



Assessment of policy framework in CE partner countries for introduction of new financing schemes

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The eCentral project summary

Addressing poor energy performances of public buildings is at the core of EU's Energy Efficiency Directive and Energy Performance Building Directive but also one of growing financial issues in Central European countries. To address that eCentral project will support key stakeholders to realize benefits of newly implemented building standard - nearly zero energy building (nZEB). eCentral project will prove that nZEB approach, although innovative, is optimal and cost-effective solution for renovation and construction of public buildings. Project aims to capitalise on results of previous and ongoing EU initiatives. Austria has a proven track record with nZEB renovation projects and will be leading other implementing partners (CRO, SLO, HUN) by example. Transnational cooperation will be used to receive maximum international visibility of selected pilot actions. Main outputs of the project are:

- energy performance certificate (EPC) Tool for public authorities
- deployment and promotion of innovative financing schemes
- training programme and project development assistance for nZEB projects
- building renovation strategies for selected regions
- state of the art pilot nZEB public buildings in selected regions
- established cooperation with scientific institutions and other nZEB initiatives

Transnational Assessment and Support Group, formed from project experts and scientific institutions will act as a support team and provide quality checks of each output. EPC Tool will be developed and used by public sector decision makers and project developers beyond eCentral project lifetime. Trained energy efficiency teams within the regional government will serve as a backbone for conducting future nZEB projects. The European Academy of Bolzano (EURAC), one of the leading centres of expertise on energy efficiency in the Central Europe region, will focus on policy analysis and dissemination of eCentral project results.

About this document

This document is part of activity A.T1.5 of workpackage T1, named D.T1.5.2 Assessment of policy framework in CE partner countries for introduction of new financing schemes (second round, following the assessment performed in 2018) and is a complimentary document to D.T1.5.1 Analysis of innovative financing schemes for deep renovation of public buildings.

The document gives an overview of policy frameworks for use of innovative financing schemes (public private partnership, energy performance contracting and crowdfunding) for nZEB projects in Hungary.

Key findings from this document will be used the development of a joint strategy for wider implementation of innovative financing schemes in Central Europe.

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A. Report summary

Addressing poor energy performance of public buildings as well as growing financial issues is at the core of the European Energy Efficiency Directive and Energy Performance Building Directive. The eCentral project will support key stakeholders to realize benefits of nearly zero energy buildings, using innovative financing schemes such as public private partnership (PPP), energy performance contracting (EPC) and crowdfunding (CF). PPP will be realised for the renovation of a kindergarten building in the City of Sveta Nedelja (HR), EPC will be used for renovating a kindergarten in BP18 of Budapest (HU) and CF will be tested for renovating a university for lifelong learning building in Velenje (SLO).

B. Country overviews

1. Hungary

The contents of the updated report are based on the following sources:

- the results of deep interviews with relevant stakeholders;
- the market knowledge of Energiaklub and eCentral project's Assessment and Support Group, as well as
- research from national literature (publications and studies, legislation documents, etc.).

At present (09.2020), there are still not favourable administrative conditions for promoting and encouraging innovative funding possibilities in Hungary. To this end, National Bank of Hungary (MNB), together with several other organizations, submitted a proposal for the EU Horizon2020 programme, the topic of which is the financing of energy-efficient investments, in which innovative forms of financing would also be examined. The project main objectives are to define, aggregate and compare green labelling and sustainable investments; to determine appropriate building energy performance measurement parameters; the design of energy efficient loans and related processes, exploration of energy efficient mortgage, ESCO based financing, account financing, green bond initiative and data collection support. In addition, educating market participants, developing regulatory recommendations and ensuring coordination, sharing best practices.

However the law on energy efficiency (LVII./2015) appraise financial framework and incentives as one of the policy instruments to be implement to meet national (and EU required) goals for energy savings, the Government does not encourage these financing schemes. Only a minor part of local governments used one of the examined forms of financing - most of them lacked specific knowledge and capacity to implement such projects, as the survey conducted in the frame of eCentral project among local municipalities¹ showed.

This law (LVII./2015 on energy efficiency) also declares, that information on energy efficiency and energy saving methods as well as on the financial and legal framework for energy efficiency and energy users should be provided electronically through a regularly updated website which should enable energy efficiency service providers and financial service organizations to provide energy consumers with information on their energy efficiency services. The webpage² has been in operation since the end of 2015, maintained by Hungarian Energy and Public Utility Regulatory Authority. The above-mentioned services are already published on the webpage, the legal background, the available financial services and practical energy efficiency guidelines are presented.

Because of the re-nationalisation of schools (previously owned and operated by local and county governments), the local governments lost interest in energy efficiency or RES investments in schools, which have huge saving potentials and would be ideal for energy efficiency projects. At the same time, the responsibilities of the state in this area have multiplied. Up to 2020, several schools' energy efficiency investment has been completed with the support of the European Union, through the Széchenyi 2020 Environmental and Energy Efficiency Operative Program, but the 3% annual target was still not realistically achievable.

¹ see in the assessment performed in 2018: <https://www.interreg-central.eu/Content.Node/DT152.pdf>

² <http://enhat.mekh.hu/>

1.1. Public-Private Partnership

1.1.1. Legal, regulatory and administrative framework

The Hungarian government does still not support PPP investments presently, neither regulation on PPP models is in force nor supporting institutions are available. The PPP Handbook, published by the Ministry of the Economy and Transport in 2004 gives guidance primarily to the professionals and decision makers of the public sector, furthermore it presents the experiences and research conclusions of other countries. Although a PPP law was planned to be launched around 2005, there is still no complex PPP legislation in Hungary. Recommended templates for PPP tenders and contracts provided by the national authorities are still not available.

Previously, it was forbidden to alienate public (municipal) property for private stakeholders, by the Act XCII. / 2005, however, the transfer of individual trusteeship rights to the private sector is allowed. As local governments generally carry out certain public tasks through outsourcing them, this amendment of the law fostered to entrust private investors with a larger number of public service tasks than ever before.

To carry out a PPP project, the law on the public procurements (CXLIII/2015) still has to be applied, as well as the concession law (XVI/1995) in some cases. PPP investments are complex purchases; it is not always possible to know whether to comply with the rules of service, building works or supply purchases.

In Hungary, PPPs are usually procured through a negotiated procedure so that the contracting authority can adjust to the tenderers' requests and specify the requirements more accurately. However, due to the uniqueness of each PPP construction, there was weak state control over the creation of unfavourable conditions for the contracting authority.

PPP is a kind of concession, so if the state or local authority assigns the right to exercise the activities listed, the PPP investment must be developed according to the rules of the concession.

According to the governmental decree 94/2018, the minister responsible for managing national wealth is charged with 'the development tasks related to the cultural, infrastructure and sporting projects implemented and underway in the framework of a PPP investment, the tasks arising from the rights and obligations of the State defined in these PPP contracts and the management of these PPP projects and contracts.'

Although central control was implemented adequate social control and understanding of PPP projects of the 2000s was not ensured.

1.1.2. Market assessment

Similarly to international trends, the concept of PPP has emerged in Hungary in the early 2000s. The first real PPP construction was signed by the Budapest Sportarena contract. Since 2004, PPP investments have grown to a significant extent up to 2010.

But the solutions applied in Hungary cannot be considered as PPPs based on the strict interpretation of the concept. The purpose of PPP projects in Hungary from a theoretical point of view was unusual: the main driving force behind PPP projects was to fill financing gaps. Practical reading of added value of the projects that are usually the essence of the projects is distorted. For the public party, the value of the projects was focused on providing a quality service in the short term, with affordable funding that does not impair the creditworthiness of local governments; the sophisticated risk sharing of PPP did not materialize. The government lacked the appropriate methodological knowledge and business management approach for conscious management of value-adding.³

³ KOZMA Miklós: PPP in Hungary; Vezetéstudomány, XLVII. ÉVF. 2016. 2. SZÁM, pp19.-/ ISSN 0133-0179; http://unipub.lib.uni-corvinus.hu/2276/1/VT_2016n2p19.pdf

Between 2003 and 2006, 133 PPP projects were contracted at national level, with a duration of 18-27 years and a NPV of app. 2,35 billion EUR. The net present value of PPP investments decided in 2007 exceeded 2,2 billion EUR.⁴

The once flourishing (from 2000 c. 2008) Hungarian PPP market drastically declined into recession due to numerous factors. PPP construction was used mainly at national level.

Local public authorities needed a subsidy of app. 45 million EUR in 2012 for the operation of PPP projects, mainly in the education sector. By the end of 2016, contract on the triggering of 12 PPP projects with a value of 90 million EUR was signed, with a result of 43 million EUR gain.

The government allocated 5,7 million EUR each year in the budgets⁵ of 2019, 2020 and 2021 for higher education asset management tasks, which are intended to facilitate the replacement of PPP projects: “The appropriation ensures the resources to replace PPP constructions, that are the most unprofitable and (partially) used for non-higher education purposes, and aims to abolish or reduce the obligations concerning PPP constructions.”

PPP constructions were primarily applied on the state level in Hungary: in recent years, highway construction has accounted for the largest share of PPP spending, in addition the PPP expenditures of MÚPA and the prisons were significant. Compared to previous years the share of investments in education, culture and sports has shrunk.⁶

Disadvantageous cases effected mistrust towards PPP projects, lacking regulation and supporting institutions results in a quasi-dead PPP market.

At local level, some typical forms of PPP are in common use: management and operating agreements (eg. for waste disposal) and leases contracts, but regarding nZEB refurbishments, more complex, eg. Build Operate Transfer (BOT) and DBO (design-build-operate) models are needed.

Currently, several commercial banks allow the financing of ‘private partner participation (PPP) developments and investments in the provision of state and municipal public services’ (e.g. MKB, OTP, Raiffeisen).

1.2. Energy Performance Contracting

1.2.1. Legal, regulatory and administrative framework

EPC/ESCO construction is the most known financing form after subsidies and bank credits in Hungary. There have been no changes in the legal framework in recent years. Law on energy efficiency (LVII./2015) define energy performance contracting and energy service companies:

- energy performance contract: a contract concluded between the energy user and the energy efficiency service provider, which is monitored throughout its lifetime and under which energy efficiency services provided are offset correlated to an agreed level of the energy efficiency improvement’s performance or other energy efficiency criteria;
- energy service companies: an enterprise providing energy efficiency services or other energy efficiency improvement measures to the final user’s facility or premises; where energy efficiency services means the provision of physical benefits or goods on a contractual basis, including the operation, maintenance and control required to provide the service, if such service is included in this contract, arising from the combination of energy and energy-efficient technology or

⁴ CSONKA Zsuzsa: PPP investments in Hungary through the case study of the M6 motorway, Budapest, 2011

⁵ www.parlament.hu

⁶ <https://g7.hu/kozelet/20190823/iden-130-milliardot-koltunk-az-mszp-szdsz-kormanyok-kobe-vesett-szerzodeseire/>

action and leading to proven verified, measurable or estimated energy efficiency improvements or to primary energy savings.

The law engage public authorities to conclude for energy efficiency services in writing and to observe the rules of related Governance decree (122./2015) on the minimum contents of such contracts, eg:

- description of the energy efficiency service subject to the contract and the ancillary service to be provided for its implementation and their costs; and the requirement of their fulfilment;
- guaranteed savings to be realized;
- the legal consequences applicable in the event of a breach of contract, in particular the legal consequences applicable to the failure to meet the guaranteed savings;
- the provision applicable to the eventuality of the contract performance conditions in respect of the amount of guaranteed savings;
- provisions for systematic measurement of savings achieved with energy efficiency services, for reference times of measurements and for monitoring;
- provisions for sharing the monetary value of the savings achieved between the parties.

General information on the conclusion of energy efficiency-based contract, the description of contents of the contracts is available on the Energy Efficiency website where a contract template can also be downloaded. Available at: <http://enhat.mekh.hu/esco>.

Unfortunately EP contract template is very general, although a joint supporting document gives further information and support to the content of the contract.

A Green Bank was announced in early 2015, with functions including ESCO financing, among many others such as developing energy efficiency and renewable energy financing products, taking part in the effective use of domestic and EU reimbursable and non-reimbursable resources. Instead of this Bank, National Energy Management Jsc. has been set up, with the intention of becoming a catalyst of EE investments with several financial products. In recent years, this plan appears to have been partially implemented, but the market is still quite narrow and much effort is needed to revitalize it.

The European Commission, together with the European Statistical Office (Eurostat), has made a major obstacle to energy efficiency contracts and related energy investments in the autumn of 2017: new guidelines for Eurostat can significantly increase the number of public institutions that will be able to conclude EPC-type agreements since the new rules make it possible to book the implemented investments in the bookkeeping of ESCO (carrying the financial and economic risk and the benefit of the investment occurs through its better operation) instead of the public authority, thereby the budget deficit of the public sector doesn't raise (as this was the greatest risk of the previous guidance and deficiency in public sector is strictly regulated in Hungary).

1.2.2. Market assessment

The once flourishing (from 1990 c. 2008) Hungarian ESCO market drastically declined into recession due to numerous factors. The possibilities narrowed, market volume shrank and the number of ESCO companies decreased from 20-30 to 6-8 by 2020. There is a double cause for ESCO investment in Hungary. First, lower energy prices on the global market have been carefully restored to energy saving savings. Besides, energy prices kept artificially low by government measures in Hungary result an unacceptable long payback period for the private sector. The other is that there is a mistrust of the ESCO market players on the market due to often unfavourable contracts for customers.

The regulatory background of the ESCO is not sufficiently mature and its market perception varies. Many market participants think the ESCO construction is a business contract with deferred payment, while in fact ESCO should be an energy efficiency service, not a supply of goods.

ESCO-based building energy renovations have typically taken place in the public sector. The building renovation activities of privately funded ESCOs were almost exclusively limited to the modernization of heating systems due to the profitability of the projects. (Thermal insulation and doors and windows are an integral part of buildings, so they cannot be activated by ESCOs in their own books. Thus, ESCOs do not have effective financial control over these built-in elements, making their investment risky.)

This approach permanently diverts resources from significantly longer-return measures to improve the energy performance of buildings (thermal insulation, replacement of windows and doors) and prevents to implement deep renovation approach.

Between 2010 and 2014, successful ESCO contracts were concluded for the modernization of public lighting under the EBRD's Sustainable Energy Finance (SEF) initiative (MFFFE).

Lack of project-development resources and local expertise makes municipalities vulnerable to ESCO partners.

In Hungarian practice, there are no ESCO portfolios that have reached such a critical mass that they have been able to make significant use of the price-reducing factors of joint energy procurement, construction and / or financing volume.

Intelligent Europe programme financed Transparens⁷ project was implemented from 2013 to 2015 with the cooperation of 20 European countries, among others in Hungary. The goal of the Transparens project was to increase the transparency and trustworthiness of Energy Performance Contracting (EPC) markets throughout Europe mainly with the development of Codes of Conduct for participating countries. The project had a great potential to develop and increase the European EPC market, but in Hungary, no long term impacts are perceptible.

Nevertheless there was little prospect of ESCOs at local government level before 2017, until the TOP (Territorial and Settlement Operational Programme) grants have been distributed. The remaining ESCO activities occur mainly in private companies, as several other barriers complicate public EPC contracting (see below), however the low energy prices caused a hold up in that sector as well.

The Energy Efficiency Directive created some market potential for ESCOs: 1600 large companies have to prepare energy audits. These audits provide a pool of potential energy efficiency projects - many of them likely to be ESCO-financed. The government has set up a public ESCO in 2014, National Energy Management Zrt. (the entrance of a public ESCO can either distort the competitive market or beneficial via enhancing knowledge and trust). NEG Zrt.⁸ has been reformed in 2017, it has become a significant stakeholder in the Hungarian ESCO market. Its contracting partners are mainly state organizations or municipalities, because of the security ensured by a state-owned company. Municipal projects in recent years have focused on heating / mechanical modernization and the transition to renewable energy sources.

Main ESCOs in Hungary in 2020:

⁷ <http://www.transparens.eu/uk/uk-home/uk-welcome-to-transparens-project>

⁸ www.negzrt.hu

- Energy Hungary Energetikai Zrt. - www.energy-hungary.hu - active in EPC projects for business sector
- GREP Zrt. (Green Public Lighting Zrt) - www.greplight.eu - specialized in public lightning EPC projects
- Engie Magyarország Ltd. previously: Cothec Ltd. - www.cothec.hu
- EnergoSys Zrt. - www.energosys.eu -specialized in residential EPC projects
- National Energy Management Zrt. - www.negzrt.hu - public ESCO focusing on PAs with complex services
- EON Hungary
- ENERIN Zrt. (enerin.hu) önkormányzati közvilágítási rendszerek korszerűsítése.

Most popular projects for EPC in the public sector are those for modernizing the public lightning systems, there are several implemented projects in Hungary. At the same time, the subsidy policy also supported public lighting projects with high subsidy intensities, which was too strong competition for market ESCOs.

There are still no dedicated financial instruments for ESCOs.

1.3. Crowdfunding

1.3.1. Legal, regulatory and administrative framework

A dedicated national crowdfunding legislation has not been developed in the recent years in Hungary. Law on civil, non-profit organisations (CLXXV./2011) and the other one on personal income tax (CXVII./1995) regulate the rules of donation. In general, donation for non-profit organisations is an asset or service provided without remuneration for the purposes set out in the constitution of the civil organization. Regarding local public authorities (LPA), related law (CLXXXIX/2011) doesn't name donation as a possible income for local public authorities, in turn it mention 'other special income', under which donation can be classed. Local public authorities can so open a bank account and start to collect money for a given purpose. LPAs or certain institutions under their management have usually a non-profit foundation, which also can start a crowdfunding campaign, which is quite common in Hungary. But crowd funding is much more complicated (see next chapter).

However, equity crowdfunding - crowd investing and crowd lending projects (eg. RES developments) are quasi prevented by financing regulation, as only dedicated and registered banks (firms with monetary activities) are allowed to gather and reallocate money. There are two options for implementing such projects: one is to set up a project-based business company involving institutions (which are listed in the National Bank's registry; however this is too complicated. The other option is to seek the position and permission of the National Bank in the hope of a positive assessment, explaining the background and objectives of the project. There is no data on the number of approved applications, but Energiaklub tried once and has been rejected.

In 2012, the Self-Regulatory Board of Fundraising Organizations (SRBFO) was established (the number of members has increased by 50% since 2018 to 46) and the Code of Ethics for Fundraising Organizations (CE) was also elaborated. Signing organisations are labelled this way as 'Ethical' Fundraising Organisations. SRBFO members undertake annual monitoring and compliance with the criteria of the Code of Ethics by providing information and paying a fee for the service.

In 2018, the European Parliament and the Council published a draft regulation about European Community financial services, which aims to achieve standardized regulation for cross-border services.

The entry into force of the regulation is expected in the second half of 2021, or early 2022 and will apply to all member states with the purpose of helping the spread of crowdfunding.

In 2019, the Hungarian National Bank's FinTech strategy⁹ was published, which aimed to provide a framework for the digitization of the Hungarian financial system. Among other aspects, the strategy proposed creating a regulatory framework for crowdfunding.

1.3.2. Market assessment

Donation-based community funding also appeared Hungary with the start of the first community fundraising sites.

Main online crowdfunding platform in Hungary is www.adjukossze.hu, maintained and supported by Non-profit Information and Knowledge Centre Foundation (NIOK). This platform and joint services are available only for non-profit, civil (NG) organisations since 2013 and realized more than 2,7 million EUR donation through its operation.

Average project size on this platform is around 3350 EUR. During the Covid-19 pandemic in 2020, the enthusiasm towards donation, the adjukössze.hu site has reached its goal (realized last year) in July.

www.givemychance.com is also a platform founded in Hungary, which is the first to provide individuals with the opportunity to raise donations, as well as allow for reward-based community funding, so in return for the donor's contribution, you can later receive some non-monetary reward.

www.gofund.me.com is also used by some Hungarian stakeholders. There are some other platforms as well, but without any support, therefore with very weak results.

Donation platform of Facebook is available in Hungary since 2019.

Donation-facilitating platforms can facilitate the technical implementation of campaigns, but it is important to mention that local community funding campaigns such as the refurbishment of a given building are successful if local people can identify with their content, goals, and message. No specific platform is needed to a campaign, since most donors will be local as well. On the other hand, at least a clear on-line (sub)page with as many donating possibilities as possible is crucial. Online platforms have highlighted the lack of financial resources to cover advertising costs as one of the obstacles to success, as well as the constraint on available media and the unfavourable economic, political and social environment in general.

According to statistics, the willingness to donate in Hungary is good in international comparison. Average donation is 20-25EUR nowadays (slowly raising). Only donation-based crowdfunding is common in the public sector of Hungary, mostly implemented locally, without specific platforms. Rewarded community funding is also present, but capital and lending models are not in use due to inadequate regulation.

Interesting case and maybe an example to follow is the municipality of Ajka, where a kindergarten has been renovated partly from crowdfunding (50% municipal and 50% private source).

An innovative example of community funding in Hungary is the Local Energy Saving Cooperation Assistance (HETES) Program, which aimed to find new funding models and structures to promote energy efficiency investments at the local, community level. According to the original idea (and Western European examples), in the form of a cooperative, members of a smaller community could start raising money along a local interest and then borrow in addition according to the defined goals. As fundraising in the form of cooperatives did not prove feasible in Hungary, a form of community financing for energy efficiency investments was created in cooperation with Magnet Bank (Hungary's first community bank). The counterparty puts his money in the bank and by making a deposit he can make the loan more favorable of a borrower of his choice. Several funders can be involved along the lines of local interest,

⁹ <https://www.mnb.hu/letoltes/mnb-fintech-strategia-final.pdf>

and experience shows that there is a significant interest in this new form of funding from municipalities as well as entrepreneurs. Most solar investments have been made so far.

1.3.3. The experiences from EPC renovating Vackor Kindergarten, Budapest 18th district

we are waiting for the input from BP18

1.3.4. Conclusions and Recommendations for Hungary on the possibilities of spreading the innovative forms of financing

In the case of PPP and ESCO, there is a lack of legal regulation and institutional background, furthermore the lack of practical knowledge for these innovative forms of financing. The lack of state-level incentives for building renovation, as well as other factors such as policies and messages that set energy efficiency back, also hinder the spread of new forms of financing. Energy prices kept artificially low by government measures in Hungary result an unacceptable long payback period for the private sector. Lack of sufficient expertise and project development resources makes municipalities vulnerable to PPP and ESCO partners. Adapting green public procurement in the public sector, consulting experts, and increasing stakeholder involvement would all contribute to the spread of innovative financing forms.

The applicability of EPC model for making deep (nZEB) renovations of public buildings is limited due to ESCOs' expectations, such as 2-8 years of payback time. Along with there are some fields where this construction works properly, eg. heating system reconstruction and modernization of lightening systems. Nowadays when energy service companies start to enter to the ESCO market, projects with several buildings - and so a greater volume of consumption - should also have potentials for ESCO financing. ESCO model could be also applicable for complex projects supplemented partly with the own budget of public authority.

Concerning crowdfunding the lack of legal regulation does not raise as a problem, in this case the traditional caring role expected from the municipality and the state, as well as high taxes and contributions discourage the willingness to donate. Municipalities have the opportunity to supplement their own or other resources with community funding (match-funding), but in practice this construction is not yet widespread.

Ideal campaign opportunities are public buildings with mainly community functions, such as cultural or educational buildings, or buildings that are very characteristic of a given settlement (historical sites, heritage) and where many residents are expected to mobilize.

The review of good examples, as well as the publication of less-known innovative forms of financing would have a confidence-building effect in any case.

PPP - Conclusions and recommendations

Many years of work should be needed in Hungary to have significant improvements in PPP market in the field of building refurbishment projects. Without governmental engagement this process cannot start.

The most imminent market challenges/barriers that must be overcome for wider application of PPP are:

- lack of trust,
- lack of legal and institutional background,
- lack of good examples,
- lack of reliable, robust private partners,
- insufficiently thought-out support policy,
- capacity and knowledge gaps.

Other important problem is that the planning does not separate which community development can be implemented from support, from which market sources,

ESCO - Conclusions and recommendations

The most imminent market challenges/barriers identified firstly by international projects¹⁰ that must be overcome for wider application of EPC/ESC are the following:

- low awareness for alternative financing methods (i.e. ESCO);
- lack of presented best practices for municipalities on the topic;
- lack of trust in policy-making;
- lack of expert consultations and involvement of stakeholders.

Needed measures:

- Promotion of building refurbishment, including adaptation of green public procurement in the public sector;
- More ambitious adoption of relevant EU directives;
- Improvement of business partnerships through code of conduct, establishment of a representative body/association, information dissemination, standardized documents;
- Development and promotion of financial products that are previously discussed with potentially interested clients;
- Improvement of creditability of clients and ESCOs, or dedicated treatment of EPC clients in the case of ESCO products of banks;
- Changing the management and design of state grants: intensity should decrease to maximum 25-30% of the total eligible costs, complex projects should be given preference, strong monitoring element should be introduced;
- Avoiding unpredictable policy changes;
- Establishment of a guarantee fund is a better alternative or a necessary additional element to non-refundable state grants.

These recommendations are still relevant today, as no significant changes have taken place.

The applicability of EPC/ESC model for making deep (nZEB) renovations of public buildings is limited due to ESCOs' expectations, such as 2-8 years of payback time. Along with there are some fields where this construction works properly, eg. heating system reconstruction and modernization of lightening systems. Nowadays when energy service companies start to enter to the ESCO market, projects with several buildings - and so a greater volume of consumption - should also have potentials for ESCO financing. ESCO model could be also applicable for projects supplemented partly with the own budget of public authority.

Crowdfunding - Conclusions and recommendations

The applicability of different crowdfunding models for making deep (nZEB) renovations of public buildings is limited due to the specificities of these funding models, such as the limited project size and timeframe and needs for clear and simple goals/messages for the campaign. On the other hand, CF can optimally complete LPAs' own funds or funds from other resources (match-funding).

Mainly public buildings with community functions, such as cultural and educational buildings are ideal for such a campaign, where there is a big pool of affected people. In case of the official building of the LPA, the success of a CF campaign is much more doubtful.

Main barriers of implementing CF campaigns by LPAs can be:

¹⁰ INTERREG Feedschools, Transparense

- lack of trust towards LPA,
- lack of special communication knowledge or dedicated and enthusiastic group for the campaign,
- lack of capacities for maintaining interests during the whole campaign,
- the widespread attitude, that public building refurbishments are in the responsibility of the (local) governments.

The main steps that should be overcome for wider application of crowdfunding among LPAs are a toolkit for LPAs supporting CF campaigns and pilot projects with wide dissemination activities.

Conclusions and Recommendations for Hungary on the possibilities of spreading the innovative forms of financing:

	PPP	EPC	Crowdfunding
Benefits	<p>risk sharing</p> <p>there is no need for one-time investment</p>	<p>there is no need for one-time investment</p> <p>long-term follow-up, service quality guarantee for up to 10-12 years</p>	<p>population is committed to achieving common goals</p>
Limits and challenges	<p>vulnerability of the public sector (lack of knowledge and preparation resources)</p> <p>mistrust due to failed and / or poor investment</p> <p>low energy prices</p> <p>differences in private and public sector operating models</p>	<p>vulnerability of the public sector (lack of knowledge and preparation resources)</p> <p>thermal insulation and door/window replacement are risky for ESCOs due to lack of financial control</p> <p>market participants that circumvent regulatory shortcomings, which worsens the perception of ESCOs</p> <p>low energy prices</p> <p>differences in private and public sector operating models</p>	<p>lack of trust</p> <p>high taxes and contributions (the population is reluctant to give in addition to public purposes)</p> <p>significant resources are required to run campaigns</p>
Opportunities	<p>forms of financing that can be used instead of bank loans</p>		<p>match-funding</p> <p>strengthening relationship with the population</p>
Proposals	<p>settling regulatory background, setting up supporting institution(s)</p> <p>presentation of good practices and reliable ESCO companies</p> <p>training of municipal experts/staff to be able to implement such projects</p>		<p>settling regulatory background</p> <p>toolkit for LPAs supporting CF campaigns</p> <p>foundation set up by local governments, through which they can also implement campaigns</p>