

Collection of existing financing mechanisms - case: Poland

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TABLE OF CONTENTS

| | |
|--|---|
| 1. INTRODUCTION | 2 |
| 2. ANALYSIS OF FINANCING MODELS FOR EE PROJECTS IN THE PUBLIC SECTOR | 2 |
| 2.1. OWN FUNDING | 2 |
| 2.2. LOAN FINANCING | 3 |
| 2.3. ESCO MODEL | 3 |
| 2.4. PPP MODEL | 5 |
| 2.5. GRANT SCHEMES | 6 |
| 2.6. COMBINATION OF DIFFERENT FINANCING MODELS | 7 |
| 2.7. COMPARATIVE ANALYSIS OF FINANCING MODELS | 7 |
| 3. EXISTING FINANCING MECHANISMS IN POLAND | 9 |
| 3.1. SUMMARY OF AVAILABLE FINANCING MECHANISMS | 9 |
| 3.2. DETAILED FEEDBACK ON FINANCING MECHANISMS | 9 |



1. INTRODUCTION

As any activity, energy renovation has its related costs, which vary according to the depth of the refurbishment, i.e. number and complexity of implemented energy efficiency (EE) measures. Therefore, any decision on energy renovation of a building must carefully evaluate these costs and ensure financing, in order to reap the benefits after the implementation.

The aim of this document is to present the possibilities for financing EE projects in the public sector and more specifically in schools. For that purpose, the most common financing models will be briefly presented in chapter 2, while in chapter 3, available financing models in a particular country will be presented and, based on the Project partners' feedback, a comparative analysis of availability, current usage and planned usage of different financing models will be provided.

2. ANALYSIS OF FINANCING MODELS FOR EE PROJECTS IN THE PUBLIC SECTOR

In this chapter, a very brief general (not country related) overview of possible financing models for EE in public buildings is given. The chapter ends with comparative analysis of models according to the following criteria: legal aspects, statistical treatment on public debt, complexity of implementation and other identified influencing factors. Pros. and cons. of each model are clearly marked.

2.1. Own funding

Traditional financing of projects in cities and municipalities relies dominantly on the use of own budget. One of the financing challenges facing municipalities, more often for smaller municipalities rather than larger ones is the insufficient revenue base with which to fund projects (not only EE projects, but also other development projects as well). An insufficient revenue base, which may be the result of a small number of tax-paying commercial businesses and/or high-income residents, can reduce the availability of adequate funds for capital investments. Municipalities depending on revenue transfers from regional or national governments often have limited revenue-raising powers. Such limitations imply that any decision to invest in an EE project either requires the municipality to reallocate funds or convince higher levels of government that the EE project is economically viable. This may often not be a simple task. Reliance on transfers from other levels of government also exposes municipalities to the risk that permitted levels and uses of funds may be affected by



changes in national budgetary or political priorities. This introduces further uncertainties and makes commitment to multi-year programs of capital expenditures more difficult.¹

2.2. Loan financing

When it comes to loans, i.e. borrowing, national governments often impose limits on borrowing by municipalities to prevent them getting into financial difficulties. These restrictions may take the form of limits on the use of loan funds and/or on the total amount that municipalities may borrow. In both cases, EE projects are likely to lose out, because they are not typical capital expenditure projects that can be readily assessed and approved by higher authorities. In addition, when debt ceilings are in place, EE projects, with relatively low public profiles, are likely to have a lower priority than other pressing or mandated needs.²

Soft loans are dedicated credit lines for EE measures extended to end users at preferential terms in terms of maturity and/or interest rates. Such credit lines are often provided by national or international development banks (such as European Investment Bank (EIB) and European Bank for Reconstruction and Development (EBRD) and are further distributed to designated markets through regional partner retail banks.

2.3. ESCO model

The terms “energy services”³ and “energy service companies (ESCO)”⁴ are already well known and established in the energy efficiency field. They were defined already in the Energy Services Directive (2006/32/EC). There are many initiatives to promote ESCO model in the EU, due to its potential to remove several important barriers to energy efficiency in public sector - availability of up-front capital needed for EE investments and lack of technical knowledge and capacities to develop, implement and monitor EE projects. ESCOs are companies that work on a basis of energy performance contracts (EPC). In an energy EPC arrangement, the ESCO is responsible for optimizing building services systems and system operations in existing buildings across all branches of construction and maintenance. The main service provided by the ESCO is a guaranteed level of savings over a defined period.

Basic concept of EPC is shown in Figure Błąd! W dokumencie nie ma tekstu o podanym stylu.-1.

Before a tender is made, an energy cost baseline is determined for the building (or building pool) or facility. This is usually based on the energy consumption of the calendar year prior

¹ Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH: “CF4EE - Crowdfunding for Energy Efficiency”, October 2016, available at: <http://www.ieadsm.org/wp/files/2016-10-28-CF4EE-Feasibility-Study-final.pdf>

² *Ibid.*

³ ‘Energy service’: the physical benefit, utility or good derived from a combination of energy with energy efficient technology and/or with action, which may include the operations, maintenance and control necessary to deliver the service, which is delivered on the basis of a contract and in normal circumstances has proven to lead to verifiable and measurable or estimable energy efficiency improvement and/or primary energy savings

⁴ ‘Energy service company’ (ESCO): a natural person or legal entity that delivers energy services and/or other energy efficiency improvement measures in a user’s facility or premises, and accepts some degree of financial risk in so doing. The payment for the services delivered is based (either wholly or in part) on the achievement of energy efficiency improvements and on the meeting of the other agreed performance criteria



to commencement of the EPC, which is often also compared to the two preceding years in order to eliminate extreme climatic influences, usage fluctuations, etc. The evaluated baseline data is climate adjusted on the basis of mild or hot days (annual degree days). Proceeding from the energy cost baseline, the ESCO guarantees an annual energy cost savings (in EUR, calculated on a fixed price basis with the energy prices of the reference year) to the customer over the entire contract period. A fixed proportion of these guaranteed savings is set as the contracting fee, which the ESCO receives from the client to finance the investment, maintain the installations and attain a profit margin. Usually, the fee is set lower than the guaranteed saving in order for client to immediately benefit from savings.

Energy Performance Contracting (EnPC)

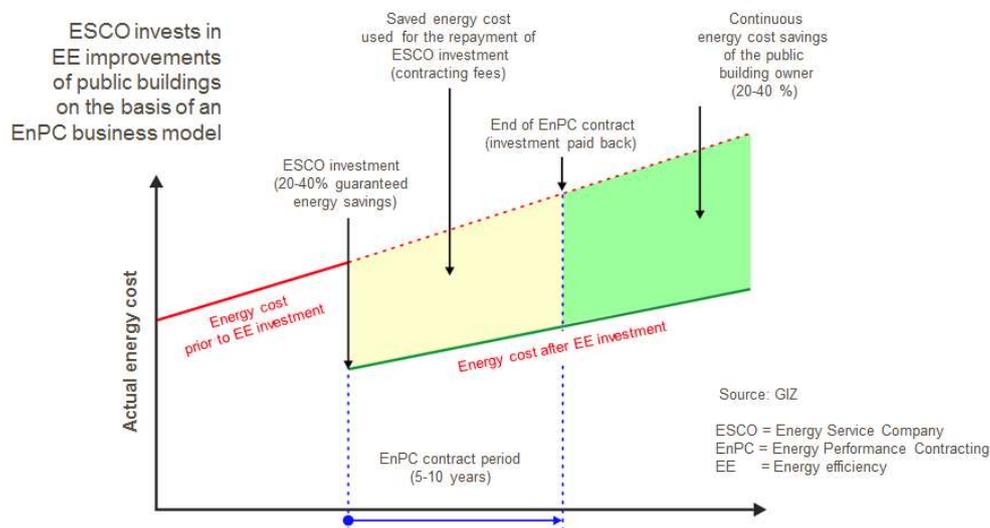


Figure Błąd! W dokumencie nie ma tekstu o podanym stylu.-1 - Basic concept of EPC and ESCO operation

In order to verify the annual energy savings, incurred energy consumption costs are converted into the reference year basis and then compared to the baseline during EPC bill audits. For the sake of ensuring this comparability, energy supply bills received by the client need to be adjusted for the following factors:

- deviations from the reference year in climatic conditions (annual degree days);
- changes in energy prices compared to the reference year (energy bills received by the customer must always be converted into the energy prices of the reference year);
- changes in building/facility usage compared to the reference year (insofar as these may cause energy consumption changes).

If the difference between the adjusted energy cost savings and the guaranteed cost savings is zero, the ESCO is exactly within the performance parameters of its contract. If the difference is greater than zero, contract over-performance sets in (savings are greater than guaranteed); in this case, the extra savings can be shared among the ESCO and the client. If



the difference is negative, the ESCO has not achieved its savings goal and must reimburse the customer with the resulting difference (because, according to EPC, ESCO guarantees savings).

If energy prices rise, the energy cost savings of the customer increase (energy saved multiplied by energy Price increases). This delivers additional budgetary benefit for the customer.

Contractually agreed one-off payments at the beginning (e.g. investment or building cost contributions) or at the end of the contract term (redemption sum) are also possible. With this solution, higher investment costs do not necessarily lead to higher contracting fees or longer contract durations.

Financing of EE project may or may not be ensured by ESCO⁵. There are two basic cases:

1. Customer financings - this model is usually referred to as “guaranteed savings”. Here, an ESCO guarantees the outcome of investment in EE measures, but the customer (client) covers the whole investment and is responsible for accounting. This model is suitable if the customer has access to capital and if ESCO is a rather small company with limited balance sheet total.
2. ESCO financing - this model is usually referred to as “shared savings”. Here, ESCO provides the financing, and is thus also responsible for the accounting, for all necessary investment, normally by borrowing from a bank. The customer pays a fee to the ESCO for the services rendered and for investment payback. Under a shared savings EPC arrangement, the client participates in the energy cost savings from the start of the main performance obligation period. The level of a client’s share in cost savings must be stipulated in the contract. Typically, a client’s profit share is between 10% and 20% of the savings achieved. Profit-sharing from the start results in shared savings EPC contracts having longer periods than a fixed-term arrangement, being that the annual contracting fee available to the ESCo for refinancing investment costs is lower. The benefit is that the customer’s budgeted costs are directly reduced during the main performance obligation period of the savings guarantee agreement.

2.4. PPP model

A Public-Private Partnership (PPP) arrangement differs from conventional public procurement in several respects. In a PPP arrangement the public and private sectors collaborate to deliver public infrastructure projects (e.g. roads, railways, hospitals) which typically share the following features:

⁵ Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH: “Assessing Framework Conditions for Energy Service Companies”, September 2012, available at: <https://www.giz.de/fachexpertise/downloads/giz2013-en-esco-guide.pdf>



- a long-term contract between a public procuring authority (the “Authority”) and a private sector company (the “PPP Company”) based on the procurement of services, not assets;
- the transfer of certain project risks to the private sector, notably with regard to designing, building, operating and/or financing the project;
- a focus on the specification of project outputs rather than project inputs, taking account of the whole life cycle implications for the project;
- the application of private financing (often “project finance”) to underpin the risks transferred to the private sector; and
- payments to the private sector which reflect the services delivered. The PPP Company may be paid either by users through user charges (e.g. motorway tolls), by the Authority (e.g. availability payments, shadow tolls) or by a combination of both (e.g. low user charges together with public operating subsidies).

The rationale for using a PPP arrangement instead of conventional public procurement rests on the proposition that optimal risk sharing with the private partner delivers better “value for money” for the public sector and ultimately the end user.

PPP arrangements are more complex than conventional public procurement. They require detailed project preparation and planning, proper management of the procurement phase to incentivise competition among bidders. They also require careful contract design to set service standards, allocate risks and reach an acceptable balance between commercial risks and returns. These features require skills in the public sector which are not typically called for in conventional procurement. ⁶

2.5. Grant schemes

Most of available grant schemes are based on the use of European Union structural and investment funds (ESI). EE projects in buildings belong to projects that generate net income after completion, i.e. the energy cost savings of the project are treated as net income.

Under the preamble (paragraph 13) of the Delegated Regulation 480/2014, as well as under recital (paragraph 58) of Regulation 1303/2013 of the EU, it is necessary to accurately calculate net income to ensure the efficient use of Union funds and to avoid over-financing of projects. Determining the share of co-financing by the Union should reflect the rule of non-profit - grants must not result in earning a profit. If they are profitable, it is necessary to conduct a financial analysis to determine the financing gap, the assessment of the need for grant and the amount of potential grants.⁷ Therefore, the purpose of co-financing through grants is to close the financing gap that is generated in energy efficiency projects when the investment in energy efficiency cannot be paid off from savings on energy costs.

⁶ EIB European PPP Expertise Centre: <http://www.eib.org/epec/g2g/intro2-ppp.htm>

⁷ GUIDANCE FOR BENEFICIARIES of European Structural and Investment Funds and related EU instruments, EC, 2014 (http://ec.europa.eu/regional_policy/sources/docgener/guides/synergy/synergies_beneficiaries.pdf)



The formula for calculating the financing gap is:

$$NPV(i, N) = \sum_{t=0}^N \frac{R_t}{(1+i)^t} = R_0 + \sum_{t=1}^N \frac{R_t}{(1+i)^t}$$

where:

- $NPV(i, N)$ net present value of the project
- i – discount rate
- N – period of project evaluation
- R_0 – initial investment
- $R_t = R_1 \dots \dots R_N$ – net income = annual energy cost savings and maintenance costs

The net present value is the difference between the sum of discounted net income over the entire project implementation period and the amount of investment costs. The net present value represents measure of added value today that results from the undertaken investment. In case the project has a negative net present value, it corresponds to the amount of the financing gap. The financing gap represents a part of the investment that needs to be co-financed by grants so that the net present value of the project corresponds to the amount of zero.

After calculating the financing gap in an absolute amount, it is necessary to determine the project co-financing rate. The co-financing rate is obtained as the ratio of the financing gap amount and the amount of initial investment in the energy efficiency project.

The formula for calculating the required co-financing rate is as follows:

$$co - financing\ rate = \frac{NPV(i, N)}{R_0}$$

If the project is co-financed by grants with the co-financing rate calculated according to the aforementioned model, the energy efficiency project in buildings will achieve net present zero value and will be economically justified.

2.6. Combination of different financing models

Usually, energy efficiency projects in public buildings combine two financing models. Rarely, more than two financing models are used. Research of usual practices in the Project Partner countries showed that dominantly grants (if available) are combined with own financing.

Recently, with the availability of EU structural and investment funds for energy efficiency across the MS, the blending of such funds with other financing models becomes increasingly interesting. The blending refers to combination of grants with other financing mechanism such as loans or ESCO/PPP model.

2.7. Comparative analysis of financing models

The financing models described above may be compared based on several important criteria as demonstrated in the Table blow. There is no universally best solution, but for each particular situation (country, region, building) an optimal solution should be tailor-made.



Table Błąd! W dokumencie nie ma tekstu o podanym stylu.-1 **Comparative analysis of considered models**

| Criteria/ Model | Own financing | Loan financing | Grants | ESCO model | PPP model |
|---|--|---|---|--|--|
| Neutral impact on government debt | 😊 | 😞 | 😊 | 😐 | 😊 |
| Administrative procedure complexity | 😊 | 😐 | 😐 | 😐 | 😞 |
| Guarantee of savings / service standard | 😞 | 😞 | 😐 | 😊 | 😊 |
| Capacities and capabilities of the public bodies to implement the model | 😊 | 😐 | 😐 | 😞 | 😞 |
| Estimated multiplier effect | 😞 | 😞 | 😐 | 😊 | 😊 |
| Projects for which the model is appropriate | Simple EE measures with short pay-back periods | Simpler EE measures with shorter pay-back periods | More complex projects, with longer pay-back periods | Highly complex projects, with moderate pay-back periods (up to 10 years) | Highly complex projects, usually with new buildings, long-term |



3. EXISTING FINANCING MECHANISMS IN POLAND

3.1. Summary of available financing mechanisms

Poland has well developed financing mechanisms for EE projects in schools. Schools are owned by cities and there are well established budget items for planning capital expenditures of investments in schools. There are several credit lines available for EE projects with two of them - Council of Europe Development Bank and at the European Investment Bank - being the most attractive with interest rates of 1.85%. There are also many grant schemes using EU financing from European Regional Development Fund or Cohesion Fund (grant rates 80-85%) and there is also national co-financing available from National and Regional Fund for Environmental Protection and Water Management (25-40%). The ESCO market in Poland is assessed as being at the initial stage of development. PPP models has been previously used for EE projects in limited number of municipalities.

An overview of available financing mechanisms for EE projects in schools in Poland is given in Table below, while details are given in the Section 3.2.

Table Błąd! W dokumencie nie ma tekstu o podanym stylu.-2 Overview of financing mechanisms for EE projects in schools

| Criteria/ Model | Own financing | Loan financing | Grants | ESCO model | PPP model |
|----------------------------|---------------|----------------|--------|------------|-----------|
| Availability | √ | √ | √ | √ | √ |
| Previous and current usage | √ | √ | √ | - | - |
| Planned usage | √ | √ | √ | - | - |

3.2. Detailed feedback on financing mechanisms

| 1. General information | | | |
|---|--|-----------------|--------------|
| Name of partner | Research and Innovation Centre Pro-Akademia City of Warsaw | | |
| Type and number of schools chosen for pilots | Primary 8 | Elementary 0 | College 0 |
| Who is the legal owner of schools | Capital City of Warsaw | | |
| Who pays utility bills and regular maintenance for schools | Capital City of Warsaw | | |
| What is the source for those costs | local authority budget, co-financed from the national budget | | |
| Who is responsible for making decisions on implementation of energy renovation projects | 1. Education Office of the Capital City of Warsaw prepares budget assumptions in the area of education, sets out guidelines for districts to construct their budgets, indicating the hierarchy of planned expenditures, determines the amount of funds that districts must plan for training of teachers, determines the actual and “standardised number” of students, | | |



| | <p>2. Treasurer of the Capital City of Warsaw defines the global amount of funds allocated for the districts for education, determines the amount of the financial support for 1 standardised student,</p> <p>3. Districts' Councils divide financial resources into individual tasks and educational units, and also make possible decisions on increasing funds for education over the amounts charged by the Treasurer.</p> <p>4. Districts' Infrastructure Departments in the Districts' Offices prepare proposals of investment tasks to be included in the 'district annex' to the budget resolution of the Capital City of Warsaw and the Multi-Year Investment Program of the Capital City of Warsaw and proposals for changes in the district annex to the budget of the Capital City of Warsaw during the budget year together with the resulting changes in the Multi-Annual Investment Program of the Capital City of Warsaw, constituting an annex to the budget resolution of the Capital City of Warsaw.</p> <p>5. Districts' Education Financing Bureaus: a) develop, at the request of schools' principals, financial plans for the schools and educational institutions in the scope of budget revenues and expenses, b) prepare materials for the district annex to the draft budget resolution - collective draft plans in the scope of budget revenues and expenses, based on "Assumptions to draft budget of the Capital City of Warsaw" and the guidelines of the Treasurer of the Capital City of Warsaw.</p> <p>6. The opinion on the financial plan has to be given by: the Teachers' Council, the Parents' Council and the School Council (if it has been appointed).</p> <p>7. The Schools' Principals have at their disposal the financial resources specified in the financial plan of the school. The schools are the entities that announce public procurements for investment.</p> | | | | |
|---|---|-----|----|---|----------|
| <p>What is the source for the cost of energy renovation</p> | <p>The costs of energy renovation projects are budgeted under the 'districts annexes' to the Capital City of Warsaw budget. For instance, in the chapter 80101 of the Ursynów District for 2018, there is a planned cost of renovation of Primary School no. 100 (7.2 M PLN). The trustee of these funds is the Ursynów District Office.</p> | | | | |
| <p>Which department (sector, institution) is responsible for implementation of energy renovation (in public buildings)</p> | <p>The implementation of building renovation investments is performed by schools themselves. For example, on 16/08/2018 the Primary School no. 109 in Warsaw has announced the public procurement for installation of 39.6 kWp of PV panels on its roof.</p> | | | | |
| <p>2. Financing EE projects using own funds</p> | | | | | |
| <p>Do you have funds in your budget allocated for EE projects in public buildings</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">Yes</th> <th style="width: 50%; text-align: center;">No</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> <p>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 2020⁸. 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%</p> </td> <td style="vertical-align: top; text-align: center;"> <p>-</p> </td> </tr> </tbody> </table> | Yes | No | <p>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 2020⁸. 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%</p> | <p>-</p> |
| Yes | No | | | | |
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⁸ Source: http://infrastruktura.um.warszawa.pl/sites/infrastruktura.um.warszawa.pl/files/dokumenty/program_inwestycyjny_-_zalacznik_do_zarzadzenia_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.



| | | | | |
|--|--|---------------|------------------|----|
| | 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 EUR ⁹ . | | | |
| Do you have funds in your budget allocated for EE projects specifically in schools | Yes | | | No |
| | The overall budget for investments in schools in Warsaw in 2018 is 110.5 M EUR, including 92% of these costs incurred by the 18 districts of Warsaw ¹⁰ and the remaining part from the main budget of the city ¹¹ . 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. | | | - |
| Have you already implemented EE projects in schools using own funds | Yes | | | No |
| | 134 EE projects have been implemented in schools in Warsaw between 2015 and 2017 using own funds, with the total budget of 21 M EUR. The scope of investments include: insulation of walls, ceilings, roofs, and basements; windows and doors exchange; modernisation of heat exchange substations; modernisation of heating systems; lighting modernisation; development of modernisation documents. | | | - |
| 3. Financing EE projects using credit or loan funds (debt) | | | | |
| Is this kind of financing available for you? | Yes | | | No |
| | Source (commercial bank, development bank, other) | Interest rate | Repayment period | - |
| | Council of Europe Development Bank ¹² | 1.85% | 25 years | |
| | European Investment Bank | 1.85% | 25 years | |

⁹ 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

¹⁰ 436 564 708 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

¹¹ 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

¹² According to the announcement on contract award published in 2005 (http://www.przetargi.egospodarka.pl/67207_Zaciagniecie_Zobowiazania-kredytowego-na-kwote-300-000-000-PLN-na-okres-25-lat-w-Banku-Rozwoju-Rady-Europy_2005_2.html), the interest rate agreed was 3-month Warsaw Interbank Offer Rate (WIBOR) 3M + 0.13 percentage points. As of 26/10/2018, WIBOR 3M equaled to 1.72%. Source: <https://www.bankier.pl/kredyty-hipoteczne/stopy-procentowe/wibor?rateDate=&rateChartType=3m>



| | | | | |
|--|--|--|-------------|--|
| | Debenture (bonds) ¹³ ¹⁴ | 6.45% | 10 years | |
| | European Energy Efficiency Fund (senior debt, mezzanine instruments and equity, but also leasing structures and forfeiting loans) ¹⁵ | Decided on a case by case basis. In principle - market rates ¹⁶ . | 20 years | |
| | National Fund for Environmental Protection and Water Management, priority programme “Improving air quality. Part 5: Public utility buildings with a higher energy efficiency standard” - loans ¹⁷ | 2% | 15 years | |
| | Regional Fund for Environmental Protection and Water Management in Warsaw - Programme OA-2 “Modernisation | 1-3%, depending on the applicant type | 10-15 years | |

¹³ According to the announcement on contract award published in 2005 (http://www.przetargi.egospodarka.pl/51069_zaciagniecie-zobowiazania-kredytowego-na-kwote-517-642-979-PLN-na-okres-25-lat-w-Europejskim-Banku-Inwestycyjnym_2005_2.html), the interest rate agreed was 3-month Warsaw Interbank Offer Rate (WIBOR) 3M + 0.13 percentage points. As of 26/10/2018, WIBOR 3M equaled to 1.72%. Source: <https://www.bankier.pl/kredyty-hipoteczne/stopy-procentowe/wibor?rateDate=&rateChartType=3m>

¹⁴ Source: <https://obligacje.pl/pl/obligacja/WAW0922>

¹⁵ The minimum project size is EUR 5mn (range of EUR 5-25mn). Source: <https://www.eeef.eu/faq.html>

¹⁶ The interest rate depends on the risk structure of the investment (counterparty and technology risk). Source: <https://www.eeef.eu/faq.html>

¹⁷ The interest rate is 3-month Warsaw Interbank Offer Rate (WIBOR) 3M, but no less than 2%. As of 26/10/2018, WIBOR 3M equaled to 1.72%. Source: <https://www.bankier.pl/kredyty-hipoteczne/stopy-procentowe/wibor?rateDate=&rateChartType=3m>



| | | | | |
|---|---|---------------------------------------|----------------------------------|----|
| | of electrical lighting” ¹⁸ | | | |
| | Regional Fund for Environmental Protection and Water Management in Warsaw - Programme OA-1 “Reducing emissions of pollutants into the air, reducing heat consumption and the use of renewable energy sources” ¹⁹ | 1-3%, depending on the applicant type | 10-15 years | |
| Do you have plans to invest in EE projects in schools using this model | Yes | | | No |
| | Yes, the main debt instruments which will continue to be used by the Capital City of Warsaw are two credit lines: at the Council of Europe Development Bank and at the European Investment Bank. According to the Investment Programme of the Capital City of Warsaw for 2018-2025, 19.9% of all investment costs are going to be financed from bank loans and credits. The overall value of debt financing engaged in investment projects (not only in schools) between 2018 and 2025 is approx. 0.9 billion EUR ²⁰ . | | | - |
| Have you conducted EE project in schools financed by credit or loan funds (debt) | Yes | | | No |
| | The City of Warsaw has conducted EE projects financed by credits and loan funds. The scope of projects is similar to those financed from own funds and includes: insulation of walls, ceilings, roofs, and basements; windows and doors exchange; modernisation of heat exchange substations; modernisation of heating systems; lighting modernisation. | | | - |
| 4. Financing EE projects using grants, subsidies or other incentives | | | | |
| Is this kind of financing available for you? | Yes | | | No |
| | Source (national, EU | Grant rate % | Max. amount of grant per project | - |

¹⁸ 20% of the loan can be redeemed (grant provided by the Fund). Source: http://wfosigw.pl/strefa-beneficjenta/programy2018/JST/OA_2

¹⁹ 25% of the loan can be redeemed (grant provided by the Fund). Source: http://wfosigw.pl/strefa-beneficjenta/programy2018/JST/OA_1

²⁰ 3.7 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



| | | | | |
|--|---|-------|--|--|
| | funds, other) | | | |
| | Regional Operational Programme of Mazovia Voivodship 2014-2020 (European Regional Development Fund, regional level), Measure 4.2 Energy efficiency ²¹ [status as of October 2018: no open call] | 80% | No maximum grant per project ²² | |
| | Infrastructure and Environment Operational Program, Measure 1.3.1 Supporting energy efficiency in public buildings (Cohesion Fund, national level) ²³ [status as of October 2018: no open call] | 85% | No maximum grant per project ²⁴ | |
| | ELENA | - 90% | In principle, there | |

²¹ ESCO-based projects are granted extra points in the proposal evaluation (source: <https://www.funduszedlamazowska.eu/wp-content/uploads/2018/09/szooop-2.4.pdf>, page 114)

²² The total allocation for the Measure 4.2 is 123,541,043 euro. The Measure provides financing to EE improvements public buildings, residential buildings and CHP.

²³ The scope of the project of a comprehensive energy modernization of the building must result from the energy audit carried out and lead to a reduction of at least 25% of final energy consumption. Source: <http://pois.nfosigw.gov.pl/skorzystaj-z-programu/zobacz-ogloszenia-i-wyniki-naborow-wnioskow/wspieranie-efektywnosci-energetycznej-w-budynkach/art,1,1-3-1-wspieranie-efektywnosci-energetycznej-w-budynkach-uzytecznoscii-publicznej-konkurs-ii.html>

²⁴ The total allocation for the Measure 1.3.1 is 348,521,647 euro. The beneficiaries eligible for funding are: state budgetary units (legal form - code 428), universities (legal form - code 044), government administration and supervised or subordinate to it organs and organizational units (legal form - code 401, 402, 406, 428, 132, 165), entities that provide energy services within the meaning of Directive 2012/27/EU, acting for state budgetary units, higher education institutions and public authorities, (legal form - code 019, 023, 115, 116, 117, 118, 120, 121, 124). Source: http://www.pois.gov.pl/media/62555/SzOOP_POIS_v_8_4.pdf



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| | European Local ENergy Assistance ²⁵ [status as of October 2018: open ongoing call] | | are no specific limits ²⁶ . |
| | National Fund for Environmental Protection and Water Management, priority program “Improving air quality. Part 6) Public utility buildings with a higher energy efficiency standard” - grants ²⁷ [status as of October 2018: no ongoing call] | 40% | In principle, there are no specific limits ²⁸ . |
| | Technical | 90% | In principle, there |

²⁵ Source: <http://www.eib.org/en/products/advising/elena/index.htm>

²⁶ The instrument provides funding to develop, mobilise financing and implement a clearly identified Investment Programme. Costs related to the Investment itself e.g. hardware investments, detailed design, permits, etc. should be borne by the project and cannot be supported by ELENA. The requested assistance should be commensurate with the amount of the Investment Programme to be prepared (normally above EUR 30 million) and its potential for market replication Source: http://www.eib.org/attachments/documents/elena_faq_en.pdf

²⁷ The program is aimed at financing the implementation of EE improvements in buildings, i.e. the reduction in the demand for non-renewable primary energy (EP) with respect to the reference building is at least 10%. The reference building should be understood as a building that meets the requirements set out in the provisions of the Ordinance of the Minister of Infrastructure regarding technical conditions to be met by buildings and their location of 12 April 2002 (Journal of Laws of 2015, item 1422), in force at the moment of submitting the application for co-financing. It is agreed that the eligible costs of the project calculated on the basis of an investor's cost estimate, may not exceed PLN 2,000 per 1 m² of space with regulated air temperature in the building, including the costs of project documentation. Source: http://nfosigw.gov.pl/download/gfx/nfosigw/pl/nfoopisy/1616/3/25/program_prioritetowy_poprawa_jakosci_powietrza_czesc_6.pdf

²⁸ The minimum investment cost is approx. 232 thousand euro (1 million PLN, 1 EUR = 4.3 PLN). The budget for implementation of the program is approx. 267 million euro (up to PLN 1 129 567 thousand PLN) including 33% for grants and 66% for loans). Source: http://nfosigw.gov.pl/download/gfx/nfosigw/pl/nfoopisy/1616/3/25/program_prioritetowy_poprawa_jakosci_powietrza_czesc_6.pdf



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| | <p>Assistance Operational Programme (Cohesion Fund) - Call for PPP advisory services - announced by the Polish Ministry of Investment and Development</p> <p>[status as of October 2018: open ongoing call]</p> | | <p>are no specific limits²⁹.</p> | |
| | <p>Regional Fund for Environmental Protection and Water Management in Warsaw - Programme OA-2 "Modernisation of electrical lighting"³⁰</p> <p>[status as of October 2018: open ongoing call]</p> | 20% | <p>In principle, there are no specific limits.</p> | |
| | <p>Regional Fund for Environmental Protection and Water Management in Warsaw - Programme OA-1 "Reducing emissions of pollutants into the air,</p> | 25% | <p>In principle, there are no specific limits. Some limits concern the maximum unit cost of specific types of works, e.g. replacement of windows: 250 EUR /m².</p> | |

²⁹ Source: http://www.ppp.gov.pl/Aktualnosci/Strony/Wielosektorowy_nabor_projektow_ppp.aspx

³⁰ The grant is provided as a redemption of 20% of the loan. Source: http://wfosigw.pl/strefa-beneficjenta/programy2018/JST/OA_2



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| | reducing heat consumption and the use of renewable energy sources” ³¹ [status as of October 2018: open ongoing call] | | | |
| Do you have plans to invest in EE projects in schools using this model | Yes | | No | |
| | According to the Investment Programme of the Capital City of Warsaw for 2018-2025, 20% of all investment costs are financed from EU funds. The overall value of grants planned to be used in investment projects (not only in schools) between 2018 and 2025 is approx. 0.9 billion EUR ³² . | | - | |
| Have you conducted EE project in schools co-financed by grants, subsidies or other incentives | Yes | | No | |
| | For example, in the project “Thermal modernization of public buildings in the Capital City of Warsaw”, which started in 2018, PV cells, weather automation, energy-efficient lighting are installed in three schools, a nursery and Family Assistance Centre ³³ . The project received nearly approx. 1 million euro under the Regional Operational Programme of Mazovia Voivodship 2014-2020 (ERDF), Measure 4.2 Energy efficiency. Total value of the project is 1.6 million euro ³⁴ . The project activities include also: insulation of buildings, replacement of windows and door joinery, replacement of heating and ventilation installations, replacement of lighting for energy-efficient ones, and the use of photovoltaic cells for additional energy production. | | - | |
| 5. Financing EE projects using ESCO model | | | | |
| Is this kind of financing available for you? | Yes | | No | |
| | The ESCO market in Poland is assessed as being at the initial stage of development, while there is a slow increase in activity in the area of EPC. The market value was estimated at EUR 10-20 million, | | - | |

³¹ The grant is provided as a redemption of 25% of the loan. Source: http://wfosigw.pl/strefa-beneficjenta/programy2018/JST/OA_1

³² 3.730 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

³³ Nursery No. 44 at ul. Wejherowskiej 1, Zespół Szkół im. Piotr Wysocki at ul. Odrowąza 75, School Complex No. 84 at ul. Zwycięzców 44, Primary School No. 271 at ul. Niegocińska 2 and the Family Assistance Center at ul. Lipińska 2

³⁴ PLN 6,806,746.39, 1 EUR = 4.3 PLN, source: <https://www.funduszedlamazowska.eu/aktualnosci/warszawa-inwestuje-w-poprawe-efektywnosci-energetycznej/>



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| | while the potential was estimated at EUR 25-75 million (data for 2012-2013) ³⁵ . The potential beneficiaries are not familiar with ESCO instruments as well as they have also inadequate knowledge in the field of energy efficiency, technologies and standards for electricity and heat processes. | |
| Do you have plans to invest in EE projects in schools using this model? | Yes | No |
| | - | There are no plans to use this model. |
| Have you conducted energy efficiency project in schools financed by ESCO model ? | Yes | No |
| | - | The EE projects in EE in schools in Warsaw were using only own funds, grants and loans. |
| 6. Financing EE projects using PPP model | | |
| | Yes | No |
| Is this kind of financing available for you? | 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 years ³⁶ . 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. | - |
| Do you have plans to invest in EE projects in schools using this model | Yes | No |
| | - | There is a political decision to not to use this financing scheme in City of Warsaw. |
| Have you conducted energy efficiency project in schools financed by PPP (debt) | Yes | No |
| | - | The EE projects in EE in schools in Warsaw were using only own funds, grants and loans. |

³⁵ https://www.ewaluacja.gov.pl/media/60397/raport_koncowy_ESCO_ostateczny.pdf

³⁶ 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