered engineer and architects compliance of qualification is assumed by default (even it takes several years to update regular education programs)- no need to confirm qualifications
- Postgraduate studies – responsibility is taken by the offering university – certificate of completing the study
- Short track courses – exam at ministry 10% positive
- **NO ADMINISTRATIVE CONTROL OF QUALIFICATIONS**

Thank you for
patience and attention

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