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Energy Efficiency in Buildings – insights from Slovakia

Domestic policy measures: *(what specific regulations have been adopted)*

- **Improvement of thermal envelop** of residential buildings and non-residential buildings (private sector buildings + public buildings)
- Implementation of legislative measures resulting from the laws implementing **EPBD, EED**,
- Regular **information campaigns** affecting the behavior of building users (SIEA)
- **Building consumption monitoring** (SIEA monitoring system according to Law 321/2014)
- **Strict minimum requirements** (Regulation, technical standards), EP rating as **obligatory part of design** documentation for permit for construction and major renovation
- Legislation on the rights and obligations of owners of apartments in **condominiums** (contribution in renovation fund, voting rules on payment and loan for renovation - 2/3 of owners).





Based on input from Ministry of Transport and Construction of the Slovak Republic





Environment & Building Energy Efficiency

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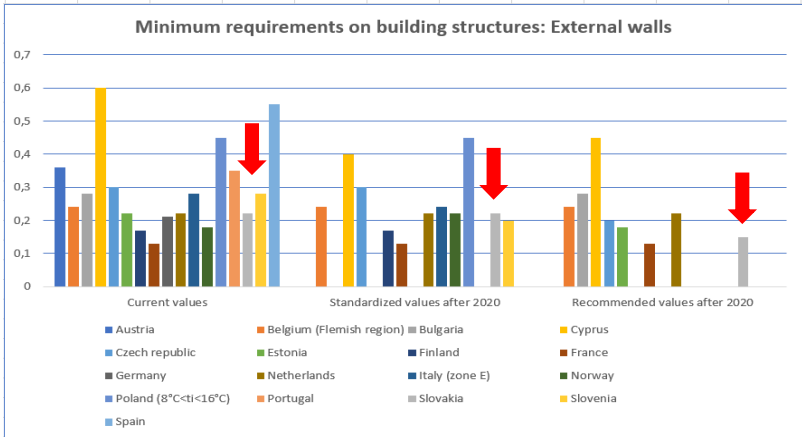
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Minimum requirements on building structures: External walls



Country	Current values	Standardized values after 2020	Recommended values after 2020
Austria	0.35	0.18	0.25
Belgium (Flemish region)	0.25	0.25	0.25
Bulgaria	0.28	0.22	0.22
Cyprus	0.60	0.40	0.45
Czech republic	0.30	0.30	0.20
Estonia	0.22	0.22	0.22
Finland	0.28	0.22	0.22
France	0.18	0.18	0.18
Germany	0.22	0.22	0.22
Netherlands	0.22	0.22	0.22
Italy (zone E)	0.45	0.45	0.45
Norway	0.18	0.18	0.18
Poland (8°C<ti<16°C)	0.55	0.22	0.22
Portugal	0.35	0.22	0.22
Slovakia	0.25	0.22	0.15
Slovenia	0.25	0.22	0.22
Spain	0.55	0.22	0.22

Slovakia – strict requirements that were cost optimal already in 2013


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Results and impacts: (short evaluation)


- **58.3%** of apartment buildings and **37.5%** of family houses insulated by the end of 2016. Savings of energy for heating is **35%** (in 2005-2015) (from 195 to 115 kWh/(m².a)). The EU average is 24% saving.
- Since 1993, an effective **financial instrument** of the state budget with the aim of improving the level of housing (SFRB - **The State Fund for Housing Development**, agency under the Ministry of Transport and Construction) - mainly for thermal insulation with the **required savings** and elimination of system defects in apartment buildings built by **prefabrication technology** - annual budget **130-160 mio EUR**.
- Support for the **renovation of family houses** in the form of a subsidy for **thermal insulation** (EUR 8 000 + EUR 800 / design development) and construction of **NZEB** max. EUR 8 000 (**EPC is a proof of NZEB level achieved**) - the most difficult segment to motivate (more investment needed in €/m², many old family houses)
- **The target** in Second Long-Term Renovation Strategy (LTRS) (Article 4 of the EED 2012/27/EU) – **all residential buildings should be renovated by 2029 and all family houses by 2043** (only occupied).

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Lessons learned: success factors, implementation challenges

- + **Comprehensive coverage** of renovation issues: **legislation** (strict requirements, monitoring, rules in condominiums, EN standards) + **user awareness** (communication among users) + **motivation to renovation** web + TV channels, regular program on Energy + working **financial instrument** (for loan a repayment schedule is possible for payments in renovation fund in case of less solvent owners) + **subsidies** for the segment **where renovation is slower** (family houses) + **conferences** on energy savings opportunities organized by Ministry and Energy agency for professionals, condominiums, building managers and public.
- + Use of the main state **financial instrument** (SFRB) in **combination** with other sources of financing of the renovation: ESIF, municipal funds (short-term loans), State Building Savings-Bank, own resources ...

Implementation Challenges:

- **Application** of renovation legislation in a **comprehensive way** (in several areas), stress on **quality** (education, conferences, trainings: architects, designers, financial institutions, representatives of owners, construction companies)
- **Users' involvement** in household consumption monitoring to encourage to renovation - installation of meters on heaters, hot and cold water meters

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Outlook: (what are plans for the future)

- **Transposition** of new requirements of **Directive 2018/844** into Law on EPB and EE
- Transposition of some of the provisions of Directive 2018/844 into Laws 321/2014, 314/2012 and 455/1991 on trade business
- **Preparation of a long-term renovation strategy to intensify the rate of renovation of public buildings and family houses and to encourage to new renovation of already renovated buildings in the past (more than 20 years of renovation of residential buildings).**

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Why strict requirements?

„Energy savings potential analysis in public buildings – model application in Hungary (2010) and Slovakia (2015)“ (Katarina Korytarova, SK, forthcoming article)

Buildings are an important energy consumer (40% of the EU's final energy consumption), ... → buildings are often proclaimed to have the **priority in investment into EE**.

Especially in the region of CEE, the process of continuous renovation have been largely ignored and underfinanced several programs have started ...

However even the ambitious programs **must be well designed in order to capture the assumed potential**.





Conclusion:

The two studies show that **massive suboptimal renovation is not viable strategy** that could significantly contribute to fulfilling ambitious energy savings and mitigation goals Moreover, **this pathway locks** in high energy consumption patterns of the building stock **for the next decades**....



It is more cost-effective to **set ambitious and well enforceable** energy requirements for renovation **and only then increase the rate of retrofit to sustainable level**.

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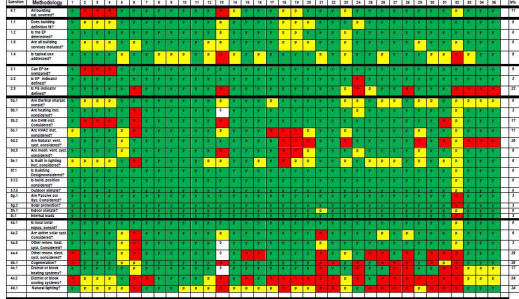
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The «European» transposition of the EPBD (Energy Performance of Buildings Directive) is key for market and building professionals



Source: J. Zingibl, J. Bendžalová, „Technical assessment of national/regional calculation methodologies for the energy performance of buildings“, DG ENER 2015


Analysis of **conformity** to Annex 1 of EPBD of the **34 !!! national and regional transpositions** (Study for DG ENER in 2014)

Slovakia was involved

SK Regulation refers to CEN standards

Only an **European transposition** will allow:





- the possibility to work on the “other side of the border”,
- the “level playing field” (**fair competition**) for products,
- to get common databases, common information.





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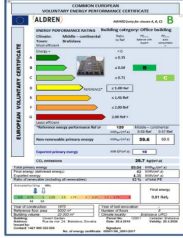
ALDREN (Alliance for Deep RENovation in Buildings) is the **extended development and implementation of the European Voluntary Certification Scheme (EVCS)** based on the EPBD Art. 11 (9) and EN/ISO standards.


Stakeholders are asking for:

- ✓ comparability
- ✓ transparency
- ✓ reliability
- ✓ quality

➤ **ALDREN objective** is to create an **European quality benchmark** based on the EU Energy Performance Certificate and CEN standards

Slovakia is involved



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www.aldren.eu