

SMARTER Finance for Vulnerable Families

A model for financing of deep energy retrofitting of multifamily buildings adapted to the needs of the energy poor households

What is SMARTER Finance for Families?

SMARTER Finance for Families is a Horizon 2020 project developing a program promoting the **construction and renovation of "green"/ high energy performance residential buildings by application of a reliable certification scheme and "green" mortgages**

Smarter financing is the best choice to bring forward the available resources early into the construction or renovation process.

It allows the homeowner to offset their early investment in building quality and energy performance

(via monthly mortgage payments) with the savings generated by the reduced monthly energy and repair costs and lower cost of financing.

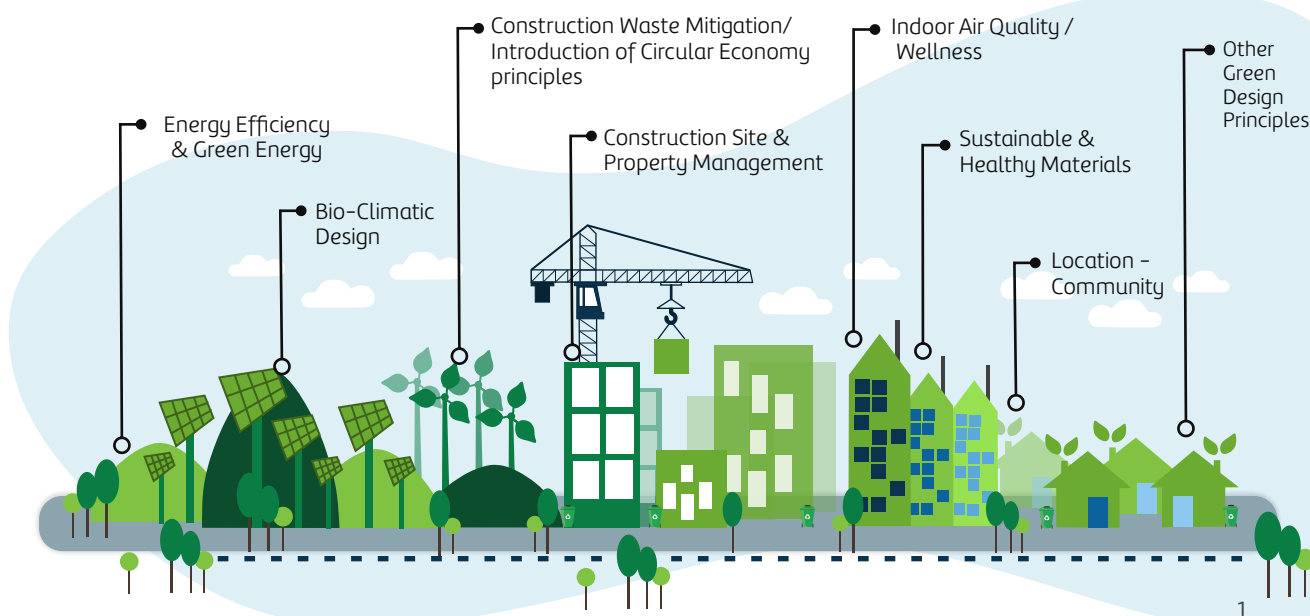
What is a "Green home"?

There are many successful approaches to build a Green Home, but all pay due attention to the design, construction and operation of a home and all minimize or eliminate the environmental impact of the construction and operation of the building.

Implementation of green criteria requires expertise and credible methodology.

The SMARTER initiative provides **"Green Homes & Green Mortgages: A toolkit for Residential Investors & Developers"**

with detailed list of the specific criteria to be considered.



Is it possible to apply SMARTER Finance in situation of energy poverty?

The purchase of a new home, regardless of its energy efficiency level, is one of the lowest priorities of low income households. People with limited financial resources are often facing many other basic existential problems and their initiative to acquire new green housing is low. Moreover, most of commercial banks and other commercial financial institutions consider low income clients a high risk group for any type of loan.

However, private initiative from third parties and adjustment of market conditions can make green housing accessible even to low income group. In many European countries, subsidy schemes for renovation of multi-family buildings are already in place. However, quite often grants cover only a part of the investment costs and the rest must be provided by the homeowners, which makes it less accessible to low income groups.

In order to carry out such a project, all owners, regardless of their social status, must be willing to get involved. The funds for middle- and high-income owners can be provided through mortgage financing. For low-income owners and those suffering from energy poverty, a different type of support should be provided in national schemes. For instance a combination of state loans and high subsidies.

What is energy poverty?

Although there is no common European definition of energy poverty yet, the widely accepted description of the phenomenon states that **"individuals or households are unable to heat, cool or receive other necessary energy services in affordable homes."**

It is widely acknowledged in the literature that there are three main components to energy poverty :

- 1) low income of the households**
- 2) high/increasing prices of energy** (compared to the purchasing power of the population);
- 3) poor energy performance of the building.**

Households with these characteristics are present in all countries participating in SMARTER.

However, our innovative approach to financing and advocacy for higher flexibility of governmental subsidy schemes can help them to reap the benefits of energy efficiency.

How energy efficiency in buildings affects energy poverty?

Our case study from Bulgaria, the country most affected by energy poverty in the EU, firmly demonstrates that deep energy retrofitting of residential buildings is an excellent tool for reducing energy poverty levels.

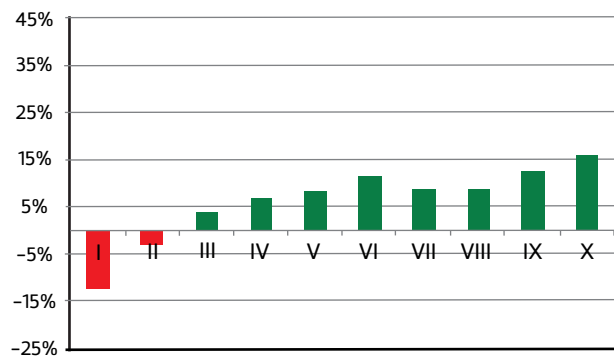
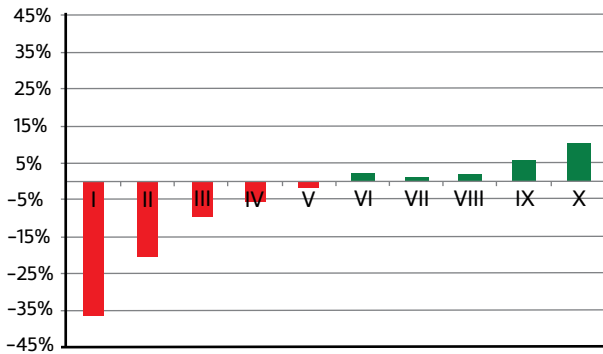
The study (performed by Bulgarian SMARTER Partner EnEffect) estimates that households among the first five

income deciles living in multi-family buildings would have higher costs to maintain adequate heating than their incomes allow, if the most widespread European definitions of energy poverty applied.

This daunting situation requires serious attention.

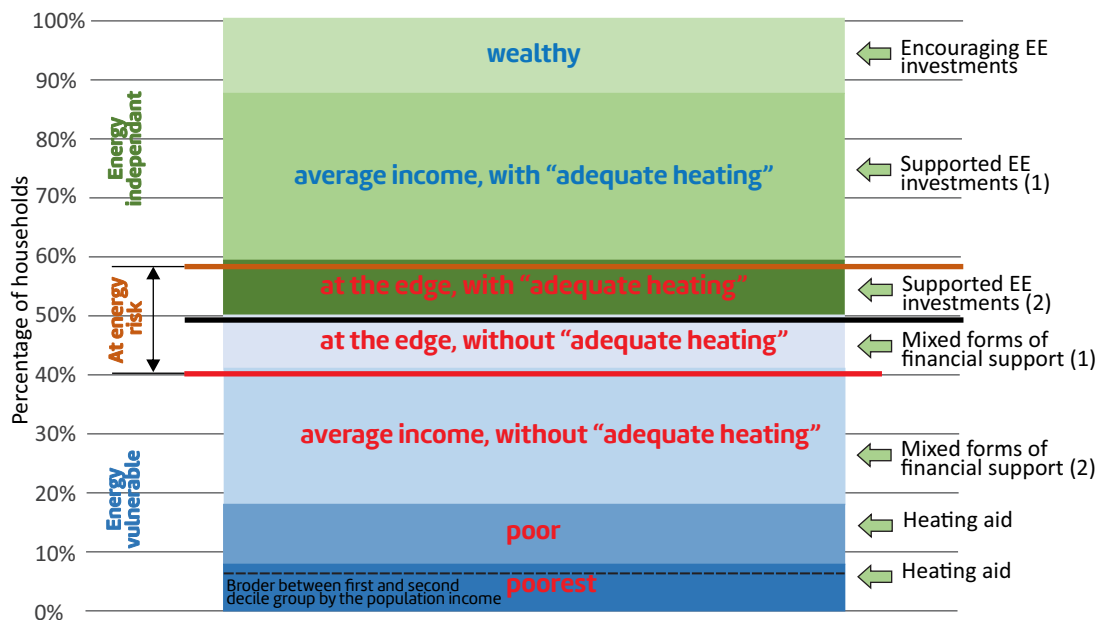
If multi-family buildings are deeply renovated, only the households in the first two deciles will remain energy poor and in need of targeted social support.

These results are presented in both graphs below.



Based on the analysis performed, EnEffect proposes the following conditional division of households in terms of their ability to provide the energy they need for their homes, as well as different type of support to every group of households

Graph 1) Difference between average monthly incomes and average monthly total expenses during the winter months if providing "adequate heating" of 65 m² residential area before (left) and after deep energy renovation (right)



Graph 2) Possible renovation approaches for different energy poverty levels

Based on this case study, it can be concluded that the financial scheme for achieving a sustainable renovation process at multi-family residential buildings must comply with at least three conditions:

- Introduction of a long-term national strategy for renovation of the residential building stock, allocation of sufficient public resources
- Appropriate combination of grants and commercial loans
- Differentiated support to vulnerable households in order to guarantee their participation in renovation project.

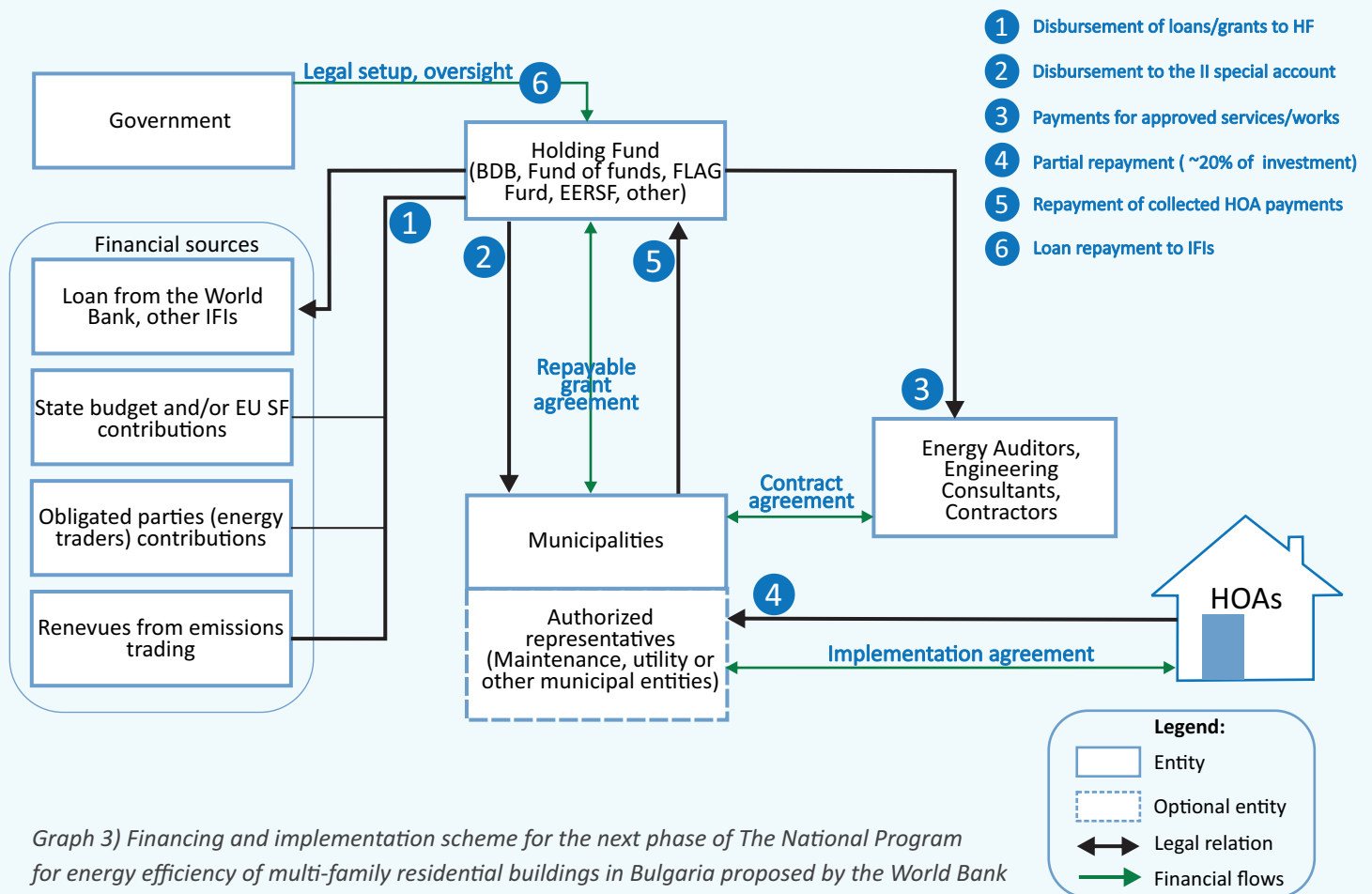
As it was said above, in order to carry out such a project, all owners, regardless of their social status, must be willing to get involved. The funds for middle- and high-income owners can be provided through mortgage financing.

The scheme bellow (proposed by the World Bank [1] for the execution of the next stage of the national program for

renovation of residential buildings) explains recommended model of renovation of multi-family residential buildings. It suggests decreased grant levels and increased participation of homeowners in combination with a differentiated full grant support to vulnerable households.

Similar conclusions have been made by Habitat for Humanity in the REELIH Project:

“the homeowners within the selected buildings had to reach a consensus ... on their readiness to co-finance these renovations, by means of taking an individual or a collective loan, if necessary”. [2]



Graph 3) Financing and implementation scheme for the next phase of The National Program for energy efficiency of multi-family residential buildings in Bulgaria proposed by the World Bank

SMARTER recommendations

The analysis performed demonstrated that large-scale renovation of multi-family residential buildings, especially in East European countries, can only be carried out through the support of a well-structured public program, offering partial grants and preferential conditions to ensure the participation of low-income households. The following financial schemes offer solutions in which public renovation schemes are combined with the use of bank financing through individual loans and specific conditions in support of individual homeowners depending on their social status.

The first scheme below examines the possibilities of financing the renovation of multi-family residential buildings, although a similar scheme could be applied to the renovation of personal or single family residential buildings. The second scheme presents the possibility that public support programs for the renovation of multi-family residential buildings can also be combined with private initiatives for the construction of new "green" residential buildings. In order to secure the functioning of these schemes, however, a number of additional policy actions should be applied, including systematic awareness raising and behaviour change campaign targeted at end users, professional capacity building for both designers and construction workers, and strengthened involvement of local authorities within a sustained long-term vision for the development of the urban areas.

All of these actions should be integrated in ambitious national long-term renovation strategies which are now in final phase of preparation in all

EU countries – and SMARTER Finance offers the right tools to support their development and implementation.

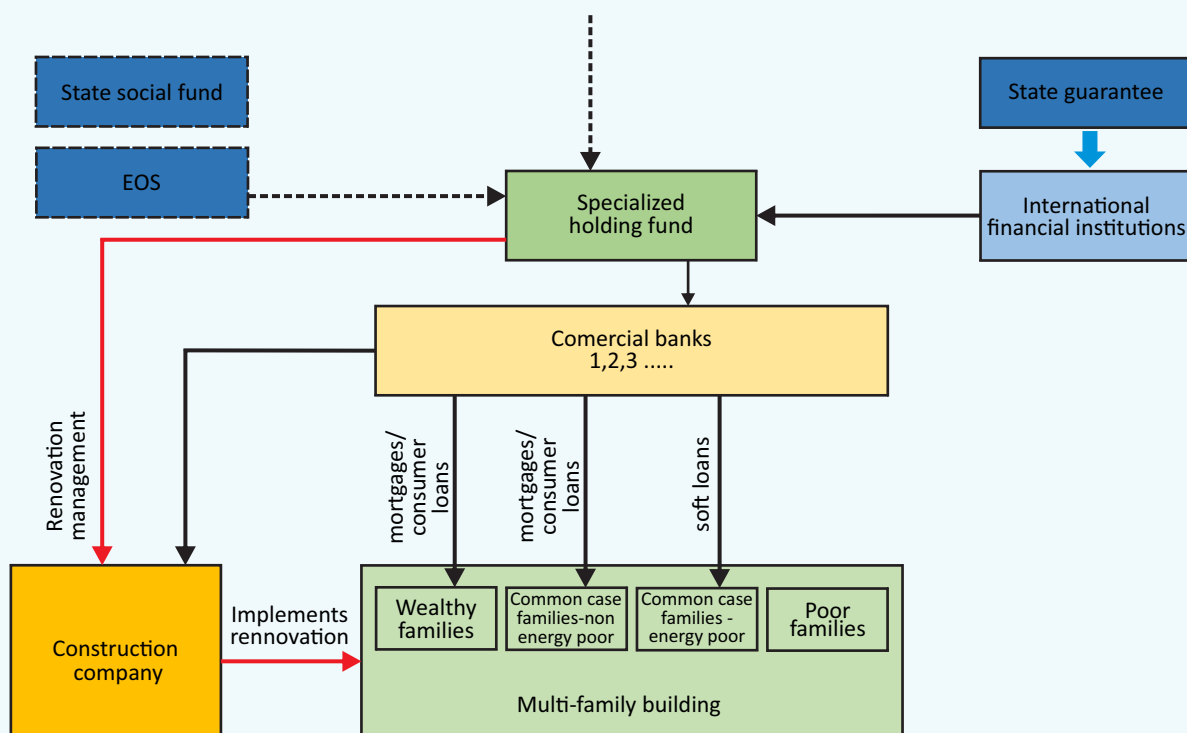
Lastly, while the financial benefits of energy efficiency improvements are clear, deep renovations should always pursue the adoption of many other green criteria for homes including access to public transit, sustainable and healthy materials, water saving measures, indoor air quality improvements, and more.

Ensuring the implementation of these other green criteria requires expertise and a proven, credible methodology. The SMARTER initiative provides **“Green Homes & Green Mortgages: A toolkit for Residential Investors & Developers”**

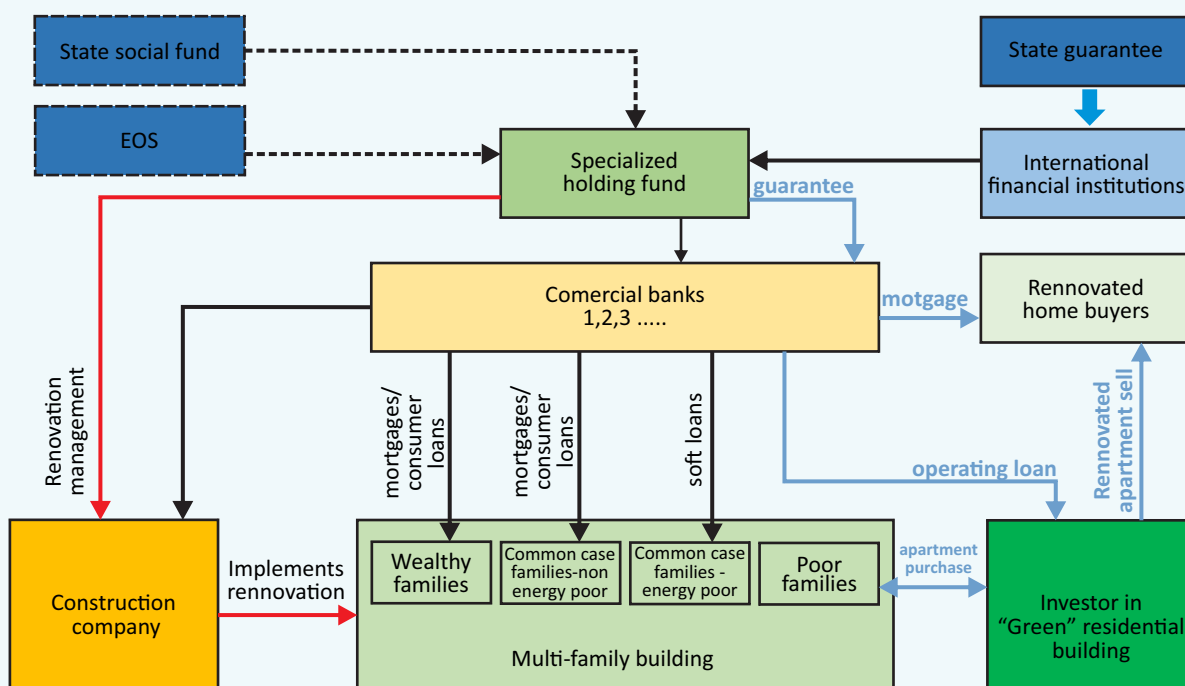


which explains how this certification of energy and other green performance can be successfully completed for renovation and new build projects and a detailed list of the specific criteria to be considered.

Furthermore, while the certification process is designed to be cost efficient, it can still present a challenge to absorb this cost for low income families. Therefore, the SMARTER initiative recommends government support to pay for the energy and green assessment of, at least, the portion of a project dedicated to energy poor households should be considered as an effective enabling factor.



Graph4) Financial scheme for renovation of multi-family buildings based on combination of bank financing and public funding differentiated by social groups



Graph 5) Financial scheme for renovation of multi-family buildings based on combination of bank financing and public funding by differentiated social groups and parallel support for the shift of poor families in newly constructed "green" residential buildings



References:

[1] Habitat for Humanity. REELIH Project. More details are available at: <https://www.world-habitat.org/world-habitat-awards/winners-and-finalists/residential-energy-efficiency-for-low-income-households/#award-content>

[2] World Bank (2018) Bulgaria National Residential Energy Efficiency Program Phase 2 Design Report. Available at: <http://documents.worldbank.org/curated/en/329851534930802672/Bulgaria-National-Residential-Energy-Efficiency-Program-Phase-2-Design-Report>

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