

D.T4.4.1 POLICY RECOMMENDATION AND ACTION PLAN

Poland

Version 1
04 2020

Research work was co-financed from the funds for science in 2017-2020 allocated to the implementation of an international co-financed project.





Objective of the report

The main objective of this report is to summarize policy recommendations and a strategy in each partner country to pursue for a widespread and homogeneous application of energy efficiency measures in school buildings based on previous activities and bilateral meetings with policy makers to foster the policy implementation.

Target Users: *Local authorities, policy makers*



1. Current situation on energy efficiency in public buildings

1.1. National legislation and provisions for public buildings

According to the Polish Ministry of Energy¹, 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 deviations from the national legislation.

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 (former Ministry of Transport, Construction and Maritime Economy).

1.2. National Energy Action Plans and other planning documents

Poland's National Energy and Climate Plan for the years 2021-2030 (NECP PL) was submitted to the European Commission on December 30, 2019. The NECP PL has been developed in fulfilment of the obligation set out in Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action (...).

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 from Cohesion Funds in the period 2014-2020 for projects related to the energy efficiency and improvement of the air quality.

1.3. Local and regional legislation and provisions for public building

There are no regional deviations from the national legislation and provisions for public buildings in terms of legal requirements on the building characteristics. However, there are certain local and regional legislation and provisions that concern funding mechanisms for stimulating energy efficiency and nZEB. In particular, local and regional public bodies can apply for funds from the below-mentioned sources, although none of the measures is dedicated specifically to nZEB. What is more, regulations which specify technical

¹ <http://www.me.gov.pl/Energetyka/Efektywnosc+energetyczna>



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.

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

1.4. Local action plans for public buildings

The 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 2006²) 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. 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.

²http://infrastruktura.um.warszawa.pl/sites/infrastruktura.um.warszawa.pl/files/dokumenty/polityka_energetyczna_wawydo2020_0.pdf



2. National, local and regional measures to stimulate energy renovation of public buildings

2.1. Financing from regional/local budget

According to Warsaw Sustainable Energy Action Plan, the budgeted investment in reducing emissions in buildings (including application of energy-saving lighting technologies and renewables) is approx. 805 million euros between 2016 and 2020³. Majority of these investments are financed from the own funds of the Capital City of Warsaw. According to the Investment Programme of the Capital City of Warsaw for 2018-2025, 60.1% of all investment costs are financed from the own funds of the city. The overall value of own funds engaged in investment projects (not only in schools) between 2018 and 2025 is approx. 2.6 billion EUR⁴.

The overall budget for investments in schools in Warsaw in 2018 was 110.5 M EUR, including 92% of these costs incurred by the 18 districts of Warsaw⁵ and the remaining part from the main budget of the city⁶. However, it should be noted that there is no separate budget for EE projects in schools, as also new schools or reconstructions are financed from these funds, not only the EE projects.

2.2. Funding from ERDF

Funds from ERDF are available through Regional Operational Programmes. Energy efficiency projects in Mazowieckie Voivodeship are supported by Activity 4.2 Energy efficiency. More information on the ROP is available here: <http://www.funduszeuropejskie.gov.pl/nabory/42-efektywnosc-energetyczna-3/>.

2.3. National funding

There are several institutions providing funds for building energy efficiency projects, in particular:

- National Fund for Environmental Protection and Water Management - providing donations and credits with preferential interest rate. More information is available here: <http://nfoisgw.gov.pl/oferta-finansowania/srodki-krajowe/programy-priorytetowe/poprawa-jakosci-powietrza-energetyczne/czesc-6/>, <http://nfoisgw.gov.pl/oferta-finansowania/srodki-krajowe/programy-priorytetowe/budownictwo-energooszczedne/nabor-12019-czesc-1/>
- Regional Funds for Environmental Protection and Water Management - providing donations and credits with preferential interest rate. More information is available here: http://wfoisgw.pl/porgramy_i_konkursy/oa-1-ograniczenie-emisji-zanieczyszczen-do-powietrza-zmniejszenie-zuzycia-energii-cieplnej-oraz-wykorzystanie-odnawialnych-zrodel-energii/

³ Source: http://infrastruktura.um.warszawa.pl/sites/infrastruktura.um.warszawa.pl/files/dokumenty/program_inwestycyjny_-_zalacznik_do_zarzadzania_0.pdf. Reduction of emissions in buildings: 2 130 937 093,01 PLN, Reduction of emissions in buildings / application of energy-saving lighting technologies - 64 762 988 PLN, while Reduction of emissions in buildings / use of renewable energy sources: 1 263 929 112,00.

⁴ 11.183 billion PLN, 1 EUR = 4.3 PLN, source: http://www.um.warszawa.pl/sites/all/files/download_file.php?file=/sites/default/files/attach/aktualnosci/projekt_budzetu_m.st._warszawy_na_2018.pps

⁵ 436 564 708 PLN, 1 EUR = 4.3 PLN, source: https://bip.warszawa.pl/Menu_predmiotowe/budzet_polityka_finansowa_v2/budzet/2018/Budzet/Uchwala_Rady/Kompendium/default.htm

⁶ 38 753 928 PLN, 1 EUR = 4.3 PLN, source: https://bip.warszawa.pl/Menu_predmiotowe/budzet_polityka_finansowa_v2/budzet/2018/Budzet/Uchwala_Rady/Kompendium/default.htm



2.4. EPC

Legal acts and mechanisms have been introduced in Poland that ensure the implementation of tasks in the field of supporting the energy services market in accordance with art. 18 of Directive 2012/27/EU. In order to stimulate the market for companies providing energy services, several provisions were introduced in the Act of 20 May 2016 on energy efficiency. However, obligations resulting from the implementation of EPC have been falling fully into the debt of local government units, so they have not been a viable, attractive alternative to EU or national grants. In September 2017, Polish Statistical Office published a translation of the Eurostat Guidance Note on “The recording of energy performance contracts in government accounts”⁷. However, no transposition of the Eurostat Guidance Note into relevant national legislation or guidance for public bodies has been observed yet.

Still, various types of activities are also carried out for the dissemination of energy performance contracts. As part of promotional activities, the Ministry of Energy has developed and made available on its website a guide for the public sector regarding the financing of energy efficiency, which includes a model energy efficiency contract (EPC)⁸. The list of ESCO type companies operating on the Polish market is also available on the website of the Ministry of Energy⁹.

2.5. Loans

Loans and credits with preferential interest rates for buildings energy efficiency improvement projects are available from the following institutions:

- Bank Gospodarstwa Krajowego - providing Thermal Modernization and Repair Fund in a form of donation. More info: <https://www.bgk.pl/samorzady/fundusze-i-programy/fundusz-termomodernizacji-i-remontow/>
- Bank for Environmental Protection (Bank Ochrony Środowiska) - providing loans and credits with preferential interest rates. More info: <https://www.bosbank.pl/wspolnoty-i-ngo/kredyty-dla-wspolnot/kredyt-inwestycyjny>

2.6. PPP financing

Between 2009 and 2016 in Poland there have been 18 signed PPP contracts for projects in the field of energy efficiency improvement of public buildings - with a total value of investment outlays of approx. 74 million euros. The value of investment was between 0.36 million euro (Parysów Commune) to 16 million euro (Gmina Wiązowna). All projects are implemented by local authorities. The duration of PPP projects is between 8 and 15 years¹⁰. At the end of 2017, 31 new PPP projects were being prepared in this area, with the total value of approx. 110 million euro. Their planned duration is between 7 and 23 years. Public authorities can get support for development of a PPP procedure from PARP. More info: <https://www.ppp.gov.pl/doradztwo-nabor-ppp-1/>.

2.7. Other measures

No other measures are available in Poland.

⁷ https://www.ppp.gov.pl/Aktualnosci/Documents/PL_Eurostat_Guidance_Note_EPCs_2017.pdf

⁸ http://www.me.gov.pl/files/upload/10722/Podrecznik-Sektor_publiczny_OSTATECZNY.pdf

⁹ <http://www.me.gov.pl/Energetyka/Efektywnosc+energetyczna/List+dostepnych+dostawcow+uslug+energetycznych>

¹⁰ Polish Ministry of Development, 2017

https://ec.europa.eu/energy/sites/ener/files/documents/012_1.2_michal_piowarczyk_seif_warsaw_30-11-17.pdf



3. Pilot projects findings

During pilot action activities energy audits in 8 schools in Warsaw were performed. Discussions with school managers on energy efficiency topic were held and the energy efficiency measures leading to nZEB standard were proposed and explained. The results of the energy audits were presented to school managers and respective local authorities. To stimulate behavioural change leading to energy efficiency, open lessons with pupils and school staff were organized.

Based on experience gathered during the Pilot activities implementation, it can generally be concluded that there is a strong need for the nZEB renovation in public buildings. Buildings managers struggle with many problems related to inefficient energy use, which decrease thermal comfort of building users and result in relatively high energy costs. The most common technical problem related to the building energy profile are leaky windows, lack of thermostatic valves at heat radiators resulting in incapability to regulate the internal temperature, inefficient lighting system, lack of control systems for heating, electricity and lighting.

Energy-saving measures leading to the nZEB standard include insulation of external partitions - walls, roof and windows, supported by modernization of building systems for heating and lighting and installation of control system automation. An important measure is installation of mechanical ventilation system with heat recovery, which is a major modernisation since majority of buildings is ventilated naturally.

School management, staff and students are not enough motivated to save energy, and usually no motivation programmes are developed nor by the school's owners (region/city/municipality) neither by school's management team. Furthermore, the level of technical knowledge on energy efficiency issues of the school staff and local authority's administration officers is generally low and not sufficient for the energy efficiency projects settings.

4. Barriers and opportunities

During the FEEDSCHOOLS activities performed in Poland there were identified the following barriers obstructing more extensive growth of number of energy efficiency projects in schools.

4.1. Financial barriers

Barrier	Description	Opportunity
Limited funds for implementation of comprehensive projects in schools	Mostly small projects are implemented, and as a result it happens that application of one measure destroys results of the previous one, e.g. replacement of windows partially destroys the façade, which was renovated during the thermal insulation of walls.	Development of a long-term renovation plans, including all necessary activities. Targeting financing mechanism allowing for comprehensive projects.
Lack of motivation of schools for energy savings	There are no incentives for schools, as savings generated by	Development of an incentive system for schools.



	a given school do not come back to it, even partially.	
Limited budget for own contribution for EE project co-funded from external sources	Majority of grants available for EE projects is granted as co-financing, which means that the building owner need to cover its own share of the investment. Even if the co-financing rate reaches 85%, the amount needed for the investment is often too high to apply for the grant.	Other financing mechanisms than grants are available (e.g. ESCO, PPP). Some of them does not require own share, or it is very limited.
Lack of financial support for the preparation phase of the EE project	Conducting an energy audit or development a modernisation plan needs to be financed from own sources. These documents are required in an application process for e.g. grants from external sources, and cannot be re-financed.	Special programme supporting local authorities in the preparation phase should be developed.
There is no long-term, stable, well known and transparent programme for co-financing EE projects	Programmes supporting EE investments are implemented by various institutions, are rather short-term, and changes in terms of regulations.	Development of a long-term supporting programme managed on the governmental level.
Limited offer of ESCO and PPP financing	ESCO and PPP are not popular in Poland - there is limited number of companies providing such an offer, and also a few public organisations is ready to use such financial mechanism.	Legal changes facilitating implementation of ESCO and PPP financing.

4.2. Legislative barriers

Barrier	Description	Opportunity
Lower priority for energy efficiency investments than for other types of modernizations	Due to limited financial resources, investments related to fire protection and sanitary conditions get higher priority. As there are no legal obligations related to energy efficiency, these modernizations are performed only if there are budget reserves.	Development of a special fund dedicated only to energy efficiency improvements. Looking for external funding for energy efficiency projects.



Legislative changes in the field of education	Legislative changes cause that the funds previously intended for energy efficiency in schools are used for adjustments to the new legal requirements.	Development of a special fund dedicated only energy efficiency. Looking for external funding for energy efficiency projects.
No legal requirement or obligation for public bodies at regional and local level to develop and implement a strategic document for renovation of their building stock	The EPBD Directive requires that member states renovate each year public buildings. This requirement is however not transposed to lower level, e.g. on municipalities. Cities develop Sustainable energy action plans, but it is a voluntary initiative and there is no obligation scheme that would force certain actions.	More financial support for strategic documents development. Lobbying for legislation change

4.3. Technical barriers

Barrier	Description	Opportunity
Outdated and incomplete documentation of buildings.	This increases investment cost and time, as well as makes it difficult to plan the investment in advance.	Updating existing documentation.
Low quality of the executed modernisations	Due to the low quality of supervision ensured by the District Office staff.	Employment of high-level specialists for supervision of modernizations. Outsourcing the supervision of the modernizations to external companies.
Lack of the up-to-date diagnosis of the energy efficiency status of buildings (energy audits)	There is limited knowledge about problems of each building in terms of energy performance.	Performing energy audits of all school buildings.
Low recognition of nZEB standards	The nZEB standard is still not popular in Poland, thus investors do not require such standard from experts responsible for investment preparation and implementation.	nZEB project renovation schemes and methodologies, supporting the development of the nZEB projects
Insufficient space in existing buildings for new installations	No all modern installations could be installed in existing buildings. E.g., mechanical ventilation	Barriers related to construction of buildings are difficult to



	requires adding pipes and fittings, usually just under the ceiling. In rooms of lower height, it is not always possible, considering other legal requirements.	overcome. Focus should be put in such buildings on other areas.
Partly renovated buildings in recent period	Since 2004, many public buildings have been partially modernised, e.g. windows have been replaced or walls insulated. Since these were not deep renovations, there is still room for further improvements.	Another modernisation should be planned in the future.
Energy metering is available on the building level, no detailed information about consumption in specific part of a building is available.	Secondary metering is missing in most old buildings. Energy management and proper energy consumption analyses are very scarce.	Implementation of energy consumption monitoring not only at a municipality level, but also building one.

4.4. Communication and organizational barriers

Barrier	Description	Opportunity
Schools have no legal personality	Lack of legal personality causes that it is the Education Department of the District Office which decides whether to implement any investment or to join a project.	Closer collaboration between schools and district offices.
Limited capacities in municipalities to implement/supervise implementation of EE investment project	Low level of competences in the scope of energy efficiency of the District Offices' employees. Poor quality investments are sometimes performed due to lack of proper supervision of the contractor. School staff have no power to supervise an investment. High-level specialists experienced in modernisation projects are not interested in working in public institutions due to salary rates lower than in the business sector.	Supervision of investments can be outsourced to external companies.



Complicated procedure to get permission to get loan financing	Getting loan financing is regulated and it is needed permissions on multiple levels.	Looking for other than loan financing mechanisms (e.g. ESCO, PPP). Accurate scheduling of loan financing.
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4.5. Information and knowledge barriers

Barrier	Description	Opportunity
Difficulties in analysis of energy invoices.	Energy invoices are complicated and hard to be understood by non-experts.	Training on “reading” energy invoices for administrative staff of schools.
Lack of knowledge of the funding programs.	Administrative staff of schools is not aware of the funding programmes allowing for improvement of energy efficiency of buildings.	Providing administrative staff with information on financing opportunities on regular basis (e.g. quarterly, semi-annual).
Lack of time for energy efficiency issues of the school staff	Other issues related to daily-basis buildings operation are priority for school managers.	Energy efficiency, RES and all related issues of climate protection should become one of important issues in curriculum of schools.
Lack of knowledge that many technical problems in buildings could be solved as a part of EE renovation.	Many technical problems in buildings, such as leaky windows or roof, over- or underheated rooms could be solved by thermal modernisation of a building.	Providing administrative staff with information on modernisation opportunities.

5. Policy recommendations and action plan

Barriers identified in the previous section are of twofold nature. The first group is related to internal obstacles, that could be solved by activities performed at a local level, by municipality administration. For these barriers, we propose an action plan to be implemented by FEEDSCHOOLS project partners. The other group is consisted of systemic problems, caused by external circumstances. Since FEEDSCHOOLS partner have no power to initiate such changes, we provide policy recommendations addressed to governmental administration.

5.1. Action plan

Type of barrier	Action	Responsible body
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Financial	Development of a long-term renovation plans, that would include all necessary improvements, allowing for reaching the nZEB standard. The plan should also consider different financing mechanisms, in particular these allowing for implementation of comprehensive projects.	City of Warsaw
Financial	Development of an incentive system for schools, so that they are motivated for saving energy. It could be, for example, based on gamification mechanisms, and motivate school staff and students for saving energy in a form of a competition. Another option is to propose a financial incentive, so that schools could benefit from their efforts.	City of Warsaw
Financial	For EE project, other financing mechanisms than grants should be considered (e.g. ESCO, PPP). Their advantage is that they do not require own share, or it is very limited.	City of Warsaw
Legislative	EE projects often need to “compete” with other investments in public building, in schools in particular. It is then needed to develop a special fund dedicated only to energy efficiency improvements. It can be feed or supported from external funding for energy efficiency projects.	City of Warsaw
Technical	Outdated and incomplete documentation of buildings, which are typical for older buildings, need to be updated.	City of Warsaw
Technical	Building modernization should be supervised by high-level specialists, to ensure the proper quality of the work. If it is not possible to directly employ such experts, it is possible to outsource the supervision of the modernizations to external companies.	City of Warsaw
Technical	All school buildings, and if possible, also other public buildings, should be audited so that there is known which of them need modernisation, and to what extent.	City of Warsaw
Technical	Many public buildings have been partially modernised recently, e.g. windows have been replaced or walls insulated. Since these were not deep renovations, there is still room for further improvements, especially if we consider the nZEB standard. Public authorities should keep in mind that modernisation of such buildings will be necessary in the future.	City of Warsaw
Technical	Implementation of energy consumption monitoring should be done not only at a municipality level, but also building one. All public buildings should be	City of Warsaw



	covered by the energy monitoring system, allowing for management of individual building.	
Communication and organizational barriers	Closer collaboration between schools and district offices to overcome the problem of lack legal personality of schools.	City of Warsaw
Communication and organizational barriers	To overcome problems with existing popular financing methods, such as own sources and loan financing, also alternative financing mechanisms (e.g. ESCO, PPP) should be considered.	City of Warsaw
Information and knowledge	Organisation of a training on “reading” energy invoices for administrative staff of schools and/or staff from the city hall office responsible for the energy management.	City of Warsaw
Information and knowledge	Providing administrative staff with information on financing opportunities on regular basis (e.g. quarterly, semi-annual), so that use of external financing sources is maximised.	City of Warsaw
Information and knowledge	Energy efficiency, use of energy from renewable sources and related issues of climate protection should become one of important issues in curriculum of schools.	City of Warsaw
Information and knowledge	Administrative staff of schools should be provided with information on modernisation measures and what problems they solve, not directly related with energy efficiency (e.g. leaky roof could be improved as an energy efficiency measure).	City of Warsaw
Legislative	Strategic documents set directions that institutions follow and systemise their work and effort. They also help to organise work of an institution and show clear vision. Thus, it is highly effective if the management of clue areas is supported with strategic documents, such as strategies, action plans or roadmaps. More financial support for strategic documents development should be reserved in the city’s budget.	City of Warsaw

5.2. Policy recommendations

Type of barrier	Action	Responsible body
Financial	Preparation phase of the EE project is often costly and thus is the first obstacle preventing from even starting the project. Special programme supporting local authorities in the preparation phase of EE projects (i.e. conducting energy audit and	Ministry of State Assets



	development of a modernization plan) should be developed.	
Financial	Development of a long-term programme supporting EE projects, managed on the governmental level.	Ministry of State Assets
Financial	Legal changes facilitating implementation of ESCO and PPP financing.	Ministry of State Assets, Ministry of Finance, Funds and Regional Policy
Legislative	Strategic documents set directions that institutions follow and systemise their work and effort. They also help to organise work of an institution and show clear vision. Thus, it is highly effective if the management of clue areas is supported with strategic documents, such as strategies, action plans or roadmaps. Special fund for the development of strategic documents in the field of energy should be set.	Ministry of State Assets
Technical	The nZEB standard is still not popular in Poland, thus investors do not require such standard from experts responsible for investment preparation and implementation. Even among energy efficiency experts it is not popular to propose such standard. To ease the process, bot for investors and EE experts, nZEB project renovation schemes and methodologies, supporting the development of the nZEB projects, should be developed and made available for general public.	Ministry of State Assets
Communication and organizational	Support for local authorities in terms of using ESCO and PPP financing mechanisms should be provided. These are interesting and competitive mechanisms yet not popular due to lack of experience in this area.	Ministry of State Assets, Ministry of Finance, Funds and Regional Policy