



Action Plan of the BUILD2LC Project: Combating Energy Poverty and Financial Instruments in Energy Renewal of Buildings



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NORTH-WEST CROATIA
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1 General information

PROJECT: Boosting Low Carbon Innovative Building Rehabilitation in European Regions (BUILD2LC)

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2 Policy Context

THE ACTION PLAN AIMS TO IMPACT: X Investment for Growth and Jobs program
 European Territorial Cooperation program
 X Other regional development policy instrument

Name of the policy instruments addressed:

1. Investment in Growth and Jobs Goal: Croatian Operational Program Competitiveness and Cohesion 2014 - 2020. Objective T.O. 4. Supporting the shift towards a low carbon economy in all sectors, concretely Priority Line 4.c: Support the Energy efficiency and use of renewable Energy in public infrastructure, including public buildings and households.
2. Other regional development policy instrument: National Energy Efficiency Action Plan (National policy instrument)

3 Details of the actions envisaged

3.1 Action1: Energy Efficiency Retrofits for Family Houses in Croatia

3.1.1 The background (please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)

The development of this activity has been influenced by the exchange of experience and knowledge achieved within the BUILD2LC project, specifically the following:

- Interregional seminar on energy poverty organized in Gloucestershire in June 2017;
- Bilateral skype meeting between Croatian and UK stakeholders organized in February 2018.

Representatives of the Croatian Ministry of Construction and Physical Planning which is directly responsible for the implementation of this activity (to be financed through the Operational Programme Competitiveness and Cohesion 2014-2020) have been present and actively participated at both events and learned important lessons and received valuable information from UK experts. It is important to point out that the Ministry established a Working Group on Energy Poverty in July 2017 as a result (i.e. immediately after the UK interregional seminar) which should prepare the national definition of energy poor households, prepare the national strategy/programme on how to alleviate energy poverty and ultimately prepare guidelines and actually implement the strategy/programme. At its establishment REGEA has been officially invited to participate in this Working Group and has been actively participating since. The bilateral skype meeting between UK and Croatian stakeholders was attended by all members of this Working Group (from the Croatian side) and proved to be very useful in providing knowledge and exchange of experience regarding various definitions of energy poverty adopted in the UK and Gloucestershire, the criteria for providing financial assistance to energy poor households (based on the definitions) and specific additional activities (energy advice, education) needed to achieve a larger scale energy retrofit of poor households.

Taking advantage of the transfer of knowledge and experience, the Working Group established by the Ministry has prepared a working definition of energy poverty and the **Ministry has published its plan to launch the national programme for subsidizing the energy retrofit of households in June 2019**. This national programme is directly linked to the Croatian Operational Programme Competitiveness and Cohesion 2014-2020, specifically to the Priority Line 4.c: Support the Energy efficiency and use of renewable Energy in public infrastructure, including public buildings and households.

Taking into account the above, this activity does not need a direct change/modification of the Operational Programme Competitiveness and Cohesion 2014-2020, but it will nevertheless contribute to the implementation of the activities foreseen in the Operational Programme and will contribute to the **preparation and definition of criteria and conditions of eligibility for the planned call for subsidies for energy retrofit of households**. Thus the activity will influence the lower policy documents (i.e. national programme for energy retrofit of households) directly linked to the “umbrella” Operational Programme.

In the following text more general information regarding energy poverty issues in Croatia is provided.

Based on the census (2011) in Croatia there are a total of 1.923.522 (1.496.558 occupied) dwellings for permanent habitation [1], out of which family houses make about 65% of the stock[2]. 65% of the total housing stock is at the continental Croatia and households make more than 30% of final energy use. Most of the housing stock was built before 1987, which means they do not meet even basic technical regulations (see Figure 1Error! Reference source not found.) and have poor, if any, thermal insulation. Those types of buildings typically require over 200kWh/m² of energy. If compared to normal standard of modern construction with less than 100kWh/m², or with low energy houses with less than 40kWh/m², it is evident, there is significant potential for energy reduction in the housing sector, particularly in the family houses. Heating, cooling and domestic hot water preparation make for 70% of the total household energy use which further stresses the potential for energy reductions via building envelope retrofits.



Figure 1 Dwellings by construction year and occupancy status (left) and photo of residential house with poor efficiency (right) [3]

Based on the low energy efficiency levels, most of those dwellings fall into energy class E or lower thus offering potential for up to 60% of energy reductions.

In addition to the poor housing stock in terms of energy efficiency, there is prevalent problem in covering costs of living in those buildings. For 58% of Croatian population housing costs present heavy financial burden[4] and 9.3% of the households are unable to keep their homes adequately warm [5]. These trends are in line with common trends in the post-socialist and transitional economies where energy was traditionally low cost and dwellings were built inefficiently. With increase of energy prices, more families are left in energy poverty. What is specific for Croatia is that there is a high ownership rate with almost 90% population owning their flats/houses. This national specificity of high ownership rates creates opportunity for easier implementation of any energy efficiency retrofit program aimed to be implemented on a household level.

In Croatia there is a high at risk of poverty rate of 20%, and 29,1% of population are at risk of poverty or social exclusion [6]. The most vulnerable group in that aspect are single female households with at risk of poverty rate of 41.1%. Those groups should be considered for inclusion in the vulnerability criteria when designing national programs for tackling energy poverty.

Recognizing the need to improve residential housing stock Croatian Government has adopted “Program for renovation of family houses for the period 2014-2020” (OG 43/14, 36/15)¹ which is based on the 2nd National Energy Efficiency Action Plan. Through the program it is planned that a total of 56GWh of energy are saved annually through three different measures: 1) Retrofitting building envelope; 2) Heating system replacement; 3) Promotion of renewable energy sources (RES) use.

While the “Program for retrofitting of family houses” (Program) has already had success and it is likely that it has indirectly contributed to fight against energy poverty by preventing some of beneficiary households to fall into energy poverty, it did not specifically target energy poor and energy vulnerable households. It is the aim of this action to include social criteria thus enabling direct impact of the Program on eradication of energy poverty.

3.1.2 Actions to be implemented

The main task of the action is to develop social criteria to be incorporated in the upcoming public call for retrofitting of the family houses. Ministry of Construction and Physical Planning has for that purpose set up an expert Working Group, which has a task to develop the needed social criteria in a participative manner. The following organizations have their experts as members of the Working Group: Ministry of construction and physical planning, Ministry of environment and energy, Ministry of demography, family, youth and social policy, Regional Energy Agency of Northwest Croatia (REGEA), Regional Energy Agency North, Green Building Council Croatia, Society for Sustainable Development Design (DOOR).

Direct contribution of the REGEA will be achieved **by fostering the development of social criteria and providing expert services** in analysis of existing best practice examples from EU countries. Some of criteria which can be used, and which are currently under consideration, are setting of the limits for living area which can be considered eligible for retrofit based on social criteria. In that case a possibility considered is using existing criteria from the “Ordinance on setting up a status for ex carriers of tenant rights and their family members” (OG 133/2013) which states: 35m² are eligible for retrofit for a single member household, 45m² for two members households, 55m² for three members, 65m² for four member and 75m² for five and more members. As the criteria is rather narrow within the action by using best-case examples widening of criteria and means for their justification will be elaborated.

Further criteria which need to be elaborated are:

Social welfare status of household members;

Health and disability status;

Number of children and elderly;

Employment and income and property ownership;

Also, within the action, financing models will be elaborated in further details and means of their application. The application for vulnerable households needs to be user-friendly and it is likely that local actors, i.e. local authority and local welfare offices will need to facilitate preparation of the needed

¹ <https://narodne-novine.nn.hr/clanci/sluzbeni/dodatni/431066.pdf>

https://narodne-novine.nn.hr/clanci/sluzbeni/2015_03_36_742.html

documentation for the vulnerable households to be able to apply and meet the criteria of the call. Most of the vulnerable households are unlikely to be aware of the call once it is issued and they will not have the capacity to fill in the required data or obtain needed documentation. Other issue which will be targeted with this measure is the question of pre-financing for the vulnerable households. Vulnerable households are unlikely to be able to pre-finance the retrofitting costs so alternative financing models will be investigated.

3.1.3 Players involved

Ministry of construction and physical planning

- In charge or managing the Action and coordinating the expert working group.

Ministry of environment and energy, Ministry of demography, family, youth and social policy

- Members of the working group and collaborating on development of the social criteria.

Environmental Protection and Energy Efficiency Fund

- Managing the funding of the scheme and issuing the call.

Savings banks

- Provision of co-financing and no- interest loans.

Local and regional authorities

- Support in managing the scheme, identifying the vulnerable households and preparing needed documentation for the vulnerable households.

Regional Energy Agency of Northwest Croatia

- Providing insights into international best-practice cases and facilitating the timely development of social criteria and adequate implementation mechanism.

Regional Energy Agency North

- Providing expert inputs to the development of social criteria and sharing experiences of the Social Green Interreg Project².

Green Building Council Croatia

- Providing expert inputs and guidance on how to incorporate green building standards into retrofit programs.

Society for Sustainable Development Design

- Providing expert inputs on development of social criteria and facilitating the participative process of their development

3.1.4 Timeframe

March- December 2018: Designing social criteria for the new public call for retrofitting of the family houses

December 2018-May 2019: Public call open³

May – December 2019: Beginning of implementation

² <https://www.interregeurope.eu/socialgreen/>

³ The question marks are as it is beyond the scope of this action to set exact dates; those are to be determined by the competent authorities

3.1.5 Costs

In first programming period (2014-2016) the Program was financed through the National Environmental Protection and Energy Efficiency Fund and family houses were entitled to 40%, 60% or 80% of subvention (with a total limit of 168.000 HRK, ca. 22.500 EUR, per house) based on the area where the family house was located. Based on the guidelines of the European Commission geographical distribution will no longer be used as a way for setting up the cost limits. It is thus recommended that within this Action detailed social criteria is developed enabling use of higher financing rates based on vulnerability status.

By the year 2020, a total of 100 million EUR is planned for retrofitting residential sector, out of which 30 million EUR is planned for retrofitting of the family houses [7].

3.1.6 Funding sources

Main funding source for this action is the Operational Programme Competitiveness and Cohesion 2014-2020, Investment priority 4c - Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector; Specific objective 4c2 - Reduction of energy consumption of the residential buildings (multi apartment buildings and family houses).

This source will be complemented with the following ones:

- Environmental Protection and Energy Efficiency Fund, through own funds and EU funds
- Local and regional authorities
- Private entities and physical persons

3.2 Energy advisors for energy poor households

3.2.1 The background

The development of this activity has been directly influenced by experience and knowledge transfer as well as developed good practices within the BUILD2LC project. Specific information is provided below.

Energy poverty, the inability to access or afford modern energy services and to use them at adequate level which is socially and culturally acceptable without adverse impacts on health, is a growing concern in the whole of EU. Households in Croatia are responsible for almost 30 percent of total country's final energy demand and 40 percent of electricity demand. While the entire residential building stock has poor energy performance with heating requirements typically exceeding 200 kWh/m², the situation is even worse for the households with limited financial means. Some of the dwellings have questionable static integrity and it is unlikely that all will be technically viable to retrofit.

It has been proven through the pilot projects in various EU countries⁴ and in Croatia that providing simple and low-cost energy efficiency measures and educating household members on rational energy use provides quick and easy start in alleviating adverse impacts of living in energy poverty. This action thus aims to offer not a full solution to the energy poverty but a good start in that direction.

⁴ www.reach-energy.eu , <http://www.nea.org.uk/>, With knowledge to Warm Home and many others

A good practice example which could be used to transfer some of experience from the SWEA-managed [Warm and Well](#) program, was seen during the BUILD2LC Interregional Thematic Seminar - New energy culture, citizen involvement and energy poverty held in Gloucester, UK in Tuesday 13th and Wednesday 14th June 2017. Warm and well amongst their services offers access to information of available grants and funding schemes through their trained staff. Warm and well also *offers energy efficiency advice to householders and administers grant funding on behalf of the local authorities and other funders.*

Second good practice example on which this action builds is the Slovenian case. This case was also presented during the Gloucester Thematic Seminar. In Slovenia there is a [network of energy advisors for energy poverty](#) which has been officially set up after the project [REACH](#) has proven that provision of low-cost energy efficiency measures combined with energy savings advice can result in improvement of life quality, decrease of adverse impacts on health and contribute to energy reductions. As Croatia has also been in the same project as Slovenia and same principles have been successfully tested as pilot, this type of approach is likely to be success.

Another best case on which this action builds is the Lithuanian Multi-Apartment Buildings Renovation program, which has initially struggled to find installers who had the correct skillset to complete the work to a high quality. Valuable lessons learned via that program, on how to choose and train installers (or in case of this Action, advisors) will be further investigated and applied to build on lessons learned and avoid initial hurdles.

Network of energy advisors to the energy poor established through this action will also build on the example of “Warm and Well” but keeping more similarity to the Slovenian case due to national similarities.

This activity is directly linked to the Operational Programme Competitiveness and Cohesion 2014-2020 and is complementary to the first activity (implementation of national programme of energy retrofit of households). Based on the knowledge and experience transfer within BUILD2LC as well as the information provided in the good practices, the Working Group established by the Ministry of Construction and Physical Planning (described in more detail in Activity 1) has come to the conclusion that this activity is an integral part of the overall national strategy/programme for energy poverty alleviation and must be implemented in parallel to the Activity 1 (i.e. subsidizing the energy retrofit of households).

3.2.2 Action to be implemented

Energy advisors for energy poor homes has the aim to set up a national network of offices where citizens could turn to seeking energy advices. Those offices will not only work on the “open doors” principle, but they will also hire qualified and trained staff, energy advisors, who will be able to do the field work and visit the households in need.

The action will enable a pilot network setting up offices in at least 4 different cities across Croatia, building on already existing knowledge from previous advisors network which was set up by UNDP (not aimed at energy poor), and also consider providing employment for young unemployed people who have completed the course for energy advisors organized with the support of the European Social Fund within the program “Advisors for efficient energy use”.



Figure 2 Example of the simple and low-cost EE kit provided to the visited households within the project REACH (left), energy advisor replacing an incandescent light bulb with LED bulb (center) and installed reflective foil (right)

The action will include education of local authorities and preparation of the advisor network and starting a pilot program for 1000 households in Croatia to be visited by the energy advisors. All the visited households will also be provided with the low-cost energy efficiency measures. The measures to be provided to the households include LED light bulbs, draught proofing for windows and doors, timers for electrical boilers and similar (see Figure 2).

First step of the action is ensuring that the measure formally adopted by the Government (now it is in draft in the 4th National Energy Efficiency Action Plan (NEEAP)⁵ for the period 2017-2019). The NEEAP should already have been adopted, however there have been some delays so REGEA will contribute in that segment by fostering dialogue on importance of timely adoption.

Proposed measure in the draft 4th NEEAP is H.3 “Building capacities for tackling energy poverty”.

Second step to be facilitated by REGEA as regional energy agency with fully capacitated staff is to contribute to successful transfer of knowledge to local authorities and to advocate and support setting up the advisors’ base in at least one local authority in their area of operation. The advisors should also be trained to help households in providing information for financing mechanisms and thus this Action should directly contribute to Action 3 “Details of the actions envisaged

Action1: Energy Efficiency Retrofits for Family Houses in Croatia” through enabling easier access to retrofit program funds to the vulnerable households.

Overall the action foresees setting up a total of 15 info-offices in 15 different local authorities across the Croatia by the year 2020.

3.2.3 Players involved

Ministry of environment and energy

- Competent authority for the implementation of the Action;

Ministry of construction and physical planning, Ministry of demography, family, youth and social policy

- Contributing to the setting up of the scheme and designing criteria for vulnerability which will enable better targeting of the measure and design of needed low-cost measures packages;

Environmental Protection and Energy Efficiency Fund

- Managing funding and setting overall setting up of the action;

⁵ 4th NEEAP draft is available on: https://ec.europa.eu/energy/sites/ener/files/documents/hr_neeap_2017_hr.pdf

Regional Energy Agency of Northwest Croatia, Society for Sustainable Development Design

- Fostering dialogue and ensuring timely adoption and implementation of the Action; transferring knowledge and best-case examples and lessons learned from other countries and already implemented similar schemes; Supporting establishment of the advisors' network and choosing of and capacitating pilot cities;

Green energy cooperative

- Sharing best case examples and possibly providing initial staff for some of the cities through their network of trained energy advisors (currently unemployed young practitioners)

Local authorities (15 across Croatia)

- Providing facilities and managing the Action locally;

3.2.4 Timeframe

March 2018- September 2020

3.2.5 Costs⁶

First phase requires investigation of existing capacities of local authorities and estimation of the need for new knowledge, design of info and promo materials and preparation of calls for cities to apply (200.000HRK, ca. 27.000 EUR by the end of 2018);

Second phase includes three local research studies and promo campaigns and three local pilot programs (660.000HRK, ca. 89.000EUR by end of 2018);

Third phase foresees a full start of 15 local programs with overall coordination, monitoring and promotion (2.450.000 HRK, ca. 330.000EUR by end of 2020);

3.2.6 Funding sources (if relevant):

Main funding source is Environmental Protection and Energy Efficiency Plan using funds acquired via the trading of the emission allowances in auction of emission trading scheme (ETS) based on the national Law on Air Protection (OG 130/11,47/14).

Additional funding sources include local and regional authorities primarily through provision of office space and equipment and where possible additional funding for increasing impact of the Action.

3.3 Action. Establishment of FIs on national levels

3.3.1 Background

This activity is directly linked to the Operational Programme Competitiveness and Cohesion 2014-2020 which foresees the establishment of financial instruments for the energy retrofit of buildings. At the time of writing of this Action plan, a financial instrument in the form of a loan for the energy retrofit of public buildings has already been established and is operated by the Croatian Bank for Reconstruction and Development (HBOR), where financing from the Operational Programme has been used to establish this FI. This loan is used mainly in combination with the grants which are available to local, regional and national authorities and their institutions for the energy retrofit of public buildings, where the grants are financed through the Operational Programme. So far four calls for subsidies have been launched by the

⁶ Source: Modified from measure H.3 of the draft 4th National Energy Efficiency Action Plan

Ministry of Construction and Physical Planning (all financed through the Operational Programme) which is directly responsible for the implementation of distributing grants to owners of public buildings.

However, in order to achieve a wider effect in the term of the number of energy retrofitted buildings, it is necessary to allow the combination of public and private capital (which has thus far not been allowed in the four mentioned calls for subsidies) and for this it is necessary to establish additional financial instruments (for example in the form of guarantee funds for ESCOs which would then take loans from commercial banks, as well a guarantee fund for the remuneration to ESCOs from their clients). **In order to establish these additional FIs and the combination of private and public capital in the energy retrofit of public buildings it would be necessary to modify the Operational Programme**, which is one of the aims of this activity.

The experiences, ideas and knowledge about private financial initiative and financial instruments that were received by Croatian stakeholders through bilateral meetings with Andalusian Energy Agency (AEA) and The Public Investment and Development Agency of Lithuania (VIPA) organized within the BUILD2LC project in Sevilla (ES) and Vilnius (LT) and Lithuanian good practice "Innovations in Financial instruments" were the model to create tailor made solutions for financing energy efficiency projects in Croatia. It is especially important to mention that a high delegation of the Ministry of Regional Development and EU Funds (which is directly responsible for the implementation of financial instruments through the Operational Programme Competitiveness and Cohesion 2014-2020) was present at the interregional seminar organized in Lithuania in January 2017 (the delegation include Assistant Ministry Mr Dragan Jelić and Mr Damir Gubić, operationally responsible for financial instruments development) and got valuable experiences, especially from the Lithuanian long track record on developing financial instruments

Key problem that was present in Lithuania was that mainstream financial institutions such as commercial banks are risk averse and conservative when it comes to long-term financial commitments. Financing periods proposed by banks are too short for the investments in the non-commercial infrastructure (including deep renovation of buildings) both for energy service companies (ESCOs) and public-sector investors. To counter that situation, an Energy Efficiency Fund (ENEF) was established in 2015 by the Ministry of Finance, the Ministry of Energy and VIPA, which was appointed as the manager of ENEF. The Fund implements two financial instruments: loans for financing renovation of central government buildings and guarantees for loans granted by commercial banks for energy efficiency projects. It operates under the program approved by Lithuanian Government which aim is to increase the energy efficiency of public buildings for heating and lighting, to ensure the effective use of the State funds allocated to the improvement of energy efficiency of public buildings, to reduce emission of greenhouse effect gas (CO₂) and to ensure the compliance of central government buildings with hygiene standards.

The domestic and EU legislative framework provided opportunities for the use of financial instruments in the Republic of Croatia, too. However, for efficient and effective use of financial instruments, it is necessary to identify the current obstacles to maximize the use of the existing EU financial perspective and to better prepare for the new EU financial perspective.

EU regulations also provide frameworks for the preparation and implementation of financial instruments for specific areas in the Republic of Croatia. The underlying obligation that precedes any preparation and implementation of financial instruments is the ex-ante assessment of market failure for

specific markets. In the area of energy efficiency, sustainable urban development and private-sector investment in RDI in support of innovative and competitive business and research environment, for the purpose of assessing market failures, in 2015 there was created an analysis "Assessment of potential future use of financial instruments in Croatia; A study in support of the ex-ante evaluation for the deployment of EU funds during the 2014-2020 programming period ". The analysis has been made by *Pricewaterhouse Coopers* (PWC) for the European Investment Bank (EIB) and the Ministry of Regional Development and EU Funds of the Republic of Croatia (MRDEUF).

The consulting firm Ernst & Young carried out an independent evaluation (Ernst & Young, 2016) on the effectiveness of the implementation of the European Fund for Strategic Investment (EFSI) for the period from July 2015 to June 2016, which among other reasons cited the reasons for the reduced use of these resources in the new Member States (EU-13) compared to the old Member States (EU-15). Without going into the issue of EFSI's utilization of the EFSU quotas, the focus here is on the reasons of reduced fund use in the newer Member States (EU13) to more efficiently and effectively preparation of domestic entities from the public and private sectors of the Republic of Croatia to use existing financial instruments in the next EU financial perspective since 2021. For this reason, it is considered justified and rational to ask questions: How to make the most of the financial instruments from the current financial perspective? How to be prepare for a new financial perspective? Which instruments are available to us for better exploitation of existing and future EU sources? Moreover, the Government of the Republic of Croatia calls for this document, citing (inter alia) that "the state's success in obtaining EFSU support depends on the capacity for project development, experience in work with public-private partnerships (hereinafter referred to as text: PPP), as well as the size of projects and markets". Two other reasons mentioned in the original analysis regarding the inadequate development of the domestic equity market and the competitiveness of ESIF and EFSU sources can be added to this statement.

The following indicates the reasons for the reduced use of financial instruments: competition of ESIF and EFSI sources, reduced capacity to prepare major projects, reduced experience in using the PPP model, Insufficient developed equity financing market and relatively lower capital value of projects.

3.3.2 Actions

3.3.2.1 Defining criteria for determining the FIs structure based on the EE projects in running phase

Within this activity there would be established criteria as a basis for determination of a reliable, i.e. optimal structure of financial instruments for specific projects with a regard to specific risks. In this sense, the types of projects could be divided into industry or sector (industrial buildings, tourist buildings, public buildings, family buildings, public lighting), geographic area (central Croatia, coastal Croatia) and the current state of the building resulting from energy audits. This makes it easier for the criteria to identify the specific risks that depend on the final structure of the total sources of funding. The result of this analysis would be a correction of the structure of possible sources of funding shown in Figure 6.

3.3.2.2 Defining methods for calculating grants and combining grants with financial instruments at the level of a concrete project

This activity logically adds to the previous one (3.3.2.1). After identifying the risks of the EE project, it will be possible to identify (calculate) the required value of the grant with which, with financial instruments, the project could be sustainable in the long run. Also, within the framework of the implementation of this activity, the results of the EU project, which also set the procedures for combining grants with the ESCO model and financial instruments ("Instruments for Blending European Structural and Investment Funds with Public-Private Partnerships" IPA Allocation Instrument for Croatia: TF/HR-P2-M2-O6-1601).

3.3.2.3 Update ex-ante assessment with new instrument FI UC guarantee

Existing ex-ante assessment of the application of FIs in energy efficiency market in Croatia covers only two proposed financial instruments: loans and equity. Given the imperative of further development of the ESCO market in the Republic of Croatia, it would be of great importance to supplement the existing ex-ante assessment with an additional instrument called Guarantee for regular payment of unitary charge in APM. The risk of charging claims based on the delivered savings service represents a market failure, which by removing significantly increased the likelihood of commercial lenders to finance EE projects delivered by APM (ESCO, EPC).

3.3.3 Players involved

Ministry of regional development and EU funds (MRRFEU)

- Responsible for planning and implementing the regional development policy; improving cross-border, interregional and transnational cooperation and preparation of strategic documents regulating the national development objectives. The Ministry participates in the preparation of priorities and annual and perennial strategic and operational documents for the use of EU funds and other international sources. It sets up priorities for the use of ESI funds available for Croatia and monitors the implementation of measures and activities set out in strategic documents. MRRFEU is responsible for the allocation of FI UC Guarantee (Unitary Charge Guarantee guarantees to ESCO that, if it provides the contracted standard of savings, the contractor will pay the contracted energy service fee).

Ministry of Construction and Physical Planning (MGIPU)

- The Ministry of Construction and Physical Planning performs administrative and other tasks related to construction, physical planning and housing, and participates in the development and implementation of programs from European Union funds and other forms of international assistance in these fields. The Ministry performs administrative and other tasks related to the effects of economic policy instruments and measures on the development of design services in construction and on construction services; operation of legal and natural persons in the field of construction, the Croatian Chamber of Architects and Engineers in Construction and other engineers involved in construction; monitoring and analyzing the quality of construction and design services in construction; housing, housing policy; apartment and settlement construction; implementation of special housing programs of the Government of the Republic of Croatia; policy, monitoring and improvement of the status in utility management, international

cooperation in construction and housing. MGIPU gives inputs for the preparation of operational documents for the use of EU funds and other international sources.

Croatian Bank for Reconstruction and Development (HBOR)

- Within the Croatian banking system, HBOR plays the role of a development and export bank established with the objective of financing the reconstruction and development of the Croatian economy. HBOR is responsible for the allocation of FI Guarantee.

Energy service companies (ESCO)

- Implement projects - provide a defined level of energy savings.

Local authorities

- Loan source cash, own sources cash, FI UC Guarantee provider.

Commercial banks (Commercial creditor)

- FI loans.

HAMAG BICRO

- FI guarantee.

3.3.4 Timeframe

2018 - 2020

3.3.5 Costs

Up to 50 million EUR

3.3.6 Funding sources

Main funding source for the development of financial instruments is the Operational Programme Competitiveness and Cohesion 2014-2020, Investment priority 4c - Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector (in the case modifications to the OP will be made).

This source will be complemented with the finance sources from the players involved mentioned in the former chapter: local authorities, Energy service companies and commercial banks.

The models envisaged for the creation of additional financial instruments are illustrated below.

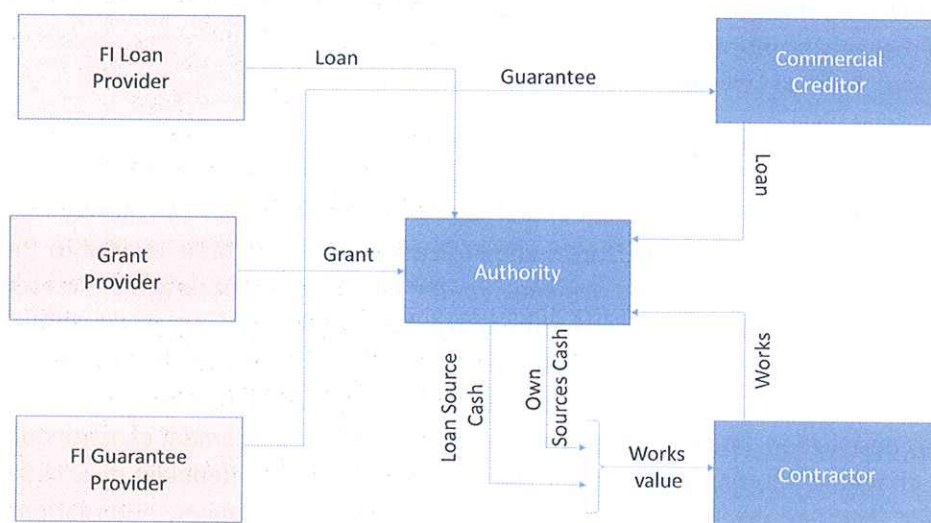


Figure 3 Possible FIs in TPM

When applying the TPM, almost all financial instruments are linked to the customer in a way that he or she is using the loan (FI Loan) or issues a warrant for the granting of a guarantee to the creditor (FI Guarantee).

However, when applying the ATM spectrum of possible instruments is significantly higher. The structure of possible financial instruments is shown in Figure 5:

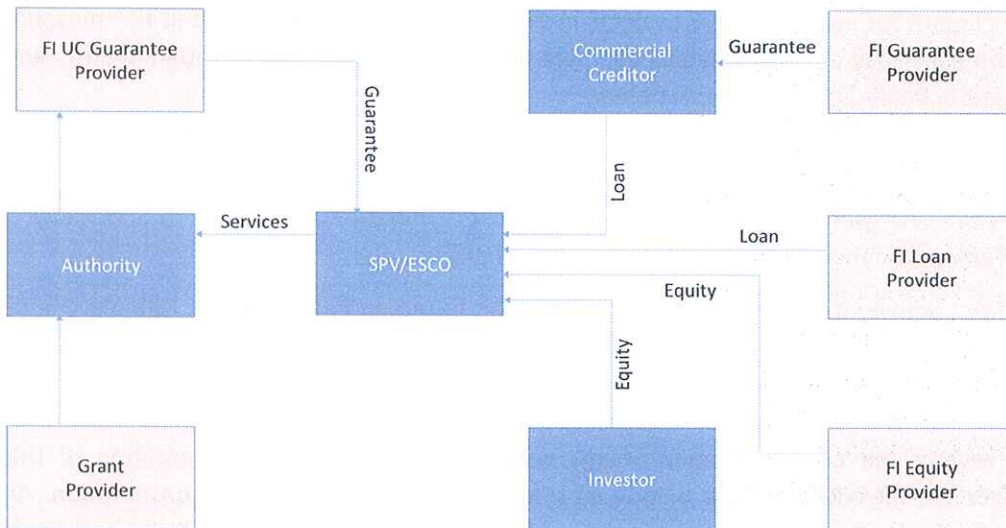


Figure 4 Possible FIs in APM

In the case where an alternative procurement model (APM) is used for the procurement of energy efficiency, then there are instruments connected with the contracting authority and those that are used autonomously by the contractor or the creditor. Thus, for example, the contracting authority may, in addition to the grant, also use the Unitary Charge Guarantee (FI UC Guarantee), which guarantees ESCO that, if it supplies the contracted standard of savings, the contractor will pay the contracted energy service fee. On the other hand, on the side of the executor, there are possible guarantees for a fair refund of FI loans and FI Loan credits. Since the use of an alternative procurement model almost always connects with its own funding sources, the FI Equity instrument could be used in this case.

3.4 Establishment of platform and pipeline of concrete projects

3.4.1 Background

This activity is complementary to the previous one and has to be implemented in parallel in order to achieve a higher number of energy retrofitted buildings through the combination of public and private capital and the introduction of additional financial instruments.

This activity is, like the previous one, directly related to the Operational Programme Competitiveness and Cohesion 2014-2020, but in order to achieve financing for this activity through the Operational Programme a modification of the OP is needed.

The exchange of good practice and knowledge achieved within the BUILD2LC project through the above mentioned interregional seminar in Lithuania, as well as bilateral meetings between stakeholders from Croatia, Lithuania and Spain have been used as key input for the development of this activity.

Based on the activities undertaken in the activity 3.3, this activity aims to define project pipeline which can be defined as one bigger pipeline at the level of all the sectors (industry, family households, public buildings, streetlighting), but also at the level of an individual sector. A good, transparent and politically supported pipeline is a prerequisite for quick and efficient implementation of projects, their funding and creating a positive climate for investing in EE projects in Croatia. The principles defined in this measure could be a good and especially needed practical example for pipeline design and for other sectors and projects (e.g. education, health, urban transport etc.).

3.4.2 Actions

3.4.2.1 Preparation of pipeline projects with revision of energy audits and introducing a unique system for measuring actual consumption

Implementation of this activity (together with actions 3.3.2.1) is based on energy audits. Namely, the EE project implementation practice has shown that implementation of projects based on energy audits has been very unreliable. This is the case both in buildings and in public lighting. This problem is especially present if the project is delivered by APM. In such cases, contract preparation consultants (PPPs or EPCs) must periodically review and correct existing energy certificates. Also, the implementation of this activity encompasses the introduction of a unique system for measuring the actual consumption. An important mediating effect is the measurement of the quality of the building (implemented measures of renovation) with a regard to standardized energy consumption. The implementation of this effect can be further developed further through a new project.

3.4.2.2 Establishment of national and local EE investment platforms

Depending on the total value of potential projects as well as geographic structure, local community level (e.g. county) could be defined by investment platforms to define predefined project groups, instructing structures and grants combinations, commercial sources of funding and investor groups and so on. This would significantly accelerate the implementation of EE projects at the local level.

3.4.3 Players involved

Ministry of regional development and EU funds

- Responsible for planning and implementing the regional development policy; improving cross-border, interregional and transnational cooperation and preparation of strategic documents regulating the national development objectives. The Ministry participates in the preparation of priorities and annual and perennial strategic and operational documents for the use of EU funds and other international sources. It sets up priorities for the use of ESI funds available for Croatia and monitors the implementation of measures and activities set out in strategic documents.

Ministry of Constructing and Physical Planning (MGIPU)

- The Ministry of Construction and Physical Planning performs administrative and other tasks related to construction, physical planning and housing, and participates in the development and implementation of programs from European Union funds and other forms of international assistance in these fields. The Ministry performs administrative and other tasks related to the

effects of economic policy instruments and measures on the development of design services in construction and on construction services; operation of legal and natural persons in the field of construction, the Croatian Chamber of Architects and Engineers in Construction and other engineers involved in construction; monitoring and analyzing the quality of construction and design services in construction; housing, housing policy; apartment and settlement construction; implementation of special housing programs of the Government of the Republic of Croatia: policy, monitoring and improvement of the status in utility management, international cooperation in construction and housing. MGIPU gives inputs for the preparation of operational documents for the use of EU funds and other international sources.

Croatian Bank for Reconstruction and Development (HBOR)

- Within the Croatian banking system, HBOR plays the role of a development and export bank established with the objective of financing the reconstruction and development of the Croatian economy. HBOR is in a charge for managing the FI Guarantee, FI UC guarantee and FI loans.

Energy service companies (ESCo)

- Implement projects - provide a defined level of energy savings.

Commercial banks (Commercial creditor)

- FI loans.

Local authorities

- Loan source cash, own sources cash, FI UC Guarantee provider

HAMAG BICRO

- FI guarantee.

3.4.4 Timeframe

2018-2020

3.4.5 Costs

Up to 5 million EUR

3.4.6 Funding sources

Operational Programme Competitiveness and Cohesion 2014-2020, Technical Assistance part.

Depending on the total value of potential projects as well as geographic structure, local community level could be defined by investment platforms to define predefined project groups, instructing structures and grants combinations, commercial sources of funding and investor groups and so on. This would significantly accelerate the implementation of EE projects at the local level.

4 Conclusion

Ministry of Regional Development and EU Funds as the Managing Authority for the Operational Program Competitiveness and Cohesion 2014-2020 in Croatia, published the indicative annual plan of calls for proposals for 2018 under the Operational Program Competitiveness and Cohesion 2014-2020.⁷ One of

⁷ <https://strukturnifondovi.hr/indikativni-godisnji-plan-objave-natjecaja/>

the planned calls is the Call for energy renovation of family houses whose publication is forecasted for 28.6.2019. The representatives of Ministry of Construction and Physical Planning which are responsible for preparation and publication of the Call, actively participated in activities organized within the project BUILD2LC such as regional stakeholder meetings and bilateral meetings. The information and ideas that REGEA presented at the meetings are used in creating measures included in this action plan and in defining the eligibility criteria for the call. Total envisaged budget of this call is 228.000.000 HRK while the value of the budget approved per individual project varies from 20.000 HRK to 200.000 HRK. Based on these data it is evident that number of households with improved energy consumption classification could be maximum 11.400 what is more than 9 times the value of the self-defined performance indicator for REGEA in BUILD2LC project which is set to 1.200.

Date: September 2018

Organisation:

Signature of representative of the organisation:

U. Z. Veljicki

Stamp of the organization:



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