



# SUPPORTING RENOVATION OF SINGLE-FAMILY HOUSES IN POLAND

## Report Summary

### INTRODUCTION

In 2016, BPIE held two workshops on the topic of improving the framework conditions for the deep renovation of the Polish building stock. These workshops explored issues ranging from the current and future funding levels and sectoral breakdown of renovation activity, to technical and legislative matters. In addition, a report written in 2016 by BPIE, on “Financing Building Energy Performance Improvement in Poland [1]”, identified the renovation of single-family houses as vastly under-funded

compared to other sectors. The report focused on three topics related to technical design, legislative requirements and a possible financing scheme targeting these buildings.

The following is an English summary of the second BPIE report on renovation in Poland (published only in Polish), “Wymagania Techniczne i Możliwości Wsparcia dla Termomodernizowanych Budynków [2]”.

### PROPOSED SUPPORT MECHANISM FOR THE RENOVATION OF SINGLE-FAMILY BUILDINGS

Given the current funding inadequacy for the renovation of single-family buildings, BPIE developed the outline of a financing scheme, as presented and discussed during the June 2016 workshop. There are some 5 million single-family houses in Poland, of which only around 1% has adequate insulation. The target market is therefore significant. Correspondingly, a programme to tackle this section of the housing stock needs to be ambitious, in terms of scale, duration and energy performance.

An effective programme needs to be established targeting around 1 million homes, or 20% of the total, over a 10-year

period. Such a large programme clearly needs significant funding – based on a renovation cost of 60,000 PLN per house, this would require a total investment in the order of 60 billion PLN (€14bn). Assuming an average subsidy rate of 30%, this amount equals to 18bn PLN (€4bn) of public funding or an average annual rate of 1.8bn PLN (€400M). While this may seem a significant sum, by comparison, the much smaller multi-residential housing sector is currently funded to the tune of approximately €240M p.a.

On the next page is a summary of the key features and possible funding sources.

[1] Available at <http://bpie.eu/publication/financing-building-energy-performance-improvement-in-poland-status-report/>

[2] Available at <http://bpie.eu/publication/wymagania-techniczne-i-mozliwosci-wsparcia-dla-termomodernizowanych-budynkow/>

## SINGLE-FAMILY HOUSING FUNDING SCHEME - KEY FEATURES

**TARGET: Owners of single-family buildings**

**DURATION: 10 years**

**TARGET RENOVATION RATE: 2% p.a.**

**TARGET NUMBER OF BUILDINGS: c. 100,000 p.a. (= 1 million within 10 years)**

**ENERGY SAVINGS: around 10 TWh/a**

**TOTAL INVESTMENT: up to 60 billion PLN**

**SUBSIDY LEVELS: 20% to 40%, depending on the achieved renovation level**

**Simple points system for determining savings**

**Utilises technologies registered on the List of Eligible Material and Equipment (LEME)**

**Technical assistance and access to loans provided under EBRD's POLREFF [3] scheme**

An important feature of the programme is the proposed progressive nature of grant funding, such that higher grants are provided for the attainment of higher energy performance levels, as detailed in Table 1.

**Table 1 - Required improvement of energy efficiency for a specific thermo-modernisation class and assigned amount of grant**

Class of thermo-modernisation	Amount of grant	Percentage of required improvement for energy efficiency
A	40%	60%
B	30%	45%
C	20%	30%

### Possible Funding Sources

#### National/Regional Funds

The concept of funding energy performance improvement of single-family houses through national resources is well established. The National Environmental Fund (NFOŚiGW) and the Regional Funds (WFOŚiGW) have a number of schemes targeting this sector, including Prosument (renewable energy),

“the air quality boiler replacement” programme and the planned, but now cancelled RYŚ (Lynx). It is, however, understood that the National and Regional Funds plan to move away from providing funding to individuals, citing operational difficulties of dealing with end consumers.

#### European Union Funds

Poland is by far the biggest beneficiary of EU funds under the 2014-2020 Multi-annual Financial Framework (MFF), receiving up to around €80 billion from the Cohesion Policy budget. The importance of these funds is demonstrated, since they accounted for over half of the public investment in the economy over the period 2009-2013. There is a requirement to allocate 20% of the entire MFF budget to climate-related projects and policies.

In 2018, an evaluation will be performed regarding the existing Operational Infrastructure and Environmental Programme for the period 2014-2020, with a budget of €27.4 billion or around 115 billion PLN. If it turns out that the funds are not spent correctly in all areas, there is scope for a reallocation to support single-family buildings.

#### EU Emission Trading Scheme (EU ETS) Auction

Proceeds from the EU ETS national auction pool could be a funding source. Depending on the permit price in the years 2021-2030, Poland may obtain around 40-100 billion PLN from the auction. Poland will also have two additional mechanisms

supporting the low emission modernisation: derogations for power (20-40 billion PLN) as well as Funds for modernisation (8-20 billion PLN) [4]. These resources could be allocated to improve the energy efficiency for existing single-family buildings.

[3] PolREFF is the Polish Residential Energy Efficiency Financing Facility. <http://www.polreff.org/?sLanguage=en>

[4] Proceeds from the ETS auction as the source of funding for low emission modernisation in Poland, Energy Analysis Forum, June 2016

## PROPOSED TECHNICAL REQUIREMENTS FOR THE RENOVATION OF SINGLE-FAMILY BUILDINGS

The new support mechanism described in section 1 needs to be backed by sound technical standards and a simple system for assessing and classifying the energy performance of the proposed renovations in order to reduce transaction costs and barriers that households are facing.

The scheme should encourage deeper renovation, comprising multiple measures. The system should also be transparent, understandable to homeowners, and available in an online format to reduce administrative costs. The use of a points system means that the initial property assessments can be calculated by a person without technical knowledge, though independent and qualified energy consultants should be employed to verify the assessment before funding is approved.

In essence, the proposal is built around a points system. Each dwelling is ascribed a number of points based on its current “pre-renovation” condition. The points can be reduced by means of certain improvement measures, each of which is assigned a number of points, such that the “post-renovation” home

achieves a much reduced points’ score.

The starting point for an un-renovated single-family house is a points tally of 135 [5]. If some measures have already been installed, the score is reduced according to the points allocated to the measure. For example, if windows have been replaced with some meeting current performance requirements, 6 points are deducted and the starting score is 129. Proposed renovation measures are then added, each with their individual points score. The addition of each measure reduces the points tally for the property.

Three grant levels are proposed: 20%, 30% and 40%. The applicable level is determined by the percentage reduction in the number of points in relation to the existing condition. For example, a renovation achieving 20% savings requires a 30% reduction in points, while the 40% grant can only be awarded if the points tally is reduced by 40% or more, as detailed in Table 2.

**Table 2 - The required reduction in the number of points for each class of thermo-modernisation and related to the associated funding levels**

Class	Level of funding	Required percentage reduction in the number of points related to the existing state	Points requirement for a currently un-renovated building (with a points score of 135) in order to meet the relevant energy class
A	40%	60%	81
B	30%	45%	61
C	20%	30%	41

One of the advantages of the points system is that it is easily modifiable, e.g., the number of points can change depending on the region or with a change in minimum technical requirements. Additional points can be awarded for changing from solid fuel,

or where air quality is particularly poor, or for example, in the case of low income families or large families as part of a regional social policy. Provisional allocation of points for some common measures are provided in Table 3.

[5] The number of points has been set on the basis of analysing energy characteristics in single-family buildings.

**Table 3 - The list of proposed improvements for individual classes – Examples**

Measure	Illustrative measures to achieve Class A	Illustrative measures to achieve Class B	Illustrative measures to achieve Class C
External wall insulation	23 (0.20W/m <sup>2</sup> K)	23 (0.20W/m <sup>2</sup> K)	
Flat roof slab	12 (0.15W/m <sup>2</sup> K)		
Floor above unheated cellar	7 (0.20W/m <sup>2</sup> K)	6 (0.30W/m <sup>2</sup> K)	6 (0.30W/m <sup>2</sup> K)
Window	10 (0.90/m <sup>2</sup> K)	10 (0.90/m <sup>2</sup> K)	10 (0.90/m <sup>2</sup> K)
Ventilation	4 (hybrid)		
Installation of Central Heating	6	6	6
Installation of hot water circuit	5	5	5
Heat source	14	14	14
<b>Total</b>	<b>81 points</b>	<b>64 points</b>	<b>41 points</b>

Preliminary analysis shows that it is possible to very quickly and easily determine the class of renovation for proposed improvements. However, a more detailed analysis would be

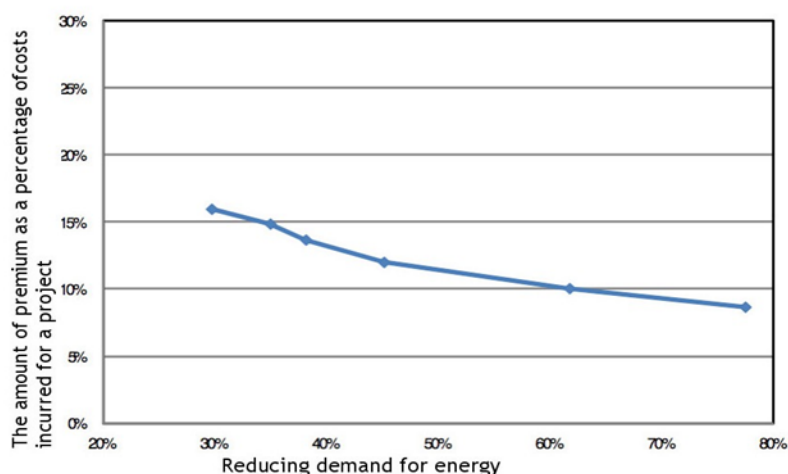
required across a wider range of measures before the final scores are determined.

### REQUIRED LEGISLATIVE CHANGES

The current method of determining the subsidy level (“thermo-modernisation premiums Art. 5” [6]) does not support deeper renovation. Perversely, higher energy savings result in a

decreased subsidy level (Figure 1). In this situation, investors are not encouraged to maximise the energy saving potential.

**Figure 1 - Relationship between grant and energy saving (current [7])** (Source: BPIE)



**The Act should be amended to direct support towards deeper renovations that achieve higher energy savings.**

Furthermore, in order to avoid the need for subsequent renovation of buildings, it is proposed that the thermal

requirements (U-values) for different building elements undergoing renovation should be raised to those proposed to be in force from 2021.

[6] Act of 21 November 2008 on supporting thermo-modernisation and repairs

[7] Act of 21 November 2008 on supporting thermo-modernisation and repairs

## SUMMARY

The actions suggested in the present report are designed to increase the scale, both in terms of rate and depth, of Polish single-family houses renovation. In addition to the direct

benefits accruing to the occupants of the buildings thus renovated, such a programme would contribute to:



**A SIGNIFICANT IMPROVEMENT IN  
AIR QUALITY IN POLAND, AND  
THUS THE HEALTH OF POLES**



**AN IMPROVEMENT IN  
ENERGY SECURITY**



**THE DEVELOPMENT OF THE  
CONSTRUCTION SECTOR, IN PARTICULAR  
SMALL AND MEDIUM-SIZED ENTERPRISES**



**THE CREATION OF  
NEW JOBS**



**GROWTH OF  
NATIONAL GDP**



**AN IMPROVEMENT IN THE  
QUALITY OF LIFE OF RESIDENTS**



**MEETING POLAND'S  
CLIMATE COMMITMENTS**

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