Territorial Policy report / Report on identification of national/regional barriers and drivers

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1. INTRODUCTION

The aim of this report is to provde an overview of policies implemented accros Project Partner countries (Austria, Croatia, Czech Republic, Hungary, Italy, Poland and Slovenia) that are aimed at stimulating nZEB renovation of buildings. The focus is on energy renovation of public buildings, in particular schools.

For that purpose, it was firstly investigated how two crucial EU directives – Energy Efficiency Directive (EED) and Energy Perfomance of Buildings Directive (EPBD) – are implemented. It was of particualr interest to reveal whether provisions of these directives are implemented in legislation/regulation at local and regional level. Secondly, policies at local and regional level were analysed to understand the current practices related to stimulation of energy renovation of public buildings and potentially to reveal the most effective drivers for renovation to nZEB standrad. And thirdly, opinions and experiences of Project Partners related to the barriers that exists at both national and local/regional level were gathered, based on which it is possible to define future measures for their removal.

Main findings of teritirail policy analysis are given hereafter, while reposnses from each Project Partner country are provided in the remaineder of this Report.

2. MAIN FINDINGS OF TERRITORIAL POLICY ANALYSIS

2.1. EU directives on energy efficiency and their adoption in participating regions

In all participating countries provisions of EED and EPBD are fully trasmposed into national legislation and regulation. EED is transposed usually through special law on energy efficiency or provisions of energy law and national energy efficiency action plans, while EPBD requirements are usually integrated in the legislation from the construction realm.

In most of participating countries, all national legislations are binding for the whole country, therefore additional local or regional legislation or regulations that adresses provisions of these two directives does not exist, i.e. it is not required.

Austria and Italy are the only two countries where provisions of these two directives are also transposed into regional legislative documents. In Italy, regions are entitled to regulate energy related issues given that the requrements are the same or more restrictive than prescribed by national regulation. Not all regions utilise this option, but region Emilia-Romanga, which participates in FEEDSCHOOLS project, has its own Regioonal Energy Plan and Regional Law on Energy Certification, which transpose directives' requirements for the respective region. In Austria, Styria region transposes the directives' requirements through Agreement on Energy Effciiency, Styrian Climate and Energy Startegy and Sytrian State Building Act.

2.2. State of art of local and regional policies

Local and regional policies were investigated in three areas:

1. existence policy documents (SEAPs, energy efficiency plans) and their provisions related to energy renovation of public buildings and schools in particular
2. local/regional regulation that stimulates energy renovation to nZEB standard
3. local/regional policy measures that stimulate energy renovation to nZEB standard

The overview of the results is provided in the Table below.

Country	SEAP/energy efficiency action plans			Stimulative local/regional legislation	Local/regional stimulative policy measures
	Plan exists	Energy renovation of public buildings adressed	Energy renovation of schoools adressed		
Austria	yes	yes	yes	yes	no
Croatia	yes	yes	yes	no	no
Czech Republic	yes	yes	yes	no	no
Hungary	yes	yes	yes	no	no
Italy	yes	yes	yes	no	yes
Poland	yes	yes	yes	yes	yes
Slovenia	yes	yes	yes	no	no

In the area of planning, it may be noted that participating regions all have some form of action plan that deals with energy efficiency and that adresses the public buildings ans well as schools in particular and envisages thie renovation. However, achivement of nZEB standrad after the renovation is not commonly adressed in these plans.

When it comes to local/regional legislation, it may be conculed that it is not used for additional stimulation of nZEB renovation. In countries, which have reported the existance of local/regional legislation, it is dominantly related to the seting the targets and monitoring of fulfilment of obligations, rather than on stiumaltive actions.

Local/regional policy measures reported are dominantly related to existance of planing documents and local budgeting for mesures (renovations) stipulated in these plans (note: in such cases, ‘no’ is shown in the Table above). Only in Itlay and Poland, it is reported that there are regional calls, regional operational programmes and regional funds that can be used for stimulating energy renovation of public buildings. However, there are no strict nZEB requiremnts releted to these co-financing possibilities.

2.3. Identification of national and regional barriers for energy renovation of buildings to nZEB standard

The main finding related to the barriers for energy renovation of buildings to nZEB standard is that they are universal across the participating countries. They may be summaried as follows:

- Lack of legislative consistency and clear definition of nZEB standrad for renovated buildings;
- Lack of subsidies or diversification thereof to better stimulate achivement of nZEB standard after the renovation;
- Lack of knowledge/aeareness about nZEB stadard in general, related obligations and national strategies;
- Lack of know-how to implement nZEB energy renovation projects at the regional/local level.

Actions that will remove these barriers are needed to stimulate nZEB energy renovation of public buildings on the larger scale.

3. TERRITORIAL POLICY ANALYSIS PER COUTRY

3.1. AUSTRIA

3.1.1. EU DIRECTIVES ON ENERGY EFFICIENCY AND THEIR ADOPTION IN PARTICIPATING REGIONS

3.1.1.1. Energy Efficiency Directive[1]

Provisions of EU directive	National documents and provisions	Regional/local documents and provisions
Article 3: National energy efficiency targets	Austrian Energy Efficiency Act § 4 (Federal Law Gazette I Nr. 72/2014	Partly content in § 15a Federal Constitutional law – Agreement on Energy Efficiency with Styria
Article 4: Long-term strategy for building renovation	Austrian Energy Efficiency Act § 6 (National Energy Efficiency Action Plan (constitutional provision)	Styrian Climate and Energy Strategy 2030 (KESS2030)
Article 5: Exemplary role of public bodies' buildings	Austrian Energy Efficiency Act § 14, 15, 16	
Article 6: Purchasing by public bodies	Austrian Energy Efficiency Act Annex II and § 12 and § 4	Partly content in § 15a Federal Constitutional law – Agreement on Energy Efficiency with Styria
Article 7: Energy efficiency obligation schemes	Austrian Energy Efficiency Act § 8	
Article 8: Energy audits and energy management systems	Austrian Energy Efficiency Act §9, § 17 and § 18 as well as Annex III	
Articles 9-11: Metering; billing information; cost of access to metering and billing information	Electricity Management and Organization Act 2010, Heating Costs Accounting law The Electricity Act 2010 lays down the rules for smart meters. In principle, all information, promotional material and bills from energy suppliers must be transparent and customer-friendly. Bills must also show the meter readings used for the bill, as well as information on own the meter was read. It should therefore indicate whether the meter was read by the network operator, the customer supplied his/her own reading, the meter was read remotely or the meter reading was estimated. The information provided to the final consumer on the details of the roll-out of smart meters includes in particular technical aspects of	

[1] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

	the smart meter, the timing of the roll-out, consumer rights etc. In addition §22 of the Federal Energy Efficiency Act contains provisions on the installation of meters for heat and cooling.	
Article 14: Promotion of efficiency in heating and cooling	Austrian Energy Efficiency Act § 13	
Article 15: Energy transformation, transmission and distribution	The study on energy efficiency potentials in energy transformation, transmission and distribution can be accessed here	

Comments

The Federal Energy Efficiency Act, which was enacted in 2014, is the main instrument to transpose the EED. The Energy Efficiency Act introduces an EEO for energy retail sales companies and defines among others requirements for public buildings and non-SMEs.

3.1.1.2. Energy Performance of Buildings Directive[2]

Provisions of EU directive	**National documents and provisions**	**Regional/local documents and provisions**
Article 3: Methodology for calculating the energy performance of buildings	Guideline Nr. 6 from the Austrian Institute of Construction Engineering (legal status via the nine State Buildings Acts in Austria); National Standards OENORM B 8110 part 5 and 6, H 5050-5056	Styrian State Building Act with reference to the Guideline Nr. 6
Article 4-8: minimum energy performance requirements	Guideline Nr. 6 from the Austrian Institute of Construction Engineering (legal status via the nine State Buildings Acts in Austria)	Styrian State Building Act with reference to the Guideline Nr. 6
Article 9: Nearly zero-energy buildings	National Energy Efficiency Action Pan	--
Article 10: Financial incentives	Different subsidies (federal and state level)	e.g. Energy and Environmental Subsidy by Kommunalkredit Public Consulting Company (federal), housing renovation subsidies (state)
Article 11-13: Energy performance certificates	Energy Performance Certificates Submission Law; State Building Acts and Guideline Nr. 6 from the Austrian Institute of Construction Engineering	--
Article 14-16: Inspection of heating and air-conditioning systems	No federal regulation (it is in the responsibiloty of the federal states [“Länder”] but common); National standards OENORM EN 15378 and EN 13313. It is standard in Austria for heating systems since	State Acts e.g. Styrian Furnaces Law and Styrian Building Act

[2] Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings

	a long period (before EPBD)	
Articles 17: Independent experts	Legally authorised experts (Trade Law)	--
Article 18: Independent controls	Via authorized experts (Trade Law)	--

Comments

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3.1.2. STATE OF ART OF LOCAL AND REGIONAL POLICIES

3.1.2.1. Sustainable Energy Action Plans and other planning documents

Local / Regional Plans	**Contents**
Does your municipality/region have SEAP or other plans that include energy efficiency targets and policies?	Styria: Styrian Climate and Energy Strategy 2030 (KESS2030). Measures in different sectors (to be defined in detail at the moment) with the target to reduce the CO2 emissions by 36%, to raise energy efficiency by 30% and to raise the renewable share up to 40% until 2030. City of Graz (capital of Styria): SEAP Graz KEK 2020. The City of Graz has agreed on reducing its own energy consumption by 30% until 2020. The SEAP defines several concrete measures addressing the large untapped energy saving potentials in municipal buildings, renewables (especially the district heating system and solar energy), energy efficiency and climate-friendly mobility.
Plans for public buildings	The Real Estate and Building Management Graz Company is the assigned public body of the City of Graz for managing the municipal real estate property. It has an energy management and controlling systems for most of the public buildings and buys electricity on a 100% renewable basis. The plans of renovations and new buildings do not stick to nZEB at the moment because of budgetary reasons. The city needs huge budgets to build new schools and infrastructure because of the actual growth of the city.
Plans for schools	See above description. The City of Graz needs new classrooms, which are built today according to national building standards (approx. 15% above nZEB standard).

Comments

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3.1.2.2. Local and regional legislation

Local / Regional Regulation	**Contents**
Styrian Building Act	The Building Act refers to the federal regulation defined in the Guideline Nr. 6 of the Austrian Institute of Construction Engineering. It defines the minimum standards for new buildings and renovations (for all buildings – not only public buildings) and is in line with National Energy Efficiency

	Plan.

Comments

Beyond the Building Act there are no legislations on regional level. The regional regulations all refer to national standards.

3.1.2.3. Local and regional policy measures to stimulate energy renovation of buildings

Local / Regional Policy Measures	**Contents**
No local or regional measures; measures only on federal level: Environmental subsidies for building renovation and modernization (non-residential)	Non-refundable grants for several environmental measures (district heating, solar & biomass energy, heat pumps, thermal insulation etc.). There is also a special subsidy for nZEB renovations called "Mustersanierung" on federal level (see comments).
Federal information campaign klimaaktiv (www.klimaaktiv.at)	Information platform on relevant topics, e.g. on construction and retrofitting

Comments

Financial demand assignments from the federal states to the municipalities are not bound to energetic criteria but if the state and/or the federal government co-finance a renovation of a school the schools renovation have to be deep renovations to bring them on state of the art level (incl. the energetic situation). The reasons are more from the maintenance side (target: no renovation of this school in the next 30 years), but of course it has an influence to the energetic standard of the building (e.g. led lighting is standard, better insulation than obligatory due to the Building Act is standard in these renovations…).

If the municipality finances the school for themselves the only incentive is to get the federal environmental subsidy (15-30% of the eligible costs of the energetic renovation) which is bound to energetic criteria. At the moment there is a special subsidy for energetic outstanding renovations called "Mustersanierung". It is foreseen for renovations with role model character. The subsidy is a non-refundable grant up to 50% of the eligible costs, max. € 800.000,--- per project and is bound to very high energetic standards (nearly Passive House standard of the renovation, 90% renewable energy is obligatory).

3.1.3. IDENTIFICATION OF NATIONAL AND REGIONAL BARRIERS FOR ENERGY RENOVATION OF BUILDINGS TO nZEB STANDARD

3.1.3.1. Barriers at national level

Barrier at national level	**Description**
Federal subsidies for municipalities (school	If a municipality has an own real estate company town and maintain the public buildings, they get twice as much subsidies than other municipalities. The budget for

renovations) are lower than for companies	subsidies is bound to energetic criteria, but the total budget is limited (first come first serve – uncertainty if the municipality gets the subsidy in the end).
Lack of knowledge about the National Plan towards nZEB	There is still a lack of knowledge among the municipalities and some planners that there is a national plan to reach the nZEB standard (especially for new buildings). Some of the actual planning do not go into the right directions – they only meet the actual building code (for all buildings) and not the plan for public buildings as a role model.
Lack of know-how and/or concerns about alternative financing models	The municipalities still have concerns about new financing models (PPP, ESCO-models). They are too complicated for them, the effort is too high for the according tendering procedure.

Comments

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3.1.3.2. Barriers at regional / local level

Barrier at regional/local level	**Description**
lack of budget/subsidies from federal states (Länder) and no energetic criteria for school renovation budgets	Decisions for budgets for school renovation from the federal states are normally not bound to energetic criteria. There are no extra subsidies from the states for nZEB renovations of non-residential buildings. The effect is that most renovations have strong budgetary limits and they build the building code standards (which is a good standard but above nZEB standard). There is no detailed data about the actual renovation standards of existing schools. Only in new buildings more than 40% of the public buildings reach the nZEB standard or go beyond at the moment.

Comments

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3.1.4. CONCLUSIONS

The Austrian strategy for an efficient building stock - both in terms of standards and supporting measures - lies within the competence of the nine federal states but is accorded in the meantime through national guidelines. In addition, a few years ago, the Federal Government introduced measures for building renovations, especially for non-residential buildings.

In general, there is a long tradition of efficient construction of new buildings in Austria, which is reflected in a relatively high proportion of Passive Houses. However, there is still a lack of a clear, shared vision for existing buildings.

In addition, there are no regulatory measures to promote the renovation of buildings. The funding measures of the federal states for efficient new construction of residential buildings are already well established and have been an effective incentive for higher efficiency in the past. At this point, however, it is not clear how the budgets of these programs will evolve in the future and how they will focus on existing buildings and non-residential buildings.

In Austria there is a national plan to get new buildings and renovations towards nZEB standards and it is embedded into the Building Acts, but the regulatory framework as well as the Austrian nZEB definition and related building codes are not at the forefront of the European standard. Thus some experts say that stricter and clearer regulations would be required to achieve ambitious long term climate and energy policy targets. Highly efficient building components are readily available, better compliance controls and the availability of skilled construction workers and better financing possibilities (according to the latest Eurostat guidance note and Maastricht criteria) could further constrain the development of the nZEB market in the future.

To sum up, the general awareness of energy efficiency can be rated as good and the know-how about the nZEB standard is quite high, but the limits for the implementation mostly lies in budgetary reasons. Most of the municipalities do not dare to use new financing models (different types of concerns) and it is still not a common procedure to use PPP and ESCO-models for renovations of schools.

3.2. CROATIA

3.2.1. EU DIRECTIVES ON ENERGY EFFICIENCY AND THEIR ADOPTION IN PARTICIPATING REGIONS

3.2.1.1. Energy Efficiency Directive[3]

Provisions of EU directive	National documents and provisions	Regional/local documents and provisions
Article 3: National energy efficiency targets	EED is transposed in Croatia through Energy Efficiency Act (Official Gazette nr. 127/14), which prescribes in its art 8 the obligation to prepare National Energy Efficiency Action Plan (NEEAP), where national energy efficiency targets are defined. Currently, fourth NEEAP is drafted and pending for formal adoption by the Government.	Not applicable
Article 4: Long-term strategy for building renovation	Energy Efficiency Act prescribes the obligation to prepare long-term strategy for building renovation. The first Strategy was prepared and adopted in 2014, and has been updated in 2017.	Not applicable
Article 5: Exemplary role of public bodies' buildings	Energy Efficiency Act in its art 8 prescribes the obligation to adopt measures for 3% renovation of central government buildings through NEEAP. Regional authorities and large cities are obliged by art 11 and 12 to develop their 3-year EE action plans and to report annually on the progress achieved. Obligations of the public sector to introduce energy management system and to regularly monitor and report on energy consumption is prescribed in the art 21 of Energy Efficiency Act, while details related to this obligation are prescribed in the Ordinance on energy management system in public sector (Official Gazette nr. 18/15, 06/16).	Not applicable
Article 6: Purchasing by public bodies	Public bodies are obliged to use energy efficiency criteria in public purchase as defined in the art 31 of Energy Efficiency Act.	Not applicable
Article 7: Energy	Energy Efficiency Obligation	Not applicable

[3] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

efficiency obligation schemes	scheme is prescribed in art 13 of Energy Efficiency Act. Obliged parties are energy distributors. All detailed related to the targets of obliged parties and the functioning of the system should be prescribed by the special regulation, the adoption of which is still pending.	
Article 8: Energy audits and energy management systems	Large enterprises are obliged to undertake energy audtits every four years or to introduce energy managenet system, as prescribed in art 19 of Energy Efficiency act. Audits may be implemented only by persons authorised by the Ministry for energy. All details related to energy audits methodology, qualification (education) programme for energy auditros and issuing of authorisations for performing energy audits is prescribed in Ordinance on energy audits of large enterprises (Official Gazzette nr. 123/15). Energy audits of buildings are regulated in the Ordinance on energy audits and energy certification of buildings (Official Gazzette nr. 88/17) and Ordinance on persons authorised for energy certification and energy audits of buildings, regular inspection of heating and air-conditioning systems in buildings (Official Gazette nr. 73/15, 133/15)	Not applicable
Articles 9-11: Metering; billing information; cost of access to metering and billing information	EED provisions related to metering and billing are transposed by art 18 of Energy Efficieny Act.	Not applicable
Article 14: Promotion of efficiency in heating and cooling	Heat Market Act (Official Gazette nr. 80/13, 14/14, 102/14, 95/15) in its art 17 prescribes the obligation of the Governemnt to adopt Programme for utilisation of energy efficiency potential in heating and cooling. Art 15 of the same Act prescribes obligation to condust cost-benefit analysis.	Not applicable
Article 15: Energy transformation, transmission and distribution	EED provisions related to energy efficiency in transformation, transmission and distribution are transposed by art 15,16 and 17 of Energy Efficieny Act.	Not applicable

Comments:

In Croatia, EED is transposed into national legislation and there is no special legislation/regulation at regional/local level. There is, however, an obligation of regional authorities (counies) and large cities (with more than 35.000 inhabitants) to develop their three-year energy efficiency action plans. Within these plans, cities and counites are obliged to define long-term energy effciciency targets and measures to achieve these targets. Fulfilment of targets shall be reported annually to the National Energy Efficiency Authority (within Ministry of Environemntal Protection and Energy).

3.2.1.2. Energy Performance of Buildings Directive[4]

Provisions of EU directive	**National documents and provisions**	**Regional/local documents and provisions**
Article 3: Methodology for calculating the energy performance of buildings	Construction Act (Official Gazette nr.153/13, 20/17) in its art 20 sets up the basis for adoption of both minimal energy performance requirements and calculation methodology, which are prescribed in detail in Technical regulation on rational use of energy and thermal protection of buildings (Official Gazette nr. 128/15)	Not applicable
Article 4-8: minimum energy performance requirements	Technical regulation on rational use of energy and thermal protection of buildings (Official Gazette nr. 128/15) prescribe minimal energy performance requirements for new buildings and buildings undergoing major reconstruction. These requirements differ according to climate conditions (continental or coastal part of Croatia) and type of building.	Not applicable
Article 9: Nearly zero-energy buildings	Criteria for nZEB for new buildings are prescribed by Technical regulation on rational use of energy and thermal protection of buildings (Official Gazette nr. 128/15)	Not applicable
Article 10: Financial incentives	Energy Efficiency Act in its art 6 establishes Environmental Protection and Energy Efficiency Fund as an institution that is obliged to provide financial incentives for energy efficiency measures defined in NEEAP. Incentives are also available from EU structural and investment funds based on the Operational programme Competitiveness and Cohesion.	Not applicable
Article 11-13: Energy	Energy certification of buildings is	Not applicable

[4] Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings

performance certificates	prescribed by art 23 to 25 of the Construction Act, while details are given in Ordinance on energy audits and energy certification of buildings (Official Gazzette nr. 88/17).	
Article 14-16: Inspection of heating and air-conditioning systems	Regular inspections of heating and air-conditioning systems are prescribed by art 22 of the Construction Act, while details are given in Ordinance on energy audits and energy certification of buildings (Official Gazzette nr. 88/17).	Not applicable
Articles 17: Independent experts	Construction Act in its art 27 to 34 defines that only authorised persons may conduct energy certification and energy audits of buildings as well as regular inspections of hating and air-conditioning systems. All detials related to aurhorisation process are prescribed in the Ordinance on persons authorised for energy certification and energy audits of buildings, regular inspection of heating and air-conditioning systems in buildings (Official Gazette nr. 73/15, 133/15).	Not applicable
Article 18: Independent controls	Construction Act in its art 39 to 45 defines that energy certificates and reports on regular inspection of systems may be controled by independent authorised persons. The details related to constrol proces are prescribed in the Ordninance on control of building energy certificates and reports on regular inspection of heating or air-conditioning system in the building (Official Gazette nr. 73/15)	Not applicable

Comments

In Croatia, EPBD is transposed into national legislation and there is no special legislation/regulation at regional/local level. In the national legislation minimal energy performance requirements for new buildings and buildings undergoing major renovation are prescirbed and they differ for continetal and costal part of Croatia, due to significantly different climate conditions.

3.2.2. STATE OF ART OF LOCAL AND REGIONAL POLICIES

3.2.2.1. Sustainable Energy Action Plans and other planning documents

Local / Regional Plans	**Contents**
Does your municipality/region	In line with its legal obligations, City of Split has its Energy Efficiency

have SEAP or other plans that include energy efficiency targets and policies?	Action Plan for period 2017-2019 (available at: www.split.hr/lgs.axd?t=16&id=20317). There are 59 measures in this Action Plan for buildings, district heating, transport and public lighting. The Action Plan and measures proposed are a part of overall development strategy of city of Split, which is dedicated to becoming a smart city.
Plans for public buildings	Within the Action Plan the energy consumption in all public buildings in the city of Split was analyzed. The analysis is made according to type of buildings; hence the measures are defined for specific types of buildings. There are 25 measures defined for public buildings, each measure is related to a specific object and comprises different technical actions that are planned to be undertaken. Most of them will be financed from the budget of the city, while for only one measure it is predicted to use EU structural funds or other sources (e.g. Ministry of Culture). ESCO model is envisaged for only two of these measures.
Plans for schools	Among the above mentioned 25 measures for the public sector, only one is related to schools – this measure envisages the integral renovation of 7 school and kindergarten buildings in city of Split. Planned investments are approx. 61 million kn (8 million €), which will be subsidized with 35% from EU structural funds.

Comments

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3.2.2.2. Local and regional legislation

Local / Regional Regulation	**Contents**
/	/

Comments

There is no local nor regional legislation relating to energy efficiency of buildings. Local authorites may adopt their own regulation to stimulate nZEB thorugh abolition of communal fees, but there are very few examples of this parctice.

3.2.2.3. Local and regional policy measures to stimulate energy renovation of buildings

Local / Regional Policy Measures	**Contents**
No measures, except local budget of the city for renovation of own buildings	Please, see above. City of Split has adopted its Energy efficiency action plan in which there are number of measures that are related to energy renovation of public buildings.

Comments

At local/regional level, it is important to adopt and implement energy efficiency action plans and to plan annual budgets accordingly. Most of other policy measures, especially those related to financial subsidies

for energy renovation programmes are at the national level. Local authorities and citizens may use available funds for co-financing energy renovation of buildings. These are available through public calls issued by the Ministry of Construction and Physical Planning for the use of ESI funds. The most recent call was for co-financing energy renovation of public buildings, which will be re-opened in September 2018. According to the call propositions, energy renovation projects must achieve reduction of energy demand of at least 50%. It is possible to obtain subsidies of 85% for project documentation and 35 to 60% for energy renovation works and equipment.

3.2.3. IDENTIFICATION OF NATIONAL AND REGIONAL BARRIERS FOR ENERGY RENOVATION OF BUILDINGS TO nZEB STANDARD

3.2.3.1. Barriers at national level

Barrier at national level	**Description**
Lack of regulatory requirements for energy renovation of buildings	In Croatia, there are nZEB standards for newly constructed buildings, however standards for nZEB renovation are not defined. It is hard for existing buildings to achieve standard as newly built and achievement of such standards is connected with higher investment costs of renovation.
Lack of additional subsidies for energy renovation to nZEB standard	Although energy renovation of buildings is heavily supported by subsidies in Croatia using EU structural and investment funds (European Fund for Regional development), there are no additional subsidies for achieving nZEB standard after renovation.
Lack of awareness and promotion of nZEB standard	In previous period there were no concerted actions directed towards raising awareness of both general public and professionals related to nZEB standard
Cultural heritage limitations	Many public buildings in Croatian cities are under cultural heritage protection, which additionally complicates and raises the costs of renovation

Comments

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3.2.3.2. Barriers at regional / local level

Barrier at regional/local level	**Description**
Lack of awareness and promotion of nZEB standard	Capacities of local and regional authorities are often not sufficient, leading to the situation in which nZEB is not at all considered in the projects. Also, this is reflected in the fact that local/regional authorities do not use other possibilities to stimulate nZEB construction and renovation (e.g. abolition or reduction of communal fees).

Comments

All barriers at national level are important for local and regional level as well.

3.2.4. CONCLUSIONS

Given the clear obligation related to the construction of new buildings in nZEB standard prescribed by the EPBD and transposed in Croatian legislation, it is obvious that nZEB is the only option for all new buildings that are currently in the planning phase. However, when it comes to energy renovation, the situation is not that clear, especially given the fact that nZEB standard for renovated buildings is not defined. Once this is defined, it is necessary to undertake coordinated promotional and financial support activities to stimulate energy renovation to nZEB standard.

3.3. CZECH REPUBLIC

3.3.1. EU DIRECTIVES ON ENERGY EFFICIENCY AND THEIR ADOPTION IN PARTICIPATING REGIONS

3.3.1.1. Energy Efficiency Directive[5]

Provisions of EU directive	National documents and provisions	Regional/local documents and provisions
Article 3: National energy efficiency targets	National Energy Efficiency Action Plan (National Renewable Energy Action Plan)	Not applicable
Article 4: Long-term strategy for building renovation	tightening requirements for the energy performance of buildings Decree 78/2013 Sb.[6]	Not applicable
Article 5: Exemplary role of public bodies' buildings	Early onset of energy performance requirements Law 406/2000 Sb.[7]	Not applicable
Article 6: Purchasing by public bodies	National Energy Efficiency Action Plan	Not applicable
Article 7: Energy efficiency obligation schemes	The Czech Republic has chosen "a policy way" of implementation; financial support schemes were introduced: • ERDF – Operational Programme Environment (public buildings) • ERDF – Operational Programme Enterprise and Innovation for Competitiveness (private sector) • ERDF – Integrated Operational Programme (residential buildings) • Programme EFEKT (both) – see chapter 2.4	Not applicable
Article 8: Energy audits and energy management systems	Requirements of Law 406/2000., Decree 480/2012	Not applicable
Articles 9-11:	Requirements of the Law 406/2000.,	Not applicable

[5] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

[6] Decree No 73/2013 on Energy Performance of Buildings

[7] Act No 406/2000 on Energy Management

Metering; billing information; cost of access to metering and billing information		
Article 14: Promotion of efficiency in heating and cooling	Law 406/2000 – requirement to include assessment of high-efficiency cogeneration Act 165/2012[8] financial support programmes	Not applicable
Article 15: Energy transformation, transmission and distribution	Decree 78/2013 Sb., according the reference building, the range of rating varies for each building	Not applicable

Comments

There are no regional specificities related to implemnetation of EED.

3.3.1.2. Energy Performance of Buildings Directive[9]

Provisions of EU directive	**National documents and provisions**	**Regional/local documents and provisions**
Article 3: Methodology for calculating the energy performance of buildings	Decree 78/2013 Sb., According the reference building, The range of rating varies for each building	Not applicable
Article 4-8: minimum energy performance requirements	The range of rating varies for each building According the reference consumption of demanded energy, of non-renewable energy and reference U value	Not applicable
Article 9: Nearly zero-energy buildings	The range of rating varies for each building According the reference consumption of demanded energy, of non-renewable energy and reference U value	Not applicable
Article 10: Financial incentives	financial support programmes for public buildings: • ERDF – Operational Programme Environment (public	Not applicable

[8] Act No 165/2012 on promoted energy sources

[9] Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings

	buildings) Programme EFEKT	
Article 11-13: Energy performance certificates	Decree 78/2013 Sb	Not applicable
Article 14-16: Inspection of heating and air-conditioning systems	Decree 194/2013,[10] Decree 193/2013[11]	Not applicable
Articles 17: Independent experts	Decree 118/201312	Not applicable
Article 18: Independent controls	Law 406/2000 – establishment of State Energy Inspectorate	Not applicable

Comments

Determination of the energy requirement for new construction is based on the assumption that buildings will be built to have a specific energy consumption indicator for heating of 30 kWh / m2 of energy-related area, which corresponds to a total energy consumption of 50 kWh / m2 of energy-related area. It is a value that approximately corresponds to the standard of nZEB.

This assumption is based on legislative requirements, namely Act 406/2000 Coll., on the energy performance of new buildings.

Compliance with the nZEB energy performance requirements for buildings owned and operated by a public authority must be ensured (by the builder) from 2016 for the largest buildings, and from 2018 for all buildings, regardless of their size. Within 3 years, the requirements are gradually increasing, depending on the size of the energy-related area, as follows:

1. from 1 January 2016 for buildings with an energy-related area of more than 1 500 m2;
2. from 1 January 2017 for buildings with an energy-related area of more than 350 m2;
3. from 1 January 2018 for buildings with an energy-related area of less than 350 m2.

For other buildings, the deadline for fulfilling the energy performance requirements of an NZEB is shifted by two years, i.e. depending on the energy-related area between 2018 and 2020.

There are no regional specificities related to implemnetation of EPBD.

3.3.2. STATE OF ART OF LOCAL AND REGIONAL POLICIES

3.3.2.1. Sustainable Energy Action Plans and other planning documents

Local / Regional Plans	**Contents**
Does your municipality/region have SEAP or other plans that	**SECAP Ostrava** The long-term goal (vision) is to decrease both CO2 emissions and air

[10] Decree n. 194/2013 Coll. on the control of boilers and hot water supply

11 Decree n. 193/2013 Coll. on the inspection of air-conditioning systems

[12] Decree No 118/2013 on Energy Specialists

include energy efficiency targets and policies?	pollution by decrease of energy and fuel consumption and use of RES, and thus strengthen the city's energy self-sufficiency. In accordance with the Covenant of Mayors (signed in 2011), the target is to decrease CO2 emissions by at least 20% by 2020. Priority areas include those, which the city has a potential to influence. Namely: public and residential buildings, public lighting, city services and transport, information and promotion activities towards citizens. SECAP sets measures in the following areas: • Energy management in municipal buildings • Energy efficient measures in municipal buildings • Energy efficient measures in residential buildings • Modernization of heating systems and boilers • Energy efficient measures in tertiary sector • Environmentally friendly transport Measures in new construction
Plans for public buildings	Two areas target particularly public buildings: • Energy management in municipal buildings • Energy efficient measures in municipal buildings The concrete measures foreseen by SECAP are: • Implementation of centralized monitoring of energy consumption in city buildings. • Implementation of complex energy management in accordance with ISO 50001. Implementation of energy saving projects in city buildings (e.g. insulation, lighting, heating and hot water preparation).
Plans for schools	SECAP lists concrete projects to be carried out, including projects in particular schools.

Comments

Schools from different cities are involved into the FeedSchools project in the Czech Republic. These are cities of Louny, Jablonec nad Nisou and Ostrava, from which only the last one has published its SECAP. But, the plans at national level must be also mentioned, which is provided below.

National Plans	**Contents**
Does your country have plan(s) that include energy efficiency targets and policies?	**1) National Energy Efficiency Action Plan** The overall goal by 2020 (following EU goals) is to achieve energy savings of 1060 PJ (25,315 Mtoe) on final energy consumption; which translates into energy savings of 1855 PJ (44,305 Mtoe) on primary energy. The Action Plan identifies measures for energy efficiency in buildings, specific measures for public buildings, measures for industry and transport, heating and cooling, and energy distribution, as well as

	horizontal measures (e.g. energy audits, energy management systems, EPC, etc.). **2) National Renewable Energy Action Plan** The overall goal is to achieve 15,3% of RES on final energy consumption; 10% in transport sector. The implementation measures include regulatory measures, financial support (investment subsidy, feed in tariff, green bonds), EU-ETS, etc.
Plans for public buildings	**ad 1)** The Action Plan sets specific target of energy savings to be achieved in buildings of central-government authorities – 6 620 MWh/year. There are no concrete targets for other public buildings. As the most important measures to achieve energy efficiency goals in public buildings are considered the following: • Energy requirement for newly constructed buildings (see comment in chapter 1.2) • Funding support programmes (see chapter 2.4) • Public procurement, in particular purchasing low energy consumption appliances, heating sources, windows, etc. **ad 2)** For public buildings, the following measures are considered to increase the use of RES: • Energy requirement for newly constructed buildings (see comment in chapter 1.2) • Funding support programmes (see chapter 2.4)
Plans for schools	**ad 1)** There are no specific measures for schools. However, schools are often mentioned as examples of buildings that can benefit from measures for public buildings. **ad 2)** No references to schools.

3.3.2.2. Local and regional legislation

Local / Regional Regulation	**Contents**
/	/

Comments

There is no local nor regional legislation relating to energy efficiency of buildings. In general, regions and municipalities can issue regional/local decrees, but these cannot go beyond requirements set at the national level. So, for buildings, requirements of national legislation apply.

3.3.2.3. Local and regional policy measures to stimulate energy renovation of buildings

Local / Regional Policy Measures	Contents
SEAPs / SECAPs	In the Czech Republic, municipalities has been gradually implementing Sustainable Energy (and Climate) Action Plans – SEAP, SECAP under the Covenant of Mayors. These plans set local targets for energy efficiency and renewable energy, including energy efficiency of public buildings. For SECAP Ostrava (one of the cities involved in the project) see chapter 2.1.

Comments

There are relevant policy measures at national level for public buildings, so they are mentioned hereafter.

National Policy Measures	Contents
ERDF – Operational Programme Environment 2014 - 2020	Priority axis no. 5 focuses on energy efficiency and RES in public buildings. Only public sector can apply for a subsidy (e.g. schools, municipalities, state- or municipality-funded institutions, etc.), private sector is excluded. The priority axis includes two specific areas: • 5.1. Decrease of energy consumption and increase of RES use in public buildings • 5.2. High energy standard of newly constructed public buildings – aims at construction of new public buildings in a passive standard
ERDF – Integrated Operational Programme 2014- 2020	Energy efficiency in buildings is supported under Priority axis no. 2 Improvement of Public Services, Investment priority no. 4c Support of Energy Efficiency and RES in Public Infrastructure. Eligible applicants include owners of housing blocks of flats, i.e. also public buildings. But it cannot be used for schools as the target are housing buildings.
Programme EFEKT	Programme EFEKT is the national programme ("State programme on support of energy savings and use of RES") funded from state budget and operated by the Ministry of Industry and Trade. It supports several energy efficiency-related activities in buildings although the funding (project budget) is much lower compared to ERDF-funded projects. Relevant sub-programmes that can be used by schools (directly or via their founders (regions, cities)) include: • 1B Reconstruction of heating system and heating source • 1C Energy efficiency measures in buildings implemented by

	using EPC method • 2D Implementation of energy management systems • 2E EPC feasibility studies (analysis whether/which buildings are suitable for EPC) • 2F Preparation of energy efficiency projects

3.3.3. IDENTIFICATION OF NATIONAL AND REGIONAL BARRIERS FOR ENERGY RENOVATION OF BUILDINGS TO nZEB STANDARD

3.3.3.1. Barriers at national level

Barrier at national level	Description
Little awareness and promotion about NZEB	In the public and also professional public and officials of Building Authority
Inconsistency of requirements of Building Authority	Each building Authority has got its own interpretation of the Building law
Legislative inconsistency	Energy efficiency, environment protection and construction split under 3 different Ministries, so there are a lot of different regulations, no Ministry for construction,
Cultural heritage-related restrictions	A lot of school buildings (and public buildings in general) were built more than 100 years ago. Many of them are protected as a cultural heritage, and as such they cannot be fully renovated. E.g. Thermal insulation or change of windows is not allowed by relevant culture heritage protection authorities. Moreover, even if the building is not protected, the owner wants to keep its historical look, and so the mentioned measures (in particular, envelop insulation) are not carried out.
Energy efficiency projects already carried out	For newly built schools (70s-80s of the last century), the problem is the opposite. There was a huge support for renovation, thermal insulation and windows change in schools in the previous programming period (Operational programme 2007-2013) and it continues with the period since 2014. It means that majority of school buildings of this type have been renovated in last 10 years, and they do not want to make a new reconstruction again after such a short period. Moreover, even if they were willing to perform a new reconstruction, the savings would not be so high to fulfil energy efficiency requirements of the funding programmes and to reach a reasonable payback period.

Comments

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3.3.3.2. Barriers at regional / local level

Barrier at regional/local level	Description

/	/

Comments

In our opinion, the barriers exist primarily at the whole country level and are relevant for all regions and municipalities in general.

3.3.4. CONCLUSIONS

While there are clear requirements for energy efficiency performance of newly constructed buildings, it is not like this for reconstruction of buildings.

There is a funding support for nZEB renovation (passive standard), however with the absence of clear strategic/policy requirement, it does not have enough power to convince building owners to perform these renovations. Moreover, as stated above, many buildings have been renovated in last 10 years and there is only a little will of the owners to carry out another renovation in the near future.

3.4. HUNGARY

3.4.1. EU DIRECTIVES ON ENERGY EFFICIENCY AND THEIR ADOPTION IN PARTICIPATING REGIONS

3.4.1.1. Energy Efficiency Directive[13]

Provisions of EU directive	National documents and provisions	Regional/local documents and provisions
Article 3: National energy efficiency targets	Hungary's energy policy is summarised in the National Energy Strategy adopted by Parliamentary Decision No 77/2011 of 14 October 2011. The main findings of the National Energy Strategy are described in Action Plan III and IV. Energy savings to be achieved in 2014-2020 as a result of energy efficiency policies, when deducting part of the energy volume used in the ETS sector is 167 PJ.	Not applicable
Article 4: Long-term strategy for building renovation	In line with the statements of the National Energy Strategy 2030, the National Building Energy Strategy has aimed at primary energy savings of 49 PJ/year by 2020 and 111 PJ/year by 2030.	Not applicable
Article 5: Exemplary role of public bodies' buildings	The annual renewal obligation is 3 %, which means building renovations of nearly 14,500-15,000 m2 of floor area per year. Renovations are done on an ongoing basis. From 1 January 2017, Section 11/A of the Energy Efficiency Act requires the head of an organisation in charge of operation and maintenance of a building involved in public services owned and used by public institution to prepare an energy savings action plan according to a relevant template every five year. Meeting the energy savings action plan must be reported on an annual basis and such reports must be sent by 31 March of the subsequent year to the regionally competent office of the National Energy Network.	Not applicable
Article 6: Purchasing by public bodies	When ministries, government agencies, central offices, the Directorate General for Procurement and Supply, the Military National Security Service, the law enforcement agencies, and defence	Not applicable

[13] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

	organisations with national competence procure products or services or conclude contracts for modernisation or conclusion of buildings and the contract value is equal to or greater than the EU thresholds specified in Act CXLIII of 2015, only high energy efficacy products, services and buildings can be procured by the contracting entities. The relevant obligation should be enforced if this is compatible with cost effectiveness, economic viability, sustainability, technical suitability and the proper implementation of competition. The organisation obligated to conduct the energy efficient procurement will provide to HEPURA, by 31 January each year, all documentation prepared in relation to their energy efficient procurements implemented in the year prior to the year under review. The concept of public service is defined in Section 3/A of Act CXCV of 2011 on the public budget.	
Article 7: Energy efficiency obligation schemes	Hungary wants to decrease the required final energy consumption by alternative policy measures by 1.5 % annually at end consumers. See below in detail.	Not applicable
Article 8: Energy audits and energy management systems	Based on the Energy Efficiency Act, the Hungarian Energy and Utilities Regulatory Authority should keep a list of energy auditors and energy auditing organisations (auditor's list) and supervise these persons and organisations; and to carry out the monitoring of energy audit. A necessary condition for continuing auditing activities is, among others, the fulfilment of an energy auditor's professional examination organised by certain cooperating organisations. This task has so far been fulfilled by the Hungarian Chamber of Engineers as the sole contributor. Number of auditors in 2015, 101 persons. In 2016: additional 118 persons. The total number of reported audits up to 13 July 2017: 1095 pcs. Number of audits required for large companies: 759, the rest are audits by the other small and medium-sized companies. Large companies affected by the auditing obligation	Not applicable

	and other enterprises are currently being audited. According to the list of large companies made available by NTCA: 1194 pcs.	
Articles 9-11: Metering; billing information; cost of access to metering and billing information	In the field of electricity, compliance is implemented by Act LXXXVI of 2007 on electricity (hereinafter: Electricity Act) as well as Government Decree No 273/2007 of 19 October 2007 on the implementation of certain provisions of Act LXXXVI of 2007 on electricity (hereinafter: Electricity Implementing Decree). In the field of natural gas, compliance is implemented by Act XL of 2008 on natural gas supply (hereinafter: the Gas Act) as well as Government Decree No 19/2009 of 30 January 2009 on the implementation of the provisions of Act XL of 2008 on natural gas supply. In the field of district heat, compliance is implemented by Act XVIII of 2005 on district heating services (hereinafter: District Heating Act) as well as Government Decree No 157/2005 of 15 August 2005 on the implementation Act XVIII of 2005 on district heating services (hereinafter: District Heating Implementing Decree). In order to create consistency with the regulatory framework of the Directive, several legislative amendments and the enactment of a new item of legislation have taken place in the period from 2015 until today.	Not applicable
Article 14: Promotion of efficiency in heating and cooling	The provisions of Article 14 of the Directive are implemented in domestic legislation by the Energy Efficiency Act, the Implementing Decree, the District Heating Implementing Decree, Government Decree No 31/2014 of 12 February 2014 on the rules of official building proceedings concerning certain special industrial buildings, as well as Government Decree No 382/2007 of 23 December 2007 on electricity-related official building proceedings. As regards Article 15, the following legislation ensures compliance: - The Electricity Act, the Electricity Implementing Decree, the Gas Act, the	Not applicable

	Energy Efficiency Act - HEPURA[14] Decree No 7/2016 of 13 October 2016 on the framework rules of determining electricity system use fees, connection fees and special charges. - HEPURA Decree No 10/2016 of 14 October 2016 on the rules of implementation of electricity system use fees, connection fees and special charges. - Decree No 4/2011 of 31 January 2011 of the Minister for National Development on the pricing of universal electricity service - HEPURA Decree No 15/2016 of 20 December 2016 on the amount of electricity system use fees, connection fees and special charges.	
Article 15: Energy transformation, transmission and distribution	Concerning the development of smart networks, the methodological guide issued by the HEPURA for the price control cycle launched in 2017 contains a specific incentive (see the information concerning demand-side responses on the next page). Even at present, electricity traders can freely agree with their customers in the tariffs applied: there is no legal impediment to the latter. The method recorded in the methodological guide issued for the entire price control cycle launched in 2017 by HEPURA can also promote enabling the technical conditions of the demand-side response measures. The total technical loss of the distribution network is around 9.5 % of annual consumption, or 3,420 GWh. Theoretical loss reduction potential of approximately 500 GWh, which is 13.65 % of the total network loss of 2013. In addition, the regulation of controlled customers for profile smoothing purposes may result in additional savings of 59 GWh/year. With regard to the potential of the distribution network, taking into account resource-side options, technical constraints as well as considerations regarding security of supply, implementing the necessary improvement will take at least 20-25 years. Thus, considering 5-year periods, achieving new savings in	Not applicable

[14] Hungarian Energy and Pubic Utility Regulatory Authority (HEPURA)

	the order of magnitude of 100-200 GWh can be a realistic target for the low and medium voltage network.	

Comments

Hungary's energy policy is summarised in the National Energy Strategy adopted by Parliamentary Decision No 77/2011 of 14 October 2011. The main findings of the National Energy Strategy are described in Action Plan III. By its Decision No 5/2015 of 20 March 2015, the Parliament has decided that the Government is responsible for regular review of the Energy Strategy energy use forecast, which must be decided every two years in a government decision. In accordance with this Parliamentary Decision, the Government adopted Government Decision No 1160/2015 of 20 March 2015 on updating the energy use forecasts of the National Energy Strategy. According to Parliamentary Decision No 5/2015 of 20 March 2015, the values of the forecast specified in the relevant government decision must be considered as authoritative in the course of energy planning. In the course of review of Government Decision No 1160/2015 of 20 March 2015 in 2017, the energy consumption paths were reviewed and corrected as necessary. This will also serve as a basis for the objectives of the Integrated National Climate and Energy Plan for energy efficiency. Action Plan III has specified the energy efficiency targets in Government Decision 1160/2015 of 20 March 2015 on updating the energy use forecasts of the National Energy Strategy on the basis of an energy consumption forecast for 2020.

Based on this, the primary energy consumption target for 2020 is: 1009 PJ (according to the 'joint effort' path). The final energy consumption target is 693 PJ. In line with the energy savings target for 2020, **the difference in primary energy use is 92 PJ** according to the 'Sitting idly' and 'Joint effort' scenarios, whereas the following has beenchosen as a basis for our energy consumption undertakings: **73 PJ calculated in terms of final energy consumption**.

Building renovation strategy (Article 4 EED)

Hungary's energy policy is based on the National Energy Strategy 2030, adopted in 2011, which assigns a special role to building energy interventions in reducing energy consumption, given that 40 % of energy consumption is used for energy supply for buildings. In compliance with our obligation related to improvement of energy efficiency, building energy objectives receive a great deal of emphasis, so the main directions aimed at reducing energy use of domestic building stock are recorded on the basis of a National Building Energy Strategy (hereinafter: NBES) prepared in 2014 and adopted by Government Decision No 1073/2015 of 25 February 2015. In line with the statements of the National Energy Strategy 2030, the NBES has aimed at primary energy savings of 49 PJ/year by 2020 and 111 PJ/year by 2030. NBES sets out measures for the renovation of existing building stock to achieve energy savings and to tighten and revise requirements for new buildings and building renovations, as well as to promote research, development, knowledge, training and awareness-raising for the purpose of energy efficiency. Decree No 7/2006 deserves particular attention for definition of relevant measures. This is because Decree No 7/2006 sets out the application of energy requirements concerning buildings subject to its scope, taking into account Directive 2010/31/EU of 19 May 2010 on the energy performance of buildings. In the case of renovation of buildings from subsidy sources (irrespective of subsidy resources after 31 December 2017) and in the event of erecting new buildings up to 31 December 2017, the **cost-optimised energy level** and after 31 December 2020 in the event of new construction, the requirement level of **near zero energy demand** must be met.

Central government buildings (Article 5 EED)

The obligation under Article 5 of the Energy Efficiency Directive will have to be determined taking into account all the useful floor space of the relevant central government buildings. Only the total useful floor space of buildings not meeting the building energy requirement currently in force and included in the central government building register must be taken into account. The annual renewal obligation is 3 %, which means building renovations of nearly 14,500-15,000 m2 of floor area per year. Renovations are done on an ongoing basis.

Buildings of other public institutions (Article 5 EED)
There is a significant energy saving potential in improving the energy efficiency of public building stock of about 10-12 thousand buildings in Hungary. Improving energy efficiency and cost-effective use of buildings together can significantly reduce operating costs and thus reduce the budgetary amounts utilised for this purpose.

From 1 January 2017, Section 11/A of the Energy Efficiency Act requires the head of an organisation in charge of operation and maintenance of a building involved in public services owned and used by public institution to prepare an energy savings action plan according to a relevant template every five year. For the first time, it has to be sent to the competent regional office of the National Energy Network by 31 March 2017.

Energy efficiency policy measures approved for compliance with Article 7.

	Policy measures Executing authority	**Policy measures Executing authority**
1	National energy efficiency programmes (from quota revenues, GEFS, GIS, budget sources, based on intergovernmental agreement, etc.)	Ministry of National Development
2	Primarily energy efficiency programmes implemented using operational programmes (KEOP, ROP, KMOP, KEHOP, TOP, VEKOP, GINOP) the relevant organisation fulfilling the responsibilities of a governing authority	the relevant organisation fulfilling the responsibilities of a governing authority
3	Primarily non-energy efficiency programmes implemented using operational programmes (TOP, VEKOP, EFOP, IKOP, KEHOP, VP) the relevant organisation fulfilling the responsibilities of a governing authority	the relevant organisation fulfilling the responsibilities of a governing authority
4	Housing support	Ministry of the National Economy
5	Energy rationalisation tender at the Ministry of the Interior	Ministry of the Interior
6	Swiss-Hungarian Cooperation Programme	Ministry of the Interior
7	Norwegian Financing Mechanism and EEA Financing Mechanism	Ministry of National Development
8	Energy efficiency investments of budgetary institutions [based on Government Decree No 232/2015 of 20 August 2015]	Ministry of National Development
9	Energy efficiency regulations for buildings	Prime Minister's Office
10	Investments improving energy efficiency on the basis of budget subsidy granted by special decision	as regards Section 14(1) point *(b)* of the Energy Efficiency Act: National Energy Network with the participation of the Prime Minister's Office
11	Within the scope of the Modern Cities Programme, measures to improve energy efficiency with budget support	as regards Section 14(1) point ***(b)*** of the Energy Efficiency Act: National Energy Network with the participation of the Prime Minister's Office
12	Promoting energy efficient use of public buildings	as regards Section 14(1) point ***(b)*** of the Energy Efficiency Act: National Energy Network
13	Operation of home savings scheme	Ministry of the National Economy
14	Employment of an energy specialist	HEPURA
15	Results of the operation of the National Energy	as regards Section 14(1)

	Network	point ***(b)*** of the Energy Efficiency Act: National Energy Network
16	Improving energy efficiency in transport	Ministry of National Development
17	Corporate normative tax relief for energy efficiency measures	Ministry of the National Economy

3.4.1.2. Energy Performance of Buildings Directive[15]

Provisions of EU directive	**National documents and provisions**	**Regional/local documents and provisions**
Article 3: Methodology for calculating the energy performance of buildings	The Hungarian strategy has been provided as an Annex of NEEAP 2014 (Annex 4), in March 2015. The strategy provides a good overview of the national building stock, a description of the national policies and financial mechanisms supporting building renovations in the country. A large-scale in-depth survey has been conducted, involving the analysis of data in statistical databases on buildings and existing project and certification databases as well as the on-site inspection of a great number of buildings. The requirement system has three facets, as far as new buildings and major renovations are concerned. Maximum permitted U values are set for elements and specific heat loss coefficient (W/m3 .K), as function of the surface to volume ratio. The losses from thermal bridges (with the simplified or detailed procedure) and the effects of shading devices are also considered. Finally, the specific yearly primary energy need must not exceed a limit, which depends on the surface to volume ratio and the type of use of the building. Maximum permitted values are given for a few typical uses (residential, school, office), whilst in the case of mixed use, a reference building is to be considered.	Not applicable
Article 4-8: minimum	The Strategy extensively builds on the	Not applicable

[15] Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings

energy performance requirements	concept of cost optimality approach (the methodology is based on the governmental degree 7/2006 laying down the building energy requirements, and the applied calculations for the different building types is described in a separate document). The heating, cooling needs, together with the DHW are taken account with the determined U-values and are used for all the residential building types. For non-residential buildings two renovation levels are considered. The current and the cost optimal energy consumption values (after renovation) are presented for the various building types together with their corresponding costs. The methodology how the calculation selected the final cost optimal option from the various alternatives could be incorporated more clearly in the document. The cost-optimal calculations have been carried out according to the common EU methodology framework issued by the 244/2012 Order on the basis of Directive 2010/31/EC. The detailed calculation is available at the 'e-epites' website. The procedure has proved that the current requirements are sub-optimal, therefore new requirements were introduced in 2015 for buildings receiving public funding, and in 2018 for all buildings. The application of most of Renewable Energy Sources (RES) has not proved to be cost- optimal. The cost-optimal requirements are laid down in the Decree of the Minister of Interior 20/2014 (III.7). It is worth mentioning that the energy prices in the Hungarian residential sector have decreased since the cost-optimal procedure has been prepared. The primary energy needs include heating, Domestic Hot Water (DHW), cooling and, for non-residential buildings lighting needs. Airtightness measurements are not required, but the quality of windows is examined visually by experts on the site and the estimated infiltration is taken into account in the calculation. For new buildings and major renovations, thermal comfort and minimum requirements on fresh air supply are set, but these values are not considered in the calculation	

	procedure for certification.	
Article 9: Nearly zero-energy buildings	The general national targets for NZEBs are set in the '2nd National Energy Efficiency Action Plan until 2016 with an outlook to 2020' (NEEAP) ratified by the Governmental Decree 1374/2011 (XI.8). According to this decree, the National Building Energy Strategy has to be developed by the Ministry of National Development. The government decided in 2012 that the NZEB requirements shall only come into force in 2019 and 2021 respectively. As an intermediate step, the cost-optimal requirements that are already defined by the legislation will be introduced in 2015 and 2018. According to the Decree of the Minister of Interior 20/2014 (III.7) a NZEB is a building that meets the cost-optimal requirements and has 25% of its primary energy demand covered from RES, onsite or nearby.	Not applicable
Article 10: Financial incentives	In the Hungarian strategy a comprehensive set of measures is described. Three types of policy measures are listed as measures expected to stimulate renovations: (1) legislative measures, (2) financial incentives such as grant schemes for building renovation funded by the State budget and by EU structural funds, (3) information and education programmes. A R&D project related to energy efficiency in buildings is also mentioned. A brief and not very detailed analysis of renovation existing barriers is provided. The strategy provides a quantitative assessment for only one financial scenario, providing a breakdown of the government and private resources needed. The other stakeholders like the financial sector and NGO perspectives are missing.	Not applicable
Article 11-13: Energy performance certificates	Starting from January 2012, all existing residential and non-residential buildings need to be certified when sold or rented. The owner must present a valid EPC to the buyer, when the sale contract is agreed upon. For rentals, the owner must present a valid EPC to the renter when a rental contract is agreed upon. As of 2018, new	Not applicable

	buildings must reach at least an EPC class cost optimality level (at least CC-DD ratings). The same rule applies in the case of a major renovation of a building. If a new unit or wing is added to an existing building, there are two options: either the extension only, or the building as a whole, should meet the requirement. Such a retrofit or extension is subject to a building permit, which will be issued only if the required energy performance level can be demonstrated using the calculations. EPCs are valid for 10 years unless the building undergoes a major renovation, in which case a new EPC is required.	
Article 14-16: Inspection of heating and air-conditioning systems	The requirements on heating, DHW, AC and large ventilation systems have been in force since January 2013. These requirements are partly recommended and partly obligatory. The requirements apply to new buildings, buildings undergoing major renovations and also for minor energy renovations. The requirements are set down by the Decree of the Minister of Interior 40/2012 (VIII.13). No further revision of the requirements for technical building systems is envisaged until 2020. Hungary has adopted alternative measures for inspection of heating systems and AC systems. This means that the inspection system will be replaced by other alternative actions, such as information campaigns on the exchange of obsolete or low-efficiency boilers, AC and heating systems. Such a campaign is already integrated in the NEEAP.	Not applicable
Articles 17: Independent experts	The EPCs are issued by independent experts who have passed the exam at the Hungarian Chamber of Engineers or at the Hungarian Chamber of Architects.	Not applicable
Article 18: Independent controls	Thermal comfort (indoor air temperatures) and the indoor air quality (quantity of fresh air, maximum concentration of CO2) should be based on the standard EN 15251. It is also obligatory to apply a central control system in buildings	Not applicable

	which have a heated floor area of over 100 m2 . The balancing of the heating, cooling, ventilation and DHW systems is required and must be proved by the verification of 10% of the valves. The documentation of the hydraulic balancing and its verification is a part of the pre-conditions in the closure of the construction process. The circulation pumps must be operated according to a time schedule. The pressure drop losses are limited for ventilation system elements. The operation mode of the ventilation system and the airtightness of the ductwork are to be set according to the standard EN 13779 in order to optimise the fan power	

Comments

All national legislations are binding for the whole country regarding the EED/EPBD adaptation and building codes, therefore additional regional legislation or regulations are not required.

3.4.2. STATE OF ART OF LOCAL AND REGIONAL POLICIES

3.4.2.1. Sustainable Energy Action Plans and other planning documents

Local / Regional Plans	**Contents**
Does your municipality/region have SEAP or other plans that include energy efficiency targets and policies?	The West-Transdanubian Regional Energy Strategy (ESPAN), the Zala County Climate Strategy, adopted in 2018, and the SEAP of Nagykanizsa (with SEAP for Nagykanizsa alone) formulate comprehensive targets for energy efficiency and renewable energy sources. Specific interventions, their preparation and timing are the competence of Vocational Training Centers, local governments, government agencies and some of the schools. The organizations concerned must take into account the energy efficiency requirements for a given building when planning energy and other technical interventions.
Plans for public buildings	There is no local or regional document that would formulate specific goals for public buildings.
Plans for schools	There is no local or regional document that would formulate specific goals for public buildings.

Comments

Zala County's climate strategy sets the target of 40% reduction of emissions from the operation of buildings by 2050 compared to 2015 levels. Among the related measures, the strategy outlines the "Complex energy efficiency modernization in renewable energy use in public institutions" but is not related to a quantified target.

3.4.2.2. Local and regional legislation

Local / Regional Regulation	Contents
Not applicable	Not applicable

Comments

In Hungary, all national legislations are binding for the whole country regarding the EED & EPBD adaptations and building codes, therefore additional regional legislation or regulations are not required or allowed. Local and regional governments, however, have a key role in education of the local citizens, organising awareness raising programs. In several cases, local governments also have the financial deed to provide (additional) financial aid to speed up energy renovations.

3.4.2.3. Local and regional policy measures to stimulate energy renovation of buildings

Local / Regional Policy Measures	Contents
Annual budget of local governments	Municipalities can allocate funds for the refurbishments of public buildings. However, a lot of local governments do not have sufficient budget for this purpose due to lacking local incomes and funds.
Energy savings action plan need to be prepared for public buildings, including municipalities	For the first time, it had to be sent to the competent regional office of the National Energy Network by 31 March 2017. Meeting the energy savings action plan must be reported on an annual basis and such reports must be sent by 31 March of the subsequent year to the regionally competent office of the National Energy Network. The energy saving plan is a first step in improving the energy efficiency of public institutions by starting from the assessment of the current situation, exploring energy loss resources, and proposing energy efficiency improvement measures and investments that meet the technical specifications of the building. It is important that the plan propose concrete measures in the short, medium, and long terms.
Communication and Awareness raising programs	Organizing energy communities
Financial programs	Local regulations for additional financial aids for speeding up building refurbishments
Legal regulations	Including additional energy efficiency aspects in local public procurement processes

Comments

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3.4.3. IDENTIFICATION OF NATIONAL AND REGIONAL BARRIERS FOR ENERGY RENOVATION OF BUILDINGS TO nZEB STANDARD

3.4.3.1. Barriers at national level

Barrier at national level	Description
State controlled overhead reduction	The artificially low electricity prices for end-users do not motivate people (including public bodies) to save energy or to switch to renewables. The return on investment periods for sustainable energy projects are expanded.
Lack of governmental support	There has been a subtle governmental communication campaign to discredit renewable energy sources, i.e. unjustified regulatory barriers are created to renewable energy installations (such as requiring a distance-controlled fire protection switch, which is not mandatory in other countries).
Corruption	High level of corruption both on national and regional levels.
Lack of monitoring system	Missing robust monitoring system for tracking of performance of energy efficiency investments leads to a low level of understanding of the business case behind these investments for potential financiers and investors.
Lack of ESCO EPC investments	At present, there are no specific plans for innovative funds or promoting public-private partnerships through for example, energy performance contracting. The Government does not encourage this financing scheme, and municipalities are suspicious towards it.

Comments

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3.4.3.2. Barriers at regional / local level

Barrier at regional/local level	Description
Re-nationalisation of school buildings	Because of the re-nationalisation of schools (previously owned and operated by local and county governments), the local government loses interest in energy efficiency or RES investments in school buildings.
Corruption	High level of corruption both on national and regional levels.
Centralised programming and implenetation	Theoretically the local and regional governments have influence on which buildings will be /should be refurbished, however the decision making process is centralized in case of funding opportunities.
Lack of 'owner' perspective	All energy efficiency refurbishment calls for public buildings in Hungary are funded 100%, thus no all renovations based on rational decisions and cost analysis.

Comments

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3.4.4. CONCLUSIONS

The Hungarian NBES strategy in itself is a valuable document. What lacks is the real effort to realize the set goals and savings: there is no sufficient funding, no one-stop-shops, no real advisory service or real awareness raising campaigns for public bodies and citizens.

There is hardly any government information as to the new building regulations on sustainable construction (cost optimality level and nearly zero energy level) that has and are to come into force in 2018 and 2021.

Without a real political support, no real results will be achieved. First the government need to understand and accept the potentials of EE investments, otherwise only seeming actions will be taken.

3.5. ITALY

3.5.1. EU DIRECTIVES ON ENERGY EFFICIENCY AND THEIR ADOPTION IN PARTICIPATING REGIONS

3.5.1.1. Energy Efficiency Directive[16]

Provisions of EU directive	National documents and provisions	Regional/local documents and provisions
Article 3: National energy efficiency targets	National legislation on Energy Efficiency (D. Lgs. 102/2014), Italian Report on Energy Efficiency Strategy (PAEE-National Plan on Energy Efficiency, RAEE-Annual Report on Energy Efficiency)	Regional Energy Plan (Emilia-Romagna)
Article 4: Long-term strategy for building renovation	PANZEB-National Action Plan to increase nZEB	Regional Energy Plan (Emilia-Romagna)
Article 5: Exemplary role of public bodies' buildings	D. Lgs. 102/2014	
Article 6: Purchasing by public bodies	D. Lgs. 102/2014, D.lgs 50/2016	
Article 7: Energy efficiency obligation schemes	D. Lgs. 102/2014, D.M. 26/06/2015	Regional Law on Energy Certification (Emilia-Romagna)
Article 8: Energy audits and energy management systems	D. Lgs. 102/2014	
Articles 9-11: Metering; billing information; cost of access to metering and billing information	D. Lgs. 102/2014, D.M. 26/06/2015	Regional Law on Energy Certification (Emilia-Romagna)
Article 14: Promotion of efficiency in heating and cooling	D. Lgs. 102/2014, D.M. 26/06/2015, Rules and Raccomendations of Italian Authority for energy	Regional Law on Energy Certification (Emilia-Romagna)
Article 15: Energy transformation, transmission and distribution	Regional Law on Energy Certification (Emilia-Romagna)	Regional Law on Energy Certification (Emilia-Romagna)

Comments

In Italy, every region has the possibility to legislate on energetic issues. The only constraint imposed by the central administration concerns the fact that regional rules must be the same or more restrictive than national ones. Many regions have legislated on: Emilia-Romagna, Lombardy, Piedmont ...

[16] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

3.5.1.2. Energy Performance of Buildings Directive[17]

Provisions of EU directive	National documents and provisions	Regional/local documents and provisions
Article 3: Methodology for calculating the energy performance of buildings	D.M. 26/06/2015	
Article 4-8: minimum energy performance requirements	D.M. 26/06/2015	
Article 9: Nearly zero-energy buildings	D.M. 26/06/2015, D. Lgs. 102/2014	
Article 10: Financial incentives	D.M. 26/06/2015, D. Lgs. 102/2014, Financial laws	
Article 11-13: Energy performance certificates	D.M. 26/06/2015	Regional laws (Emilia-Romagna, Lombardy, Piedmont, Liguria…)
Article 14-16: Inspection of heating and air-conditioning systems	D.P.R.16/04/2013 n.74, D.M. 10/02/2014, Law 90/2013, Decree of the Minister for Economic Development 22/01/2008 n. 37	Regional laws
Articles 17: Independent experts	D. Lgs. 102/2014	
Article 18: Independent controls	D. Lgs. 102/2014	

Comments

The Italian legislation regarding the above mentioned issues is very broad and specific and covers all the needs in a complete and precise way.

3.5.2. STATE OF ART OF LOCAL AND REGIONAL POLICIES

3.5.2.1. Sustainable Energy Action Plans and other planning documents

Local / Regional Plans	Contents
Does your municipality/region have SEAP or other plans that include energy efficiency targets and policies?	In Italy many Municipalities have SEAPs joined to Regional Energy Plans
Plans for public buildings	SEAPs are very different in the various Italian Municipalities and most of them contain indications on deep renovation and the achievement of nZEB.

[17] Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings

Plans for schools	SEAPs do not usually report too specific indications on public buildings but only general indications. Regional plans dictate guidelines on public buildings and on transformation or new construction in nZEB

Comments

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3.5.2.2. Local and regional legislation

Local / Regional Regulation	**Contents**
Law on energy, energy efficiency, energy requirements	The regional laws give indications on all the energetic aspects and the minimum requisites to be respected. These indications may be the same or more restrictive than national laws. Not all Italian regions decide to make regional laws, in this case they respect the national legislation.

Comments

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3.5.2.3. Local and regional policy measures to stimulate energy renovation of buildings

Local / Regional Policy Measures	**Contents**
POR-FESR	Plans that support both the public and private sectors in order to improve the energy efficiency

Comments

Many Italian regions publish regional calls (usually called POR-FESR - plans for regional development) with which they support both the public and private sectors in order to improve the efficiency of various buildings (condominiums, public buildings, school buildings and public administration offices).). The calls make a budget available and the different proposals are evaluated and each one is assigned a score. A ranking of the best projects is created and these are financed until all the economic resources are exhausted.

3.5.3. IDENTIFICATION OF NATIONAL AND REGIONAL BARRIERS FOR ENERGY RENOVATION OF BUILDINGS TO nZEB STANDARD

3.5.3.1. Barriers at national level

Barrier at national level	**Description**
Technical staff	Municipalities or regions often have no technical staff available to participate in national or regional calls for energy efficiency.
Economic resources	Some calls provide for an advance of funds for efficiency projects and small

	municipalities, often cannot anticipate economic resources

Comments

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3.5.3.2. Barriers at regional / local level

Barrier at regional/local level	**Description**
Technical staff	Municipalities or regions often have no technical staff available to participate in national or regional calls for energy efficiency.
Economic resources	Some calls provide for an advance of funds for efficiency projects and small municipalities, often cannot anticipate economic resources

Comments

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3.5.4. CONCLUSIONS

In Italy the transformation of buildings into nZEB is well treated by the legislation. There are defined characteristics and requirements to be reached, but in many cases, it is not possible to find the economic resources to implement the deep renovation, in fact without contributions or incentive mechanisms the payback period is too long. Another problem arises from the fact that small municipalities have difficulty in having available technical staff who can follow the design or participation in tenders.

3.6. POLAND

3.6.1. EU DIRECTIVES ON ENERGY EFFICIENCY AND THEIR ADOPTION IN PARTICIPATING REGIONS

3.6.1.1. Energy Efficiency Directive[18]

Provisions of EU directive	National documents and provisions	Regional/ local documents and provisions
Article 3: National energy efficiency targets	The Act of 20 May 2016 on energy efficiency, Article 4 http://dziennikustaw.gov.pl/du/2016/831 The latest national energy efficiency targets are set in the 4th National Energy Efficiency Acton Plan (NEEAP), available here: http://www.me.gov.pl/Energetyka/Efektywnosc+energetyczna/KPDEE	Not applicable
Article 4: Long-term strategy for building renovation	The Act of 20 May 2016 on energy efficiency, Article 4 http://dziennikustaw.gov.pl/du/2016/831 The strategy is a part of the NEEAP – Annex 3.	Not applicable
Article 5: Exemplary role of public bodies' buildings	The Act of 20 May 2016 on energy efficiency, Articles 6-9 http://dziennikustaw.gov.pl/du/2016/831	Not applicable
Article 6: Purchasing by public bodies	The Act of 20 May 2016 on energy efficiency, Article 8 http://dziennikustaw.gov.pl/du/2016/831	Not applicable
Article 7: Energy efficiency obligation schemes	The Act of 20 May 2016 on energy efficiency, Articles 10-18 http://dziennikustaw.gov.pl/du/2016/831	Not applicable
Article 8: Energy audits and energy management systems	The Act of 20 May 2016 on energy efficiency, Articles 15, 36-38 http://dziennikustaw.gov.pl/du/2016/831	Not applicable
Articles 9-11: Metering; billing information; cost of access to metering and	In general, provisions regarding metering and billing are regulated by the Energy Law Act of 10 April 1997 (as amended), Article 5, point 6c and Articles 9-11 of the EED have not been adopted http://prawo.sejm.gov.pl/isap.nsf/download.xsp/WDU19970540348/U/D19970348Lj.pdf	Not applicable

[18] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

billing information		
Article 14: Promotion of efficiency in heating and cooling	Energy Law Act of 10 April 1997 (as amended), Articles 10a-10c http://prawo.sejm.gov.pl/isap.nsf/download.xsp/WDU19970540348/U/D19970348Lj.pdf The comprehensive assessment of the potential for the application of high-efficiency cogeneration and efficient district heating and cooling has been done and the report in available here: https://ec.europa.eu/energy/sites/ener/files/documents/Kompleksowa%20ocena%20PL_ME.pdf	Not applicable
Article 15: Energy transformation, transmission and distribution	Energy Law Act of 10 April 1997 (as amended), Article 9c and other http://prawo.sejm.gov.pl/isap.nsf/download.xsp/WDU19970540348/U/D19970348Lj.pdf	Not applicable

Comments

According to the Polish Ministry of Energy[19], the Act of 20 May 2016 on energy efficiency ensures full implementation of the provisions of Directive 2012/27/EU on energy efficiency. The provisions of the Act came into force on 1 October 2016. The other act relevant for the EED is the Energy Law Act of 10 April 1997 (as amended), which regulates the power sector in Poland. There are no regional specifities.

3.6.1.2. Energy Performance of Buildings Directive[20]

Provisions of EU directive	National documents and provisions	Regional/local documents and provisions
Article 3: Methodology for calculating the energy performance of buildings	Regulation of the Minister of Infrastructure and Development of 27 February 2015 on methodology for determining the energy performance of a building [PL: Rozporządzenie Ministra Infrastruktury i Rozwoju z dnia 27 lutego 2015 r. w sprawie metodologii wyznaczania charakterystyki energetycznej budynku lub części budynku oraz świadectw charakterystyki energetycznej (Dz.U. 2015 poz. 376)] http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20150000376	Not applicable
Article 4-8: minimum energy performance	Decree of the Minister of Infrastructure and Development of 17 July 2015 on the publication of a uniform text of the Regulation of the Minister of Infrastructure on the technical conditions to be met by	Not applicable

[19] http://www.me.gov.pl/Energetyka/Efektywnosc+energetyczna

[20] Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings

requirements	buildings and their location – par. 328, 229 and Annex 2. http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20150001422	
Article 9: Nearly zero-energy buildings	Act of 29 August 2014 on the energy performance of buildings, Articles 39-40 http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20140001200 The national plan has been developed and is available here: http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WMP20150000614	Not applicable
Article 10: Financial incentives	Though there are several types of incentives in place, no direct evidence confirming the transposition into legal order in Poland was found.	Not applicable
Article 11-13: Energy performance certificates	Act of 29 August 2014 on the energy performance of buildings http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20140001200	Not applicable
Article 14-16: Inspection of heating and air-conditioning systems	Act of 29 August 2014 on the energy performance of buildings, Articles 23-30 http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20140001200	Not applicable
Articles 17: Independent experts	Act of 29 August 2014 on the energy performance of buildings, Articles 18-22 http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20140001200	Not applicable
Article 18: Independent controls	Act of 29 August 2014 on the energy performance of buildings, Article 36 http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20140001200	Not applicable

Comments

The implementation of Directive 2010/31/EU started in 2011. Revised energy performance requirements for buildings came into force in the beginning of 2014 and the revised methodology for the energy assessment of buildings and building parts, as well as new templates for energy certificates became obligatory on 3 October 2014.

The new Act on the Energy Performance of Buildings has been in force since 9 March 2015. This act addresses the implementation of all issues arising from the EPBD, i.e., principles for issuing an Energy Performance Certificate (EPC, for buildings and building parts), principles for inspection of heating and Air- Conditioning (AC) systems, rules for maintaining the obligatory central register of EPCs and also guidelines for drawing up a national plan for increasing the number of Nearly Zero- Energy Buildings (NZEBs). Its aim is, among others, to contribute to the promotion of energy- efficient buildings and increasing public awareness regarding the opportunities for energy savings in buildings.

The transposition and implementation of the EPBD into national law is supervised by the Polish Ministry of Infrastructure and Development (former Ministry of Transport, Construction and Maritime Economy).

There are no regional specifities.

3.6.2. STATE OF ART OF LOCAL AND REGIONAL POLICIES

3.6.2.1. Sustainable Energy Action Plans and other planning documents

Local / Regional Plans	Contents
Does your municipality/region have SEAP or other plans that include energy efficiency targets and policies?	The City of Warsaw developed its first SEAP in 2011 and then updated it in 2015. The overall target is to reduce CO_2 emissions by 20% to 10,362,387 Mg CO_2 in 2020, to reduce energy consumption by 20% to the level of 22,715,545 MWh in 2020, and to increase the share of the final energy consumption from RES to the level of 3,819,970 MWh in 2020. The plan includes, in particular, a list of activities undertaken in the following areas: • construction, including new and exhaustively retrofitted buildings, • city infrastructure, i.e. heat distribution networks, street lighting systems, etc. • land management and urban planning, • renewable energy sources, • transportation policy, • civil, in the area of the involvement of residents, • the behaviour change of residents, consumers and enterprises in the field of energy consumption. SEAP can be accessed here: https://infrastruktura.um.warszawa.pl/sites/infrastruktura.um.warszawa.pl/files/dokumenty/plangospodarkiniskoemisyjnej.pdf SEAP is followed by the Investment Plan, which can be accessed here: https://infrastruktura.um.warszawa.pl/sites/infrastruktura.um.warszawa.pl/files/dokumenty/program_inwestycyjny_-_zalacznik_do_zarzadzenia.pdf Annex 1 – Tasks of the City of Warsaw http://infrastruktura.um.warszawa.pl/sites/infrastruktura.um.warszawa.pl/files/dokumenty/zal_1_do_programu_inwestycyjnego_0.pdf Annex 2 – Tasks of the external entities: http://infrastruktura.um.warszawa.pl/sites/infrastruktura.um.warszawa.pl/files/dokumenty/zal_2_do_programu_inwestycyjnego_0.pdf
Plans for public buildings	SEAP includes activities to be undertaken in the building sector, also in public buildings. This covers construction of new buildings and (deep) renovation of existing ones.
Plans for schools	The Investment Plan covers a list of schools of all types (kindergartens, primary schools, junior high schools, high schools) to be modernized. No nZEB-related indicator is mentioned.

Comments

The National Fund for Environmental Protection and Water Management (NFOŚiGW), which is the main institution implementing EU Cohesion Funds in the field of environmental protection and energy efficiency, undertook in 2013 an initiative to develop SEAPs by all local government units that would like to receive co-financing. As a result, 873 municipalities (out of 2478, which gives a share of 35%) received a grant of 85% of eligible costs for the development of a SEAP. In the same time, many municipalities decided to develop SEAP on their own resources. The preparation of plans by the municipalities was a basis for receiving a grant form Cohesion Funds in the period 2014-2020 for projects related to the energy efficiency and improvement of the air quality.

3.6.2.2. Local and regional legislation

Local / Regional Regulation	Contents
Energy Policy by 2020 of the City of Warsaw **(Resolution No. LXIX/2063/2006 of the Council of the Capital City of Warsaw of 27 February 2006)**	The document specifies that the city should monitor the rationality of the energy consumption in buildings which are owned or managed by the city. The city hall should also monitor whether energy audits of public buildings are performed by city districts. http://infrastruktura.um.warszawa.pl/sites/infrastruktura.um.warszawa.pl/files/dokumenty/polityka_energetyczna_wawydo2020_0.pdf

Comments

The document specifies general direction in the energy management at a level of a city, but no specific action is planned. More detailed action plan is provided in SEAP.

3.6.2.3. Local and regional policy measures to stimulate energy renovation of buildings

Local / Regional Policy Measures	Contents
2014-2020 Regional Operational Programme of Mazowieckie Voivodeship	The programme consists of 11 priority axes. Priority Axis IV is dedicated to the low-emission economy. One out of five investment priorities (PI) provides support for increasing energy efficiency in public buildings (PI 4c. Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector).
Programme "Reduction of pollutant emissions into the air, reduction of heat consumption and use of renewable energy sources" implemented by the Regional Fund for Environmental Protection and Water Management in Warsaw	The programme provides loans (up to 100% of eligible costs) for activities related to the thermal modernization of buildings and/or installation of RES. Territorial Self-Government Units can apply for remission of up to 25% of a loan.
Programme "Removal and disposal of asbestos-containing products from the Mazowieckie Voivodeship" implemented by the Regional Fund for Environmental	The programme provides loans (up to 100% of eligible costs) and grants (up to 80% of eligible costs) for following activities: dismantling, collecting, loading, preparing for transportation, transportation, as well as the transfer to a utilization plant of waste containing asbestos. Expenditure such as making new roofing is not eligible. Territorial Self-Government Units can apply for

Protection and Water Management in Warsaw	remission of up to 30% of a loan.

Comments

Public bodies can apply for funds from the abovementioned sources, although none of the measures is dedicated specifically to nZEB. What is more, regulations which specify technical requirements that should be met to make expenditures eligible, do not provide any nZEB-related parameters. Usually it is required to reach a specific minimum target regarding energy savings, e.g. 40% decrease of energy consumption.

3.6.3. IDENTIFICATION OF NATIONAL AND REGIONAL BARRIERS FOR ENERGY RENOVATION OF BUILDINGS TO nZEB STANDARD

3.6.3.1. Barriers at national level

Barrier at national level	Description
Lack of clear and measurable targets concerning the number of nZEBs	"The National Plan for Increasing the Number of Nearly Zero-Energy Buildings"[21] does not set clear targets concerning the number or area of public buildings that should be transformed into nZEB, neither at national nor local/regional level. The plan mainly indicates which legal acts should be updated to adapt the EPBD.
Lack of binding nZEB definition in Polish legislation	"The National Plan for Increasing the Number of Nearly Zero-Energy Buildings" provides only a recommendation of a nZEB definition, but it is not adopted by any legal act. The proposed definition states that nZEB is a building which meets requirements related to primary energy consumption (EP indicator) and thermal insulation parameters, which are specified in the Regulation of the Minister of Infrastructure on the technical conditions to be met by buildings and their location.
Lack of nZEB-related requirements in national and regional funds for energy efficiency	Regulations concerning funds and grants do not contain any requirements related to nZEB standard. Usually it is required to achieve a specific minimum target related to the energy savings, e.g. at least 40% reduction of energy consumption, which is verified by the energy audit.

Comments

The main barrier is that there are no binding targets for nZEB as well as nZEB standards are not required by any institution providing grants. The only regulation which could be assessed as a driving force for nZEB development in Poland is a set of minimum technical requirements for new buildings, defined in the Decree of the Minister of Infrastructure and Development of 17 July 2015 on the publication of a uniform text of the Regulation of the Minister of Infrastructure on the technical conditions to be met by buildings and their location in par. 328, 229 and Annex 222, which is a basis for the (not binding) definition of nZEB. Construction of new buildings is, however, insufficient activity in terms of transformation of Polish building resources into nZEB.

[21] Resolution No. 91 of the Council of Ministers of 22 June 2015 regarding the adoption of the "National plan to increase the number of buildings with low energy consumption" (M.P. 2015 item 614), http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WMP20150000614

[22] http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20150001422

3.6.3.2. Barriers at regional / local level

Barrier at regional/local level	Description
Low awareness on energy efficiency and nZEB standards	Preparation of a new tender procedure by a city hall staff, and in particular a technical specification of the work to be done, is usually based on previous (already finished) procedures, so it rarely happens to find innovative or unusual solutions in a tender documentation. This applies also to modernization of existing buildings.
Limited funds	Public bodies can apply for funds from various EU, national and regional sources (see section 2.3), although they are limited, compared to the modernization potential and needs for buildings of a high energy standard.

Comments

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3.6.4. CONCLUSIONS

There is no strong direction, neither on national nor regional/ local level, to transform existing buildings into nZEB. If an existing building is modernised to nZEB standard, it is rather a bottom-up initiative which results from a high awareness of local stakeholders than a formal requirement empowered legally. A better situation is observed in case of new buildings, as they are obliged to meet minimum technical requirements regarding primary energy demand and heat transfer coefficients. These minimum technical requirements consist a basis for nZEB definition (which is although not binding yet). Limited financial resources are thus not the main problem, although it could be assumed that in case of increased interest in such kind of projects, they could be the main barrier for a large-scale nZEB deployment. The situation could be improved if the institutions providing financing instruments include nZEB related requirements to their regulations.

3.7. SLOVENIA

3.7.1. EU DIRECTIVES ON ENERGY EFFICIENCY AND THEIR ADOPTION IN PARTICIPATING REGIONS

3.7.1.1. Energy Efficiency Directive[23]

Provisions of EU directive	National documents and provisions	Regional/local documents and provisions
Article 3: National energy efficiency targets	• The Energy Act - EZ-1 (Official Gazette of RS, Nos. 17/14 and 81/15), • National Action plan for energy efficiency (NEEAP 2014 - 2020).	Not applicable
Article 4: Long-term strategy for building renovation	• Energy Act (EZ-1), • Long-Term Strategy for Mobilising Investments in the Energy renovation of Buildings	Not applicable
Article 5: Exemplary role of public bodies' buildings	• Energy Act (EZ-1) • Records of buildings owned and used by the public sector, at 1st of January 2017 (http://www.energetika-portal.si)	Not applicable
Article 6: Purchasing by public bodies	• Decree on Green Public Procurement (Official Gazette of RS, no. 51/17)	Not applicable
Article 7: Energy efficiency obligation schemes	• Energy Act (EZ-1), • Regulation on the provision of energy savings (Official Gazette of RS, no. 96/14)	Not applicable
Article 8: Energy audits and energy management systems	• Energy Act (EZ-1), • Rules on the methodology for the production and content of the energy audit (Official Gazette of RS, no. 41/16). • Regulation on energy management in the public sector (Official Gazette of RS, no. 52/16)	Not applicable
Articles 9-11: Metering; billing information; cost of access to metering and billing information	• Energy Act (EZ-1),	Not applicable
Article 14: Promotion of efficiency in heating and cooling	• Energy Act (EZ-1),	Not applicable

[23] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

Article 15: Energy transformation, transmission and distribution	• Energy Act (EZ-1), • Regulation on energy infrastructure (Official Gazette of RS, no. 22/16),	Not applicable

Comments

The EED is transposed at national level through the Energy Act of Slovenia (EZ-1). The act is the base document for several energy regulations and strategies that are including the provisions of the EED. There are no specific documents at local or regional level that would transpose or include the provisions of the Directive.

3.7.1.2. Energy Performance of Buildings Directive[24]

Provisions of EU directive	**National documents and provisions**	**Regional/local documents and provisions**
Article 3: Methodology for calculating the energy performance of buildings	• The Energy Act - EZ-1 (Official Gazette of RS, Nos. 17/14 and 81/15), • Regulations on energy efficiency in buildings (Official Gazette of RS, Nos. 52/10 and 61/17 - GZ)	Not applicable
Article 4-8: minimum energy performance requirements	• Energy Act (EZ-1), • Regulations on energy efficiency in buildings (Official Gazette of RS, Nos. 52/10 and 61/17 - GZ)	Not applicable
Article 9: Nearly zero-energy buildings	• Energy Act (EZ-1), • National plan for increasing the number of nearly zero-energy buildings (AN sNES).	Not applicable
Article 10: Financial incentives	• Energy Act (EZ-1), • Rules on financial incentives for energy efficiency, district heating and renewable energy sources (Official Gazette of RS, Nos. 52/16 and 59/16 - corr.).	Not applicable
Article 11-13: Energy performance certificates	• Energy Act (EZ-1), • Rules on the methodology of making and issuing of energy performance certificates for buildings (Official Gazette of RS, no. 92/14).	Not applicable
Article 14-16: Inspection of heating and air-conditioning systems	• Energy Act (EZ-1), • Rules on periodic inspections of air conditioning systems (Official Gazette of RS, Nos. 26/08 and 17/14 - EZ-1).	Not applicable
Articles 17: Independent experts	• Energy Act (EZ-1), • Rules on training, licensing and	Not applicable

[24] Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings

	registry of licenses of independent experts to produce energy performance certificates (Official Gazette of RS, Nos. 6/10 , 23/13 and 17/14 - EZ-1), • Rules on training, licensing and registry of licenses of independent experts for the periodic inspection of air conditioning systems (Official Gazette of RS, no. 18/16). • Register of independent experts for the production of energy certificates (http://www.energetika-portal.si).	
Article 18: Independent controls	• Energy Act (EZ-1) • Rules on the methodology of making and issuing of energy performance certificates for buildings (Official Gazette of RS, no. 92/14), • Rules on periodic inspections of air conditioning systems (Official Gazette of RS, Nos. 26/08 and 17/14 - EZ-1), • REGISTER of reports on the inspection of air conditioning systems (an electronic register is currently being established). • REGISTER of issued energy performance certificates of buildings (http://www.energetika-portal.si).	Not applicable

Comments

The EPBD is transposed at national level through the Energy Act of Slovenia (EZ-1). The act is the base document for several regulations and energy strategies that are including the provisions of the EED. There are no specific documents at local or regional level that would transpose or include the provisions of the Directive.

3.7.2. STATE OF ART OF LOCAL AND REGIONAL POLICIES

3.7.2.1. Sustainable Energy Action Plans and other planning documents

Local / Regional Plans	Contents
Does your municipality/region have SEAP or other plans that include energy efficiency targets and policies?	On local level in Slovenia we have Local energy concepts and SEAPs. Local Energy Concepts are mandatory for all municipalities and SEAPs have been developed by municipalities that are involved in the Covenant of Mayors movement. Particularly in the Spodnje Podravje area, the municipalities have Local Energy Concepts.
Plans for public buildings	In the action plan of the Local Energy Concept a municipality develops measures and specific actions to reach the set targets. These actions and measures include also the renovation of public buildings. The actions usually include what measures are planned for a particular building, but does not include the technical specifications of materials or installations such as details of the insulation, type of windows, etc. The only requirement is that the renovation has to be implemented according to the provisions of the *Regulations on energy efficiency in buildings*.
Plans for schools	As above described, the Local Energy Concept includes energy renovations of public buildings and schools are here included.

Comments

Since Slovenia is a small country, the majority of policies is at national level. We have only few local policies. The main document on the local level is the Local Energy Concept.

3.7.2.2. Local and regional legislation

Local / Regional Regulation	Contents
Not applicable	Not applicable

Comments

All document that regulate the energy efficiency in buildings in Slovenia are at national level.

3.7.2.3. Local and regional policy measures to stimulate energy renovation of buildings

Local / Regional Policy Measures	Contents
Not applicable	Not applicable

Comments

All policy measures used to stimulate energy efficiency in public buildings are at national level.

3.7.3. IDENTIFICATION OF NATIONAL AND REGIONAL BARRIERS FOR ENERGY RENOVATION OF BUILDINGS TO nZEB STANDARD

3.7.3.1. Barriers at national level

Barrier at national level	Description
Lack of subsidies from national government	At the moment there are no subsidies or financial incentives for the construction of public buildings according to the nZEB standard
Lack of mandatory provisions for construction or renovation to nZEB standard	At the moment buildings are renovated according to the provisions of the Regulations on energy efficiency in buildings.

Comments

The construction or renovation of public buildings into nZEB standard is, at the moment, not mandatory. The Slovenian legislation in accordance with the EPBD, requires that:

- until 31 December 2020, all new buildings are near zero energy buildings,
- after December 31, 2018, all new buildings used by public authorities as owners, are near zero energy buildings.

3.7.3.2. Barriers at regional / local level

Barrier at national level	Description
Not applicable	Not applicable

Comments

Subsidies or financial incentives in Slovenia are at national level (the same situation as in the case of policies).

3.7.4. CONCLUSIONS

According to Slovenian legislation that follows the guidelines of the EPBD directive, all new public buildings after the 31.12.2018 have to be nZEB, that means that they have to be already planned and constructed according to the nZEB standard. In our region we don't have any experiences with planning or constructing of nZEB buildings at the moment.