

ASSESSMENT OF POLICY FRAMEWORK IN CE PARTNER COUNTRIES FOR INTRODUCTION OF NEW FINANCING SCHEMES - 2020

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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 workpackage T1, named D.T1.5.2 Assessment of policy framework in CE partner countries for introduction of new financing schemes and is a complimentary document to D.T1.5.1 Analysis of innovative financing schemes for deep renovation of public buildings. Key findings of the past three years related to the implementation of the pilot actions are also included in this document.

The document gives an overview and status of policy frameworks for use of innovative financing schemes (public private partnership, energy performance contracting and crowdfunding) for nZEB projects in 2020. As a two-stage deliverable, this report provides an assessment at the beginning of the project and at its end, in order to compare the progress made in this field. Besides the European level, the following countries have been analyzed by the ASG members of the consortium:

- Croatia by REGEA (supported by Sveta Nedelja)
- Slovenia by KSSENA (supported by Velenje)
- Hungary by Energiaklub (supported by BP18)
- Austria by EAST
- Italy by EURAC



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A. Report summary and introduction

Poor energy performances of public buildings as well as growing financial issues are at the core of the European Energy Efficiency Directive and Energy Performance Building Directive. The eCentral project supports 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). To demonstrate viability of these models they will be tested in form of pilot actions which will focus on (re)construction of public buildings in three Central European target countries: Croatia, Hungary and Slovenia. These countries generally represent less developed markets in the context of innovative financial models which makes them an ideal ground for testing technical, legal and financial aspects of nearly zero energy building (re)constructions. Austria and Italy, on the other hand, are seen as mature financial markets whose success stories in this segment could be used for replication in Croatia, Hungary and Slovenia. However, findings in this assessment process of 2018 and 2020 have shown that public nZEB projects in all eCentral countries still face certain difficulties when it comes to use of innovative financial models.

Croatia has a comprehensive and well-arranged legal framework for the public private partnership model. PPPs have had a particularly important role in the development of large infrastructure projects and the provision of quality public services in the transportation sector. This has not translated to the buildings sector considering that this model has not been used for energy renovation in the past ten years. Energy performance contracting market has followed the same path and low energy prices have considerably hindered the feasibility of energy renovation projects. Crowdfunding has been a sparsely used financing mechanism, usually for smaller sustainable energy projects in the public sector due to the lack of professional crowdfunding platforms, undefined legal framework and low awareness of citizens and project developers about this funding mechanism. Comparing the assessment of 2018 and 2020 there haven't been any significant changes related to the legal framework for the three innovative financing schemes.

In Hungary, the lack of proper PPP regulation and supporting institutions resulted in a complete stop of PPP projects after the market boom in the early 2000s. PPP was seen as an opportunity to close out a funding gap, but inadequate financial and risk assessment resulted in a large number of financially unviable projects which resulted in government intervention through subsidies to keep these projects running and general mistrust towards both the PPP model and private investors. The EPC model followed a similar path as the PPP as the market shrunk due to bad EPC projects in the past period, low energy prices and economic recession. The new Eurostat guidance has helped in revival of the EPC market but the lack of dedicated financial instruments for ESCOs (primarily guarantee instruments and loans) are still significantly hindering market development. Crowdfunding is still a new financial mechanism in Hungary as there is only one platform and no dedicated national crowdfunding legislation in place. Public authorities can use a donation-based model while equity model is prohibited by law to non-financial institutions.

Slovenian PPP market has been legally set up from 2007 but has seen only moderate development due to small size of public projects which are unattractive to private investors. Other challenges derive from the lack of knowledge regarding PPP, which often lead to poorly prepared and conducted projects. The draft law on public-private partnership which will be up-to-date and in line with new EU directives is still in preparation. Energy efficiency investments in deep renovation of public buildings are mostly financed from the European Structural and Investment Funds (ESIF), using financial instruments and EPC, which has enabled adequate leverage factor to EU funds and public funding from the Republic of Slovenia. This national ESCO funding scheme has revived the energy renovation market but recent changes in the structure of the scheme in which energy distributors have to provide their own funding for the project have significantly reduced interest in EPC model. On the other hand, crowdfunding model has only been tested by private



sector project developers while no significant public sector projects in the field of energy efficiency have been recorded yet. National legislation which directly regulates crowdfunding in Slovenia does not yet exist and only one platform is active at the moment which results in a very passive crowdfunding market.

PPP model is well used in Austria, especially in larger cities (e.g. Vienna) and for major projects (e.g. infrastructure, public buildings). Complicated legal requirements and consultancy costs make PPP projects more expensive and less attractive for smaller municipalities which have rarely used this model for energy renovations of buildings so far. Although there is a large number of reliable ESCOs on the market the EPC model faces similar market barriers for wider uptake as the PPP, such as: the lack of know how in tender procedures and high specific project preparation costs which require bundling of smaller projects. Financial instruments for ESCOs are available only in certain Austrian states and not on the national level. The Austrian crowdfunding market changed rapidly over the last years and experienced a strong uptake of models in 2015 with the introduction of the Alternative Financing Act and its amendment in 2018, which simplified the regulation again. Nevertheless, some barriers and challenges were identified for a wider application of crowdfunding in Austria and public authorities have limitations for using of this mechanism.

Italian PPP market has steadily developed since 2000 due to well-structured legal framework but has not reached same investment levels as the French and English PPP markets, which are the leading ones in Europe. Large public projects have predominantly used this model although almost half of Italian municipalities have also had experience with PPP projects. High preparation costs, complex regulatory system and decision on risk distribution between public and private partner are some of the typical market issues for PPP projects. EPC on the other hand is not regulated by national legislation, but only through European regulations, partially integrated by the national energy agency (ENEA). A large number of ESCOs exists on the market and the EPC model is based on real energy savings that has to be measured and verified which makes these projects much safer for public contractors. In the building sector, crowdfunding is an innovative method to collect money and support the construction works for new and existing buildings. Being the first country in the world to enact a comprehensive regulation for the collection of capital through equity crowdfunding platforms the market is showing significant yearly growth. Although the number of crowdfunding platforms and campaigns is constantly growing public authorities rarely use this model for renovation of public buildings because of existing legal constraints and unfamiliarity with this model.

Due to the increasing complications when it comes to use public money, municipalities must find new and creative ways to fulfil their public obligations (providing infrastructure and public services). The budgets of the municipalities are limited by regulations and regulations on national and European level (Maastricht duty). Additionally, the public debt burdens increased strongly in recent years in most eCentral countries and for these issues, financial models such as public private partnerships, energy performance contracting, and crowdfunding appear as attractive alternatives, providing fresh capital and (possible) public off-balance sheet investments. A more extensive and comprehensive overview of markets for these models has been given in the following chapters. In addition to the first assessment round 2018, an overview of the European situation and legislation for innovative financing schemes was prepared as well.

The partners agreed that using innovative financing schemes encourages to find more creative and innovative solutions for the project itself (e.g. using novel technologies) and that public authorities shall use more innovative financing schemes. Nevertheless, using innovative financing schemes requires additional experts compared to traditional procurement.

B. European legislation - situation in 2020

1. Public-Private-Partnership-models in Europe

The Public-Private-Partnership model (PPP) is a well-known alternative financing schemes and means, that a public party and a private organisation arrange to deliver a public infrastructure project and service under a long-term contract. Already in 2008, the [European PPP Expertise Centre \(EPEC\)](#) was founded in order to support member states and others in using this financing scheme. EPEC is based in the Advisory Services Department of the European Investment Bank and currently serves 42 member organisations. EPEC shares good practices, assists policy developments and supports the PPP project preparation. The EPEC members of the eCentral project partner countries are:

- Austria: Federal Ministry of Finance
- Croatia: Ministry of Economy and Sustainable Development
- Hungary: *under clarification*
- Italy: Presidency of the Council of Ministers
- Slovenia: Ministry of Finance of the Republic of Slovenia

Online-services provided by EPEC are publications, market data and tools, which aim at sharing experiences and providing guidance. The [EPEC PPP Guide](#) as webtool offers users access to regularly updated PPP guidance and allow them to interact with the EPEC team (e.g. propose new guidance, rate the EPEC PPP Guide). It can be used freely.

1.1. Legislation

The European Union provided several directives, which apply to different forms of public private partnerships, such as setting up public-private entities, public procurement, awarding of concession contracts, etc. The directives are widely implemented in the member states.

- Directive 2014/24/EU on public procurement
- Directive 2014/25/EU on procurement by entities operating in the water, energy, transport and postal service sector
- Directive 2014/23/EU on the award of concession contract

Additionally, the EU distributes other important materials related to this topic, such as the [Green Paper on Public procurement](#) or provides funding for PPP research in different areas (buildings, digitalisation, infrastructure...). PPP have been an [important instrument under Horizon 2020](#) and the EU provided € 7,1 billion for “research public private partnerships” with industry.

1.2. Assessment of the European Market

The European PPP market is quite well document. EPEC provides annual market statistics, divided by country and sector and regular European wide publications are dealing with the market development. The following maps in Figure 1 and Figure 2 show the total market volumes achieved by countries from 1990 to 2019. (EIB, 2020)

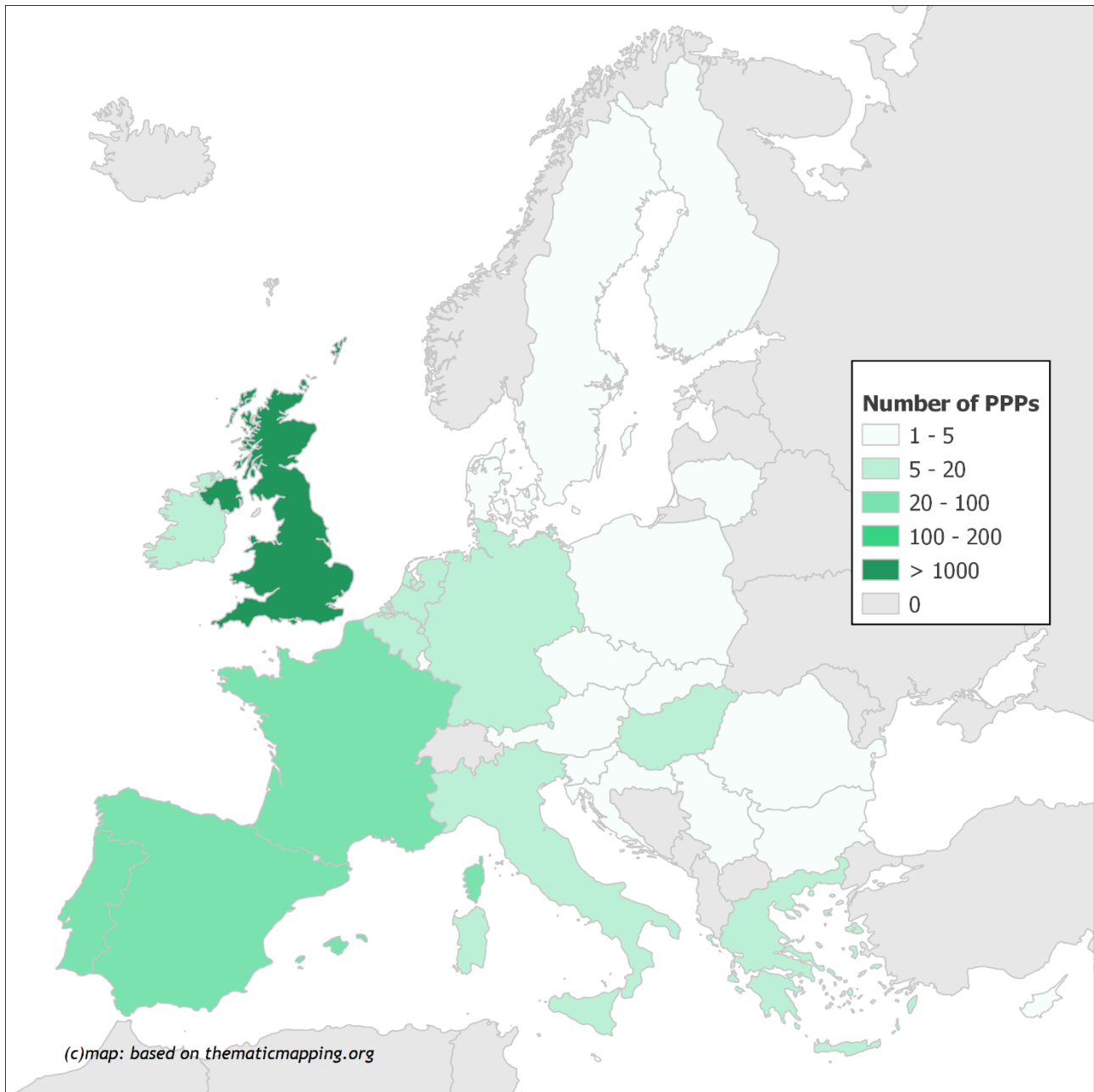


Figure 1: number of PPP projects carried out in European member states - 1990-2019, based on data from (EIB, 2020)

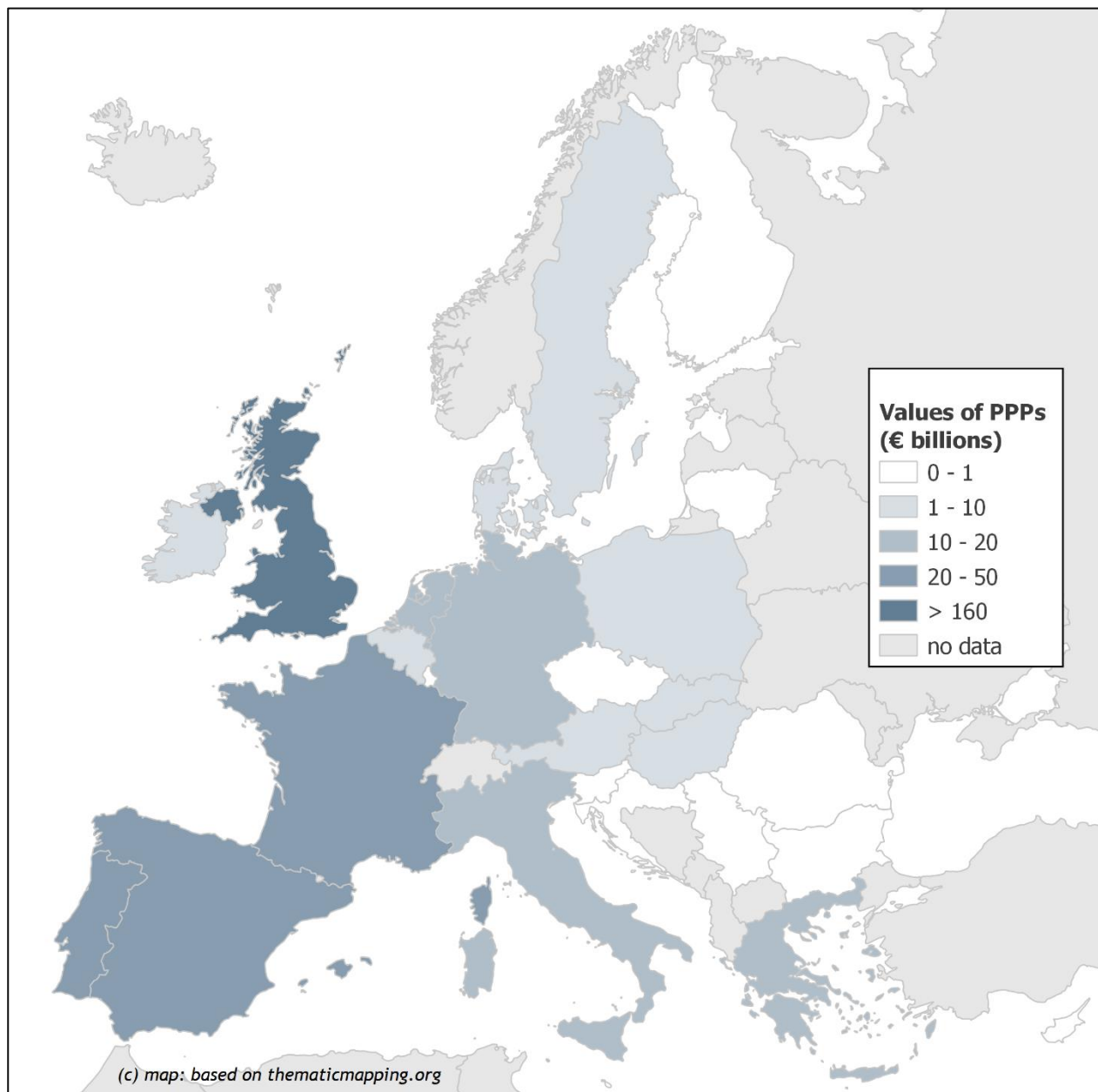


Figure 2: market volume of PPP projects carried out in European member states - 1990-2019, based on data from (EIB, 2020)

It can be seen that especially UK has a long tradition of using this instrument with a high market volume. In the past 5 years, UK and France have been countries with the highest numbers of deals closed. Overall, the EPEC statistics counts 1 868 projects with a total value of € 392.9 billion since 1990. (EIB, 2020)

Nevertheless, in recent years the aggregate value of PPP transactions in EU (EU27 + UK plus countries of Western Balkan and Turkey), which reached final close is decreasing. In 2019, 29 PPP transactions were closed, which is a decrease of 9 projects compared to 2018 and the lowest number since 1996. The average transaction size in 2019 was approx. € 388 million. (EIB, 2020)

2. Energy Performance Contracting in Europe

2.1. Legislation

The Energy Performance Contracting Market in Europe is mainly influenced by the Directive on Energy Efficiency. This Directive establishes a set of binding measures to help the EU to reach its 20 % energy efficiency targets. Under the directive, all EU countries are required to use energy more efficiently at all stages of the energy chain, including energy generation, transmission, distribution and end-use consumption. This Directive was adapted in 2018 as part of the Clean Energy for all Europeans package. (EC - European Commission, 2020)

- Article 18 requires, that member states shall promote the energy service market and access for SMEs to this market. Additionally, the public sector shall be supported in taking up energy service offers, in particular by building refurbishments, by:
 - (a) disseminating clear and easily accessible information on:
 - > (i) available energy service contracts and clauses that should be included in such contracts to guarantee energy savings and final customers' rights;
 - > (ii) financial instruments, incentives, grants and loans to support energy efficiency service projects;
 - (b) encouraging the development of quality labels, inter alia, by trade associations;
 - (c) making publicly available and regularly updating a list of available energy service providers who are qualified and/or certified and their qualifications and/or certifications in accordance with Article 16, or providing an interface where energy service providers can provide information;
 - (d) supporting the public sector in taking up energy service offers, in particular for building refurbishment, by:
 - > (i) providing model contracts for energy performance contracting which include at least the items listed in Annex XIII;
 - > (ii) providing information on best practices for energy performance contracting, including, if available, cost-benefit analysis using a life-cycle approach. (Directive 2021/27/EU, 2019)

Other relevant legislation, such as procurement directives were already mentioned under section Public-Private-Partnership-models in Europe.

2.2. Market Assessment

A recent market assessment with a focus on Energy Performance Contracting was done by the Joint Research Centre (Boza-Kiss, Bertoldi, & Economidou, 2017). According to them, the European ESCO market was rising for the past decades. The composition of the national ESCO markets varies across Europe and companies from outside Europe are usually not operating on the market. The European energy service markets includes diverse contract types, different suppliers and only a few types of clients such as industry and public sector.

In 2015, the total EU market was estimated at € 2.4 billion ESCO revenue, with a forecasted growth to € 2.8 billion in 2024 (1.7 % annual growth rate). The growth of the EU ESCO market is expected to be driven by demand for capital to overcome challenges such as policy pressures, deferred maintenance and mounting



regulatory as well as interest in comprehensive energy management strategies. (Boza-Kiss, Bertoldi, & Economidou, 2017)

EPC markets have also experienced a quite big growth in the past years. The causes are seen in the improvement of the legal situation, promotion and clarification of the definition. The following table highlights the expected development of the EPC sectors in Central European Countries, based on expert surveys (Boza-Kiss, Bertoldi, & Economidou, 2017):

Table 1: expected development in Central European Countries (Boza-Kiss, Bertoldi, & Economidou, 2017)

COUNTRY	LEVEL OF DEVELOPMENT OF EPC SECTOR	CONCLUSION OF EXPERT SURVEY
AUSTRIA	Excellent	Focus on large public EPC projects, small public/private projects are not expected to grow
CROATIA	Preliminary	Boom in EPC expected due to improved framework
CZECH REPUBLIC	Well developed	Slow but continuous growth expected
GERMANY	Excellent	No development expected
HUNGARY	Preliminary	unsure, dependent on external barriers
ITALY	Excellent	Continuous but slow growth, which depends on removing of barriers
POLAND	Preliminary	Unsure future
SLOVAKIA	Moderate	Based on current conditions no change expected
SLOVENIA	Preliminary	Stable, slow growth

The following map gives an overview on numbers of estimated annual EPC projects per year per country (Boza-Kiss, Bertoldi, & Economidou, 2017). It can be seen, that countries like Spain, UK, Slovakia, Italy are expecting more than 50 projects per year whereas other countries have premature markets.

A growth of the European EPC market was also experienced by 15 EU countries, involved in the Qualitee¹ project.

¹ www.qualitee.eu

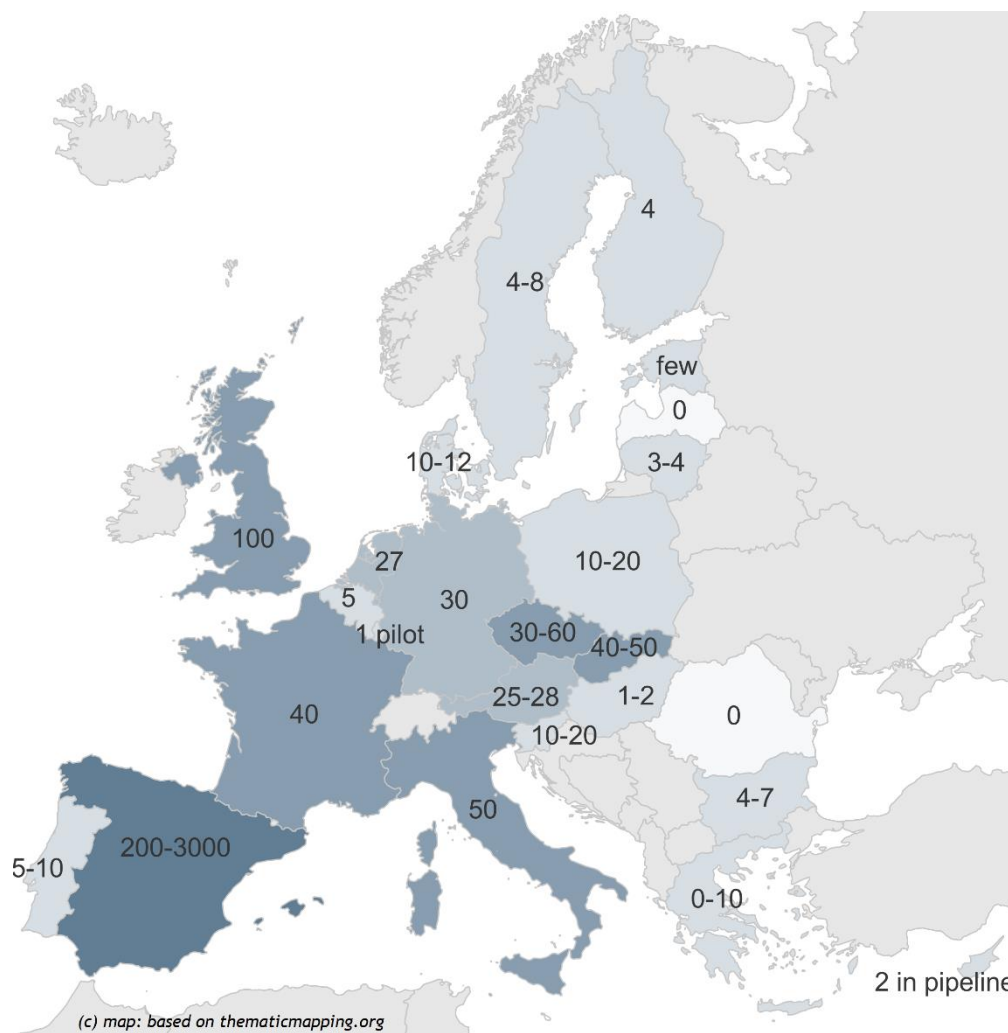


Figure 3: annual estimated EPC projects per country, based on data from (Boza-Kiss, Bertoldi, & Economidou, 2017)

3. Crowdfunding in Europe

Crowdfunding is seen as another alternative and innovative form of finance. Crowdfunding, which means the collection of money from a large number of individuals has increased in importance in Europe. Initiatives, such as the [ECN - European Crowdfunding Network](#) are working on the promotion of this financing scheme and linking relevant stakeholders with the European Crowdfunding sector.

3.1. Legislation

The European financial services regulatory is quite diverse, due to increased importance of alternative financing schemes over the past years. Following, existing crowdfunding regulation is described (EC & EIB, 2020)

- European Crowdfunding Service providers (ECSP) regulation:
 - > The ECSP was proposed in 2018 by the European Commission in order to harmonise crowdfunding offerings across Europe. This draft legislation shall establish an independent



framework integrated into existing relevant financial services regulations and allow crowdfunding actors, dealing with equity and lending based crowdfunding, to operate under the supervision of national regulators in the EU. As example, a uniform set of criteria will apply to all ECSP up to offers of EUR 5 million across all EU Member States (period of 12 months per project owner). The implementation of the ECSP is expected to take place in 2021 across the EU.

- Prospectus Regulation: Regulation (EU) 2017/1129
 - > This regulation deals with the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market. It was already amended to harmonise crowdfunding within Securities law, specifically the possibility to raise up to EUR 8 million per fundraising per year without a prospectus (minimum threshold 1 Mio. €). The regulation is already widely adopted among the member states.
- Payment service Directive: Directive 2015/2366/EU
 - > This Directive is related to payment services and includes Know Your Customer requirements and Anti-Money Laundering requirements and already applied in all member states.
- MiFID II: Directive 2014/65/EU
 - > Some regulators have applied MiFID II, at least partially, to equity-based and lending - based crowdfunding. Some crowdfunding platforms have voluntarily adopted MiFID II rules to overcome regulatory fragmentation with a view to operating across borders.
- AIFMD Regulation: Directive 2011/61/EU
 - > Designed for fund managers, especially hedge funds and private equity funds, it affects crowdfunding to the extent that platforms manage funds on behalf of clients (e.g. crowdfunding platforms manage separate funds for investors).

(EC & EIB, 2020) conclude, that especially equity and lending based crowdfunding activities are already covered by EU and national regulations. Nevertheless, crowdfunding has recently started to be covered by its own set of rules (e.g. through ECSP). In some member states, crowdfunding hasn't been addressed whilst in others it has been restricted in scope. It is expected that regulation of crowdfunding (lending and equity) will be partially harmonised at an European level. However, the interpretation of national authorities will still play a prominent role.

3.2. Assessment of the European Market

Crowdfunding gained more and more importance over the recent years in Europe. This perception is substantiated by the achieved annual market transaction volumes. The following Figure 4 shows the annual market volume of crowdfunding investments in Europe + UK, which increased constantly. From 2013 to 2017, the market volume is nearly 10 times higher and shows the increasing importance of this alternative financing scheme. In 2017, more than 500 crowdfunding platforms were operating in Europe. Equity-based and lending-based crowdfunding models are the most widespread forms. (EC & EIB, 2020)

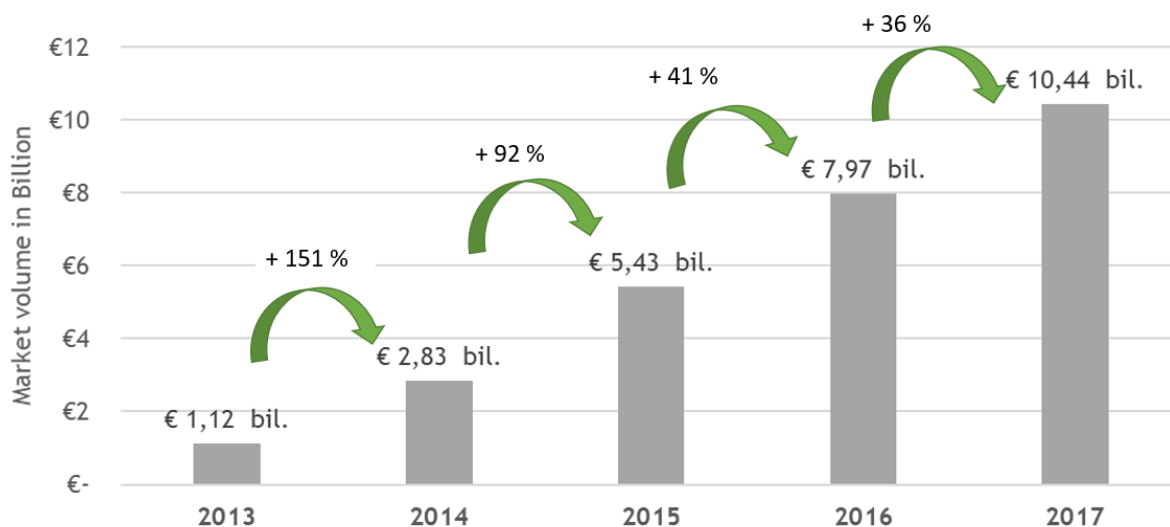


Figure 4: Annual market volumes in Europe (+ UK), 2013-2017, illustration based on (EC & EIB, 2020)

Divided by crowdfunding model, the following characteristics were observed during the last recent years in Europe (EC & EIB, 2020):

- Equity-based model:
 - 81 % success rate
 - Average project range between € 100 000 and € 600 000
- Lending-based model:
 - 83 % success rate
 - the average amount for single projects ranges between € 50 000 and € 2.5 million
- Donation-based model:
 - 69 % success rate
 - Common project ranges between € 5 000-10 000
- Reward-based model:
 - 66 % success rate
 - crowdfunding campaigns ranges between € 5 000 and € 25 000, up to € 100 000 for pre-sales projects

C. Country overviews

4. Croatia

4.1. Public-Private Partnership

4.1.1. Legal, regulatory and administrative framework

Public-private partnership (PPP) model is used for the realisation of infrastructural projects, primarily those relating to transport, energy and urban infrastructure, preservation of the environment, and the realisation of other projects, in line with the needs of Croatian citizens and other social entities, i.e. public interest in the charge of the competent public authority. PPP in the Republic of Croatia is regulated by the Public Private Partnership Act (OG 152/14) and the accompanying Regulation on implementation of Public Private Partnership Projects (OG 88/12), Concessions Act (OG 143/12) and the Public Procurement Act (OG 90/11 and OG 83/13) relating to the procedures for awarding the public procurement contracts and concessions contracts.

Two public institutions have a central role in the implementation of the PPP framework, change which took place in 2019:

- The Ministry of Economy and Sustainable Development
- The Ministry of Finance

The Ministry of Economy and Sustainable Development is in charge of the overall development and implementation of the PPP policy on national level and laws on public procurement. The Ministry of Finance evaluates and grants approval of potential PPP projects regarding their compliance with the budget projections and plans, fiscal risks and constraints regulated by special regulations, as well as the financial and fiscal sustainability of the project proposal.

Rights and obligations of the parties to a PPP project have to be regulated either through the underlying acts of a joint-venture company, in the case of institutional PPPs, or through a PPP contract in the case of contractual PPPs. The term of such a contract should be between five and forty years, allowing for the possibility of renewal at the end of the contractual period.

Public bodies are the only ones authorised to propose the implementation of a PPP project and each PPP cycle starts with a project proposal which has to be sent to the Ministry of Economy and Sustainable Development for prior approval. PPP project proposal has to contain at least Public Sector Comparator (PSC), Draft of a PPP contract and other documentations. Before initiating the procedure for the selection of a private partner, the public body must also obtain consent from the Ministry of Finance to the final draft of the PPP contract. The Ministry of Finance shall grant the prior consent with regard to compatibility of estimated direct financial liabilities of the public body with budgetary plans and projections while AIK approves a PPP project proposal if it fulfils prescribed criteria for the approval of PPP project proposals only after acquisition of a prior consent from the Ministry of Finance. A public body may initiate the public procurement procedure for the selection of private partner only after PPP project proposal is approved. The final version of the concluded PPP contract must be submitted to the Ministry of Economy and Sustainable Development, which keeps a public Register of all PPP contracts entered into in Croatia in accordance with the Ordinance on the Establishment and Maintenance of the Register of PPP Contracts (“the PPP Register”).



The period of exploitation or project implementation is starting after entering into force of the PPP contract (usually after financial close). The private partner transfers the PPP infrastructure (e.g. public building) to the public partner after contract termination without compensation. The maximum contracted period may be beyond the 40-year limit if the PPP project is based on a concession and applicable sectorial law prescribes that a related concession may be awarded for more than 40 years.

4.1.2. Market assessment

First PPP projects in Croatia had been contracted well before the complete PPP legal framework was put in place. The Istrian “Y” highway is considered the first PPP project in Croatia, signed back in 1995 with the financial closing for over EUR 500 million which was completed in 1997. Between 1998 and 2005, only three PPP transactions reached financial close, albeit projects of a relatively large size (average CAPEX about EUR 265 million). These transactions were the:

- Istrian Motorway Phase 1a (Croatia) in 1998, EUR 199 million CAPEX
- Zagreb Sewerage plant (Croatia) in 2001, EUR 300 million CAPEX
- Istrian Motorway Phase 1b (Croatia) in 2003, EUR 296 million CAPEX

The following decade was quite turbulent for the PPP market with changes in the legislative frameworks that resulted in dramatic fluctuations in numbers of signed PPP contracts and corresponding investment volumes (Figure 5).

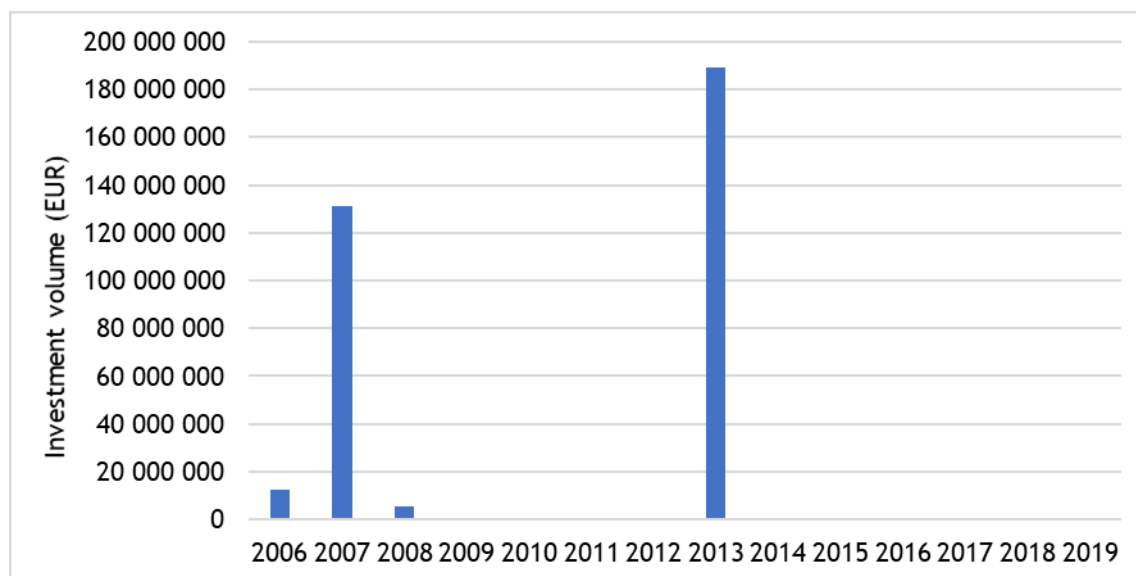


Figure 5: Investment volume of approved public-private projects in Croatia

Source: Registry of public-private partnership contract

2006 started promisingly by the signature of the first set of small authority-pay contracts in Croatia. The average CAPEX of the projects making up this subnational programme of schools and public buildings stood at only EUR 4.3 million. 2007 saw a significant increase in PPP activity when the number and aggregate value of closed transactions reached a high in 2007, despite a modest average project size (approximately EUR 50 million CAPEX). The main transactions were two user-pay transport projects:

1. Zagreb to Macelj Motorway and
2. the Central Bus Station in Osijek

Other transactions that closed in 2007 were the completion of the Croatian programme of local authority-pay projects in the educational sector and two sports facilities, also in Croatia. The global economic and financial crises dramatically affected infrastructure investment in the Region from 2008. Following a four-year period during which no project reached financial close, partly due to complicated PPP approval procedures which came with the new Public-Private Partnership Act, market activity resumed in 2013. The most significant transactions closed over recent years was the airport concession in Zagreb at a CAPEX of EUR 190 million. Croatia’s PPP market is reaching new levels of maturity with a substantial project pipeline currently being developed. From 2013, 9 PPP projects have been approved with total CAPEX value of EUR 261 million.

Transport has been the most important sector by far (Figure 6), with two projects with an aggregate CAPEX of EUR 1.54 billion, representing over 60% of the total PPP market by value over the reference period (2006-2018). PPP model has been sparingly used for energy efficiency projects, such as modernization of public lighting (0.24%) and renovation of public buildings (0.35%). However, it has been commonly used as a business model for construction and extension of schools (26.77%) and sports utility facilities (12.08%).

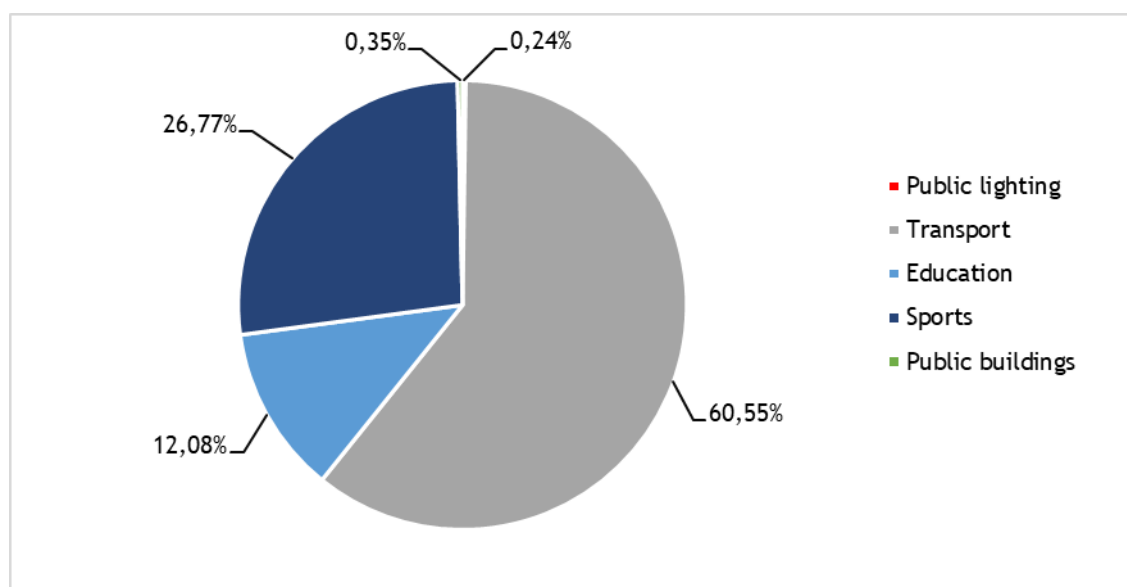


Figure 6: Approved public-private projects in Croatia by sector
 Source: Registry of public-private partnership contract

Most PPP projects in Croatia so far have been implemented through PFI (Private Finance Initiative) and concession models, mainly in sectors such as education, healthcare, public administration, environment, culture, and sports. In recent years, public authorities have started to use contractual PPP models for energy efficiency projects that include a full range of services (e.g. design, build, finance, operation and maintenance of the street lighting systems).

Croatian government and other public sector institutions have become highly interested and supportive in implementing PPP projects in Croatia because the need for public facilities and infrastructural projects in Croatia is huge but the abilities to finance those projects are highly limited. PPP model seems to be the

answer to some of the problems, giving the possibility of realisation of projects that would surely be on hold waiting for better times in financial situation of the country. Barriers which hinder the development of PPP market are three-fold.

Lack of affordable capital, risk sharing instruments and technical assistance for preparation of potential projects for public authorities are currently the main obstacles that hinder a wider uptake of PPP model. Domestic banks have very limited experience in financing PPPs either through corporate or project financing. Zagrebačka Banka and Erste & Steiermarkische Bank-Croatia are some of the banks that have contributed to the financing of PPP projects to date. Large PPP transactions have been financed almost exclusively by foreign banks and International Financial Institutions, such as EBRD, EIB, IFC and KfW. Combining European Structural and Investment Funds (ESIF) with private financing resources in a PPP structure is recommended on the level of the European investment policy. The Agency for Innovation and Competitiveness, in consultation with relevant EU institutions, has proposed the procedure for combining PPP with ESI Funds which was approved by the Managing Authority. Blending can be attractive from an ESI Funds perspective as the use of a PPP structure may bring additional disciplines in the deployment of funds and improve value for money (VfM).

Limited public sector capacity to manage the combination of grant funding and PPP preparation and procurement processes appears to be the single most important barrier. Also, the supply of specialist PPP advisory services in Croatia is still relatively under-developed. For large infrastructure projects, contracting authorities, project sponsors and financiers have tended to rely on international advisory companies with a local presence.

Another important issue is the lack of capable contractors, facility managers and operators in Croatia. To date, the large PPP contracts have been granted to consortia led by foreign international companies such as Bouygues, Hochtief or Strabag. Most domestic companies have no, or very limited, experience in long-term contracting and whole-life project management. However, in a few cases, domestic companies have been partners in consortia led by foreign companies (e.g. Viadukt, a Croatian company, for the Zagreb Airport project). Meteor Grupa, Tehnika, IGH, Konstruktor and Dalekovod (all from Croatia) are among the few other domestic companies directly (currently) involved in, admittedly smaller, PPP projects. (EIB EPEC - European PPP Expertise Centre, 2014)

4.2. Energy Performance Contracting

4.2.1. Legal, regulatory and administrative framework

Energy performance contracts in the public sector offer a practical solution to make public buildings and other public infrastructures more energy efficient, as the initial investment can be covered by a private partner and repaid by guaranteed energy savings. The procedure of implementation of energy services in the public sector in Croatia is regulated by the following legal acts:

- Energy Efficiency Act (OG 127/14, 116/18, 25/20)
- Regulation on contracting and implementation of energy services in the public sector (OG 11/15)

The purpose of this legal framework is to ensure that implementation of measures to improve energy efficiency in public buildings is carried out with no additional spending of owners'/users' budgetary resources. The Energy Efficiency Act defines energy services as the implementation of energy efficiency projects and other related activities based on energy performance contract with a guarantee which in referent conditions leads to verifiable and measurable or estimated energy efficiency improvement and/or energy and water savings. Regulation on contracting and implementation of energy services in the public



sector, additionally, prescribes full standards and complete rules that are implementing the methods for contracting energy services in the public sector and content of the energy service contracts which are governing the rights and obligations of the provider and the client's energy services and a way for monitoring over the implementation of energy services in order to offer a sustainable energy use and fair practice for the public sector.

Eurostat, the Statistical Office of the European Commission, published a guidance note on the recording of energy performance contracts in government accounts which applies to EPCs in Croatia as well. EPCs where the energy efficiency is obtained through energy management measures, without any investment in equipment addition or renewal, are treated as simple service or maintenance contracts. In case where the energy service provider guarantees future energy savings whose financial value is equal or higher than the service fee paid by the public sector client then this contract is not considered as an increase of clients (public) debt. For an EPC to be recorded off government balance sheet, the EPC contractor must be considered as the economic owner of the assets installed, which means that it will have to be the entity incurring most of the risks and benefitting from most of the rewards related to the EPC contract. In case the asset is recorded off government balance sheet, the impact on government deficit will be limited to the regular payments (the EPC fee, linked to the energy savings) undertaken by government to the EPC provider, which are spread over the duration of the contract. Moreover, no debt impact will be recorded at inception.

4.2.2. Market assessment

Energy performance contracting, although an important concept in the financing of energy efficiency projects has had a variable success over the years in Croatia. The European Commission estimated the market for ESCO services in Croatia to be between EUR 40-80 million by 2020. The EPC Market in Croatia is currently still in the early stages of development. The slowly developing supply side of the market is facing a large potential demand for the energy rehabilitation of public buildings in the country. The public building stock in Croatia comprises of 80,196 buildings with 13.8 million m² of floor space. Almost two thirds (53,911) of these buildings, which form 45% (6.2 million m²) of the total floor space, were built before 1980 and now urgently need to be refurbished following the energy efficiency standards set in national legislation.

First phase of the development of the ESCO market in Croatia was marked by the dominance of the national ESCO company - HEP ESCO (owned by the utility company HEP), as part of the first National Programme for energy efficiency in 2003. Until 2011 HEP ESCO modernized public lighting for 10 Croatian cities and retrofitted approximately 100 public buildings worth about EUR 15 million. Investment per project has typically been in the range from EUR 0.13 to 1.3 million, most of them in the form of energy service contracts with fixed payments. Calculated pay-back periods were in the range of 5-10 years. By 2010 only two ESCOs were registered on the market but in recent years an up pace in activities, with regards to market participants, can be noticed. This can be contributed to the implementation of national Programme for energy renovation of buildings of the public sector from 2014 to 2015 (with a following programme from 2016 to 2020) which had a positive impact on the overall ESCO market. 21 EPCs were signed over 2014-2016 for 68 buildings for a total contracted value of EUR 125 million. The Programme is implemented in the following 5 stages: introduction of a public-sector building into the Programme, preparation of tender documentation, public procurement procedure, implementation (through an ESCO company) and monitoring of programme results. The implementation of the Programme is administered by the national Agency for Transaction and Mediation in Immovable Properties (APN) through Energy Performance Contracting and co-financed by the Environmental Protection and Energy Efficiency Fund (EPEEF). EPEEF provided funds for co-financing the implementation of the Energy Renovation Programme for Public Sector Buildings of Croatia for the period 2014-2015, by granting financial assistance in the total amount of up to EUR 26 million or 40% of eligible costs. In the new edition of the Programme the grant co-financing is planned to be allocated from the European Structural and Investment Funds.



However, it is important to point out that almost all of these projects were not pure EPC type projects in the sense that payment is based on a fixed level of energy savings which was defined at the time of contract signature based on project documentation. In other words, energy savings are not verified and monitored during the term of the contract and no savings guarantees were offered. In the last few years there has been a sharp decrease of projects implemented by HEP ESCO due to the lack of savings guarantee and the effective regulation of the Croatian Government which limited borrowing by companies owned by the state. Also, the changes proposed by Eurostat which clarify the circumstances in which EPC contracts can be recorded off government balance sheets dismissed the notion that these contracts are not considered as an increase of public debt. For an EPC to be recorded off government balance sheet, the EPC contractor must be considered as the economic owner of the assets installed, which means that it will have to be the entity incurring most of the risks and benefitting from most of the rewards related to the EPC contract, which was not the case in most EPC contracts in Croatia.

In that regard, EIB ELENA funded project NEWLIGHT, has promoted the use of EPC and Public-Private-Partnership models for modernization of public infrastructure and managed to introduce standardized EPC contracts in accordance with Eurostat's Guidance Note on the recording of Energy Performance Contracts in government accounts. The overall investment value of EPC contracts within the NEWLIGHT project was EUR 20 million with contracts signed in 2018 and 2019. Based on developed EPC contracts in NEWLIGHT- a new project emerged in 2020, called REPUBLEEC. Purpose of the project is to further improve developed contracts and to use them for implementation of public lighting modernisation in the City of Zagreb. Investment value of project REPUBLEEC is estimated to EUR 25 million.

EPC exists in a wide variety of models with Energy Supply Contracting (ESC) as a variant which focuses on the efficient supply of energy. The ESC is a service primarily used in the commercial and industrial sectors but was also be used in the public sector in large energy consumers such as schools, hospitals and retirement homes. Examples of implemented pilot projects include an installation of biomass heating systems in a school in the city of Duga Resa and in the City of Karlovac's chamber of trades and crafts. Other good practice example of ESC is General hospital Zabok where private partner installed a 450 kW solar power plant. After the contract with private partner expire (2028)- PV plant will be under the hospital ownership and management. Same project principle was followed in 2020 by HEP ESCO where 120 kW solar power plant was installed on private company rooftop. Investment is being paid off through generated savings (in other words- private company is paying HEP ESCO generated electricity through contracted period of time after which solar plant becomes the ownership of a private company).

Croatian financial market, in general, can be considered as stable but conservative and risk averse in terms of alternative investments and financial products. Financial institutions perceive EPC based projects as complex transactions that require longer than usual (financing) approval procedures bearing higher than usual transaction costs. Financial institutions are very much interested in entering EPC market, as one of perceived future markets, but under the assumption of introduction tangible risk mitigation tools and higher standardization at international level. These would bring transaction costs down and compensate the risk prevailing at the moment.

Dedicated financial instruments for EPC projects are currently non-existent. ESIF grant based schemes have been predominantly used by project developers as well as soft loans approved by the Croatian Bank for Reconstruction and Development (HBOR). However, some progress has recently been made with introduction of specialized ESIF financial instruments for SMEs and public lighting projects.

Aside from the HEP ESCO company and some 15 active ESCOs a number of small start-ups, characterized as "sleepers", can be found on the market, waiting for the market to fully open up.



Aside from public buildings and lighting, industry is being highlighted by the EPC providers as the most lucrative sector. Main barriers for development of the ESCO market include the lacking support from the government in form of adequate regulation and subsidies, mistrust from the market, complexity of the concept coupled with the lack of information and high cost of capital for ESCOs.

Key barriers that hinder the development of Croatian ESCO market include lack of favourable financing instruments (loans, guarantees), low energy prices that negatively affect cost-effectiveness of energy efficiency projects, lack of knowledge and trust from project developers and financial institutions.

4.3. Crowdfunding

4.3.1. Legal, regulatory and administrative framework

Croatia has so far not made any specific laws to either forbid or further regulate certain models of crowdfunding (donation, rewarding, lending and investing models) but decided to review each model within existing legislation and analyse in which way it should be applied to crowdfunding. Therefore, each crowdfunding model has to tackle with different parts of Croatian legislation.

- Crowddonating - Legal qualification of this type of crowdfunding is rather easy since donation and gift are synonyms (Friganović, 2011) and donation can be therefore qualified as a gift contract that is regulated in the Croatian Law on Obligations. Categorisation as donation is very important from the perspective of tax law, for the person receiving the donation as much as for the donor. According to article 6, 7 and 13 of the Law Concerning the Financing of Units of Local Government and Regional Self-Government, individuals and legal entities that in the Republic of Croatia receive money as a gift, need to pay 5% of the donated sum as taxes. According to Croatian Income Tax Act money donated through Croatian internet platforms could be used in certain cases in order to deduct taxes to be paid, resulting in an additional motivation for donors to participate in crowdfunded campaigns. (Đurđenić, 2017)
- Crowdrewarding - If a reward is of symbolic and not significant financial value it is treated as a gift and crowddonating principles apply. If the reward is of financial the contract should be classified as a sale purchase agreement that is regulated by articles 376-473 of Croatian Law on Obligations.
- Crowdlending - The relationship that is created between the borrower and the lender in this type of crowdfunding can be categorized as a loan contract that is regulated in articles 499-508 of the Law on Obligations. Since the crowdlending platform acts merely as an intermediary, it is not to be treated as a party to the contract (Crnić, 2012) or as a credit institution that would require approval from Croatian National Bank according to article 56 of the Credit Institutions Act. Article 508 of the Law on Obligations regulates a loan with a purpose in a way that in case the purpose of the loan has been determined in the loan contract, the lender can terminate the contract if the borrower uses the money for another purpose. Money paid via crowdlending platforms is not secured by the deposit insurance system run by State Agency for Deposit Insurance and Bank Resolution under Deposit Insurance Act.
- Crowdfunding investing - This model is possible in form of investing in exchange for shares in a joint-stock company, private limited liability company, for stake in a cooperative or in an exchange for a “silent” partnership stake in the profit of the fund-seekers company. If the future business of the crowdfunded company is organized as a joint-stock or limited liability company in which every investor that participated in the crowdfunding campaign will receive stock/share in return, one needs to consider the provisions of the Croatian Commercial



Companies Act that regulate joint-stock and limited liability companies. Silent partnerships present a model which is much more appropriate for crowdfunding since its contract is not subject to a particular form and it does not require the personal presence of an investor.

Due to the fact that crowdfunding represents a source of financing in which the main actors (project owner, crowdfunding platform and individuals from the crowd) often do not come from same countries, in case of a dispute, it is often a challenge to determine the jurisdiction and applicable law.

So far, there have been no indications that crowdfunding will receive any kind of special legal regulations in the near future.

4.3.2. Market assessment

Croatian fundraisers prefer to seek funding on foreign crowdfunding platforms (Indiegogo and Kickstarter) due to the larger number of potential investors and the enhanced chances for successful financing. However, in late 2016 a joint-venture between Funderbeam platform and the Zagreb Stock Exchange marked a very positive change for the overall crowdfunding community in Croatia which was also noticed in the overall investment volume tracker (Figure 7).

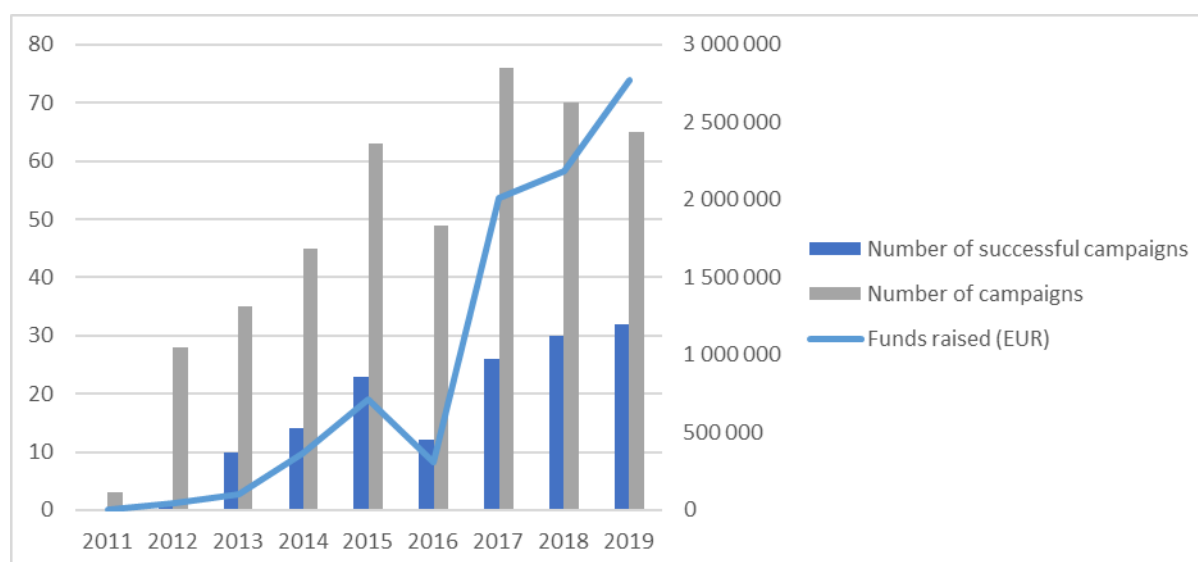


Figure 7: Investment volume of Croatian crowdfunding campaigns

Source: Registry of public-private partnership contract

Reward and donation-based models are the only models that have been used for sustainable energy campaigns on two domestic platforms (Croinvest and Croenergy) which have been set up by two non-profit institutions (Centre for Social Innovation and Sustainable Development and North-West Croatia Regional Energy Agency). The platforms charge no additional fees for campaign developers and their primary role is to support projects with low financial profitability and high economic benefits for local communities. Platform operators check credibility and viability of each project before the campaign can be set up and assist with development and promotion of campaigns. Until 2018, six donation and reward-based campaigns which raised EUR 60,000 have been successfully completed on the Croenergy platform (energy renovation of a kindergartens, schools and installation of energy efficient equipment).

Funderbeam SEE is a crowdfunding platform for start-ups that investors can use to trade their shares on immediately after the initial investment phase, as if those were companies listed on the stock exchange.

This model is possible due to an innovative system based on the Bitcoin technology. Zagreb Stock Exchange has a 20% stake in the company, which is based in Tallinn (Estonia). The first companies started trading in 2017 and so far around EUR 6 million were raised until mid-2018. Initially, Funderbeam SEE will focus on companies from Croatia, Slovenia and Serbia but will eventually expand its operations to the wider region. Funderbeam checks the investors' identities, examines the expertise of the leading investors and looks at the quality of the startups' business plans as well as their willingness to communicate with the investors and their readiness for sudden growth. Funderbeam SEE uses Funderbeam's business model, meaning that an Estonia-based special-purpose vehicle (SPV) was founded for the purpose of financing. The SPV represents the company's only owner, appearing on behalf of all the investors. The reasons for this include low expenses and no red tape. Moreover, that way startups do not have dozens or hundreds of investors but just one, the lead investor, who is also the SPV CEO. At the same time, after creating their investor profiles, both the lead and the small investors have at all times control over their entire portfolio, in all the startups that they have invested in via Funderbeam. The minimum investment for each individual small investor in a company amounts to EUR 100. Creating investor profiles for investors is free of charge. This innovative capital accumulation system and trading platform boasts another special feature: trading requires no intermediaries or brokers, and the investors pay the 1% transaction fee only if they actually profit from a transaction. So far, only one campaign from the energy sector was present at the Funderbeam SEE platform. A Croatian start-up company called Include managed to raise EUR 270,000 for development and production of high-quality smart solar powered street benches.

In 2018 another ground-breaking initiative was commenced by the Green Energy Cooperative (ZEZ). A fundraising campaign for construction of a 30 kW municipal solar power plant worth EUR 30,000 represents the first application of a P2P micro lending model in Croatia and funds for this pilot investment were raised within two weeks of its launch. ZEZ representatives stated that citizens were willing to invest twice as much as needed and due to the overwhelming success of the first campaign similar projects will be launched by the end of the year. Second P2P micro lending campaign for solar power plant in Križevci was successfully completed in 2019 (15 kW capacity).

4.4. Experiences from eCentral Pilot Action with public private partnership in Sveta Nedelja

The following table gives an overview on the eCentral pilot action in Croatia.

Table 2: Overview on pilot action in Croatia

Name of building	Kindergarten Slavuj
Owner	City of Sveta Nedelja
Use of building	Kindergarten
Building address	Školska ul. 11, 10437, Rakitje
Year of completion	2021
Heated gross floor area	764,38 m ²
Costs of renovation	1,6 million EUR
Financial model	Traditional - municipal budget

nZEB target requirements	Achieved Energy consumption: 37,41 kWh/(m ² a) RES production: 47,9%
Implemented renovation measures	Solar plant and collectors for DHW

The main point of Kindergarten Slavuj project was construction of additional building annex in order to align with pedagogical standard and to meet a rising kindergarten capacity need in Sveta Nedelja and surrounding villages. Annex was built in line with nZEB standard, using high-efficient building materials and implementing the RES systems. Project was implemented through traditional financing model.

Table 3: Overview on pilot action in Croatia- Primary school with sports hall and music school, Municipality of Marija Bistrica

Name of building	Primary school with sports hall and music school - Municipality of Marija Bistrica
Owner	Municipality of Marija Bistrica
Use of building	Primary and music school
Building address	N/A
Year of completion	N/A
Heated gross floor area	approx. 4700,00 m ²
Costs of construction	approx. 11 million EUR
Financial model	Design-Build-Finance PPP model
nZEB target requirements	Energy consumption: max. 55 kWh/(m ² a) RES production: 100% of consumed energy
Implemented RES measures	N/A

Table 4: Overview on pilot action in Croatia- Primary school with sports hall and music school - Primary school with sports hall, Municipality of Stupnik

Name of building	Primary school with sports hall- Municipality of Stupnik
Owner	Municipality of Stupnik

Use of building	Primary school
Building address	N/A
Year of completion	N/A
Heated gross floor area	approx. 5000,00 m ²
Costs of construction	approx. 8 million EUR
Financial model	Design-Build-Finance PPP model
nZEB target requirements	Energy consumption: max. 55 kWh/(m ² a) RES production: 100% of consumed energy
Implemented RES measures	N/A

PPP documentation was developed for Municipalities of Stupnik and Marija Bistrica and construction is expected to take place in following years.

4.5. Conclusions and recommendations using innovative financing schemes in Croatia

Table 5 shows the conclusion and main recommendations for innovative financing schemes from the Croatian perspective.

Table 5: Conclusion and recommendations on innovative financing schemes - Croatia

	PPP	EPC	Crowdfunding
Advantages	<ul style="list-style-type: none"> ➤ High-value project implementation without significant initial cost for public authority (PA) ➤ High-value project implementation without increasing the PA's public debt ➤ better value for money ➤ fast implementation after preparation phase is done ➤ better risk allocation between involved parties 	<ul style="list-style-type: none"> ➤ Medium-value project implementation without significant initial cost for PA ➤ transparent relationship between involved parties (contract) 	<ul style="list-style-type: none"> ➤ relatively easy to start a campaign ➤ improving dialogue with citizens ➤ improving the PA's public image and perception
Challenges and barriers	<ul style="list-style-type: none"> ➤ negative public perception (previous experiences with PPP) ➤ diverse PA opinion on involving the private capital in implementation of public projects ➤ complex and time- consuming PPP project preparation not suitable for smaller projects 	<ul style="list-style-type: none"> ➤ relatively unknown model in need for better promotion ➤ diverse PA opinion on involving the private capital in implementation of public projects 	<ul style="list-style-type: none"> ➤ need to improve citizens' confidence to invest in public good ➤ lack of professional CF platforms ➤ need for better regulation on national level



	because of higher preparation cost		➤ part of CF models are not applicable in Croatia
Opportunities	<ul style="list-style-type: none"> ➤ lack of financial power on local level ➤ lack of financial mechanisms for implementation of projects on national level 		
Recommendations	<ul style="list-style-type: none"> ➤ use PPP model for implementation of large-scale projects ➤ put aside all prejudices related to PPP model and to realistically look at the comparison of PPP vs. traditional model of financing 	<ul style="list-style-type: none"> ➤ use EPC model for implementation of medium-scale projects (compared to PPP), i.e. replacement of fossil fuel boiler with RES 	<ul style="list-style-type: none"> ➤ use CF model for implementation of small-scale projects, i.e. implementation of basic EE measures in public schools/kindergartens



5. 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 municipalities² 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 webpage³ 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.

² see in the assessment performed in 2018: <https://www.interreg-central.eu/Content.Node/DT152.pdf>

³ <http://enhat.mekh.hu/>



5.1. Public-Private Partnership

5.1.1. 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 (CXLI/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.

5.1.2. 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.⁴

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.⁵

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 budgets⁶ 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 MÜPA and the prisons were significant. Compared to previous years the share of investments in education, culture and sports has shrunk.⁷

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).

5.2. Energy Performance Contracting

5.2.1. 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;

⁴ 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

⁵ CSONKA Zsuzsa: PPP investments in Hungary through the case study of the M6 motorway, Budapest, 2011

⁶ www.parlament.hu

⁷ <https://g7.hu/kozelet/20190823/iden-130-milliardot-koltunk-az-mszp-szdsz-kormanyok-kobe-vesett-szerzodeseire/>



- 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 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).

5.2.2. 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 (MFFEE).

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 Transparens⁸ 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.⁹ 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.

⁸ <http://www.transparens.eu/uk/uk-home/uk-welcome-to-transparens-project>

⁹ www.negzrt.hu

Main ESCOs in Hungary in 2020:

- 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.energосys.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.

5.3. Crowdfunding

5.3.1. 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 strategy¹⁰ 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.

5.3.2. 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

¹⁰ <https://www.mnb.hu/letoltes/mnb-fintech-strategia-final.pdf>

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, 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.

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

The following table gives an overview on the eCentral pilot action in Hungary.

Table 6: Overview on pilot action in Hungary

Name of building	Vackor Kindergarten
Owner	Municipality of 18 th District of Budapest
Use of building	Educational
Building address	1188 Budapest, Csolt utca 4.
Year of completion	2021
Heated gross floor area	670 m ²
Costs of renovation	expected: 569.912 EUR
Financial model	ESCO
nZEB target requirements	are met
Implemented renovation measures	planned: insulation of walls 10 or. 20 cm EPS; metal windows replacement; insulated. PVC; flat roof installation 30 cm; XPS above ceiling 30 cm; insufflated insulation; heat ventilation system + heat; back ventilation; 37,125 kWp solar panel installation

The different phases of the pilot action in Hungary:

- Feasibility study - 4 months
 - > Review and modification for FS - 1 month
- Tender documentation - approx. 6 months
- Preparing public procurement - approx. 1 month
- Public procurement for contractor - approx. 2 months
- Implementation: ongoing (10/2020)



The table below provides an overview on lessons learned from the Hungarian Pilot action in the eCentral project, using the EPC approach:

Table 7: Lessons learned from pilot action in Hungary

Legal challenges	Lack of experience in EPC
Financial challenges	High cost of capital for ESCOs and for the Municipality, low prices of energy that lead to low financial savings vs high cost of renovation according to nZEB; small size of EE project for ESCOs,
Construction challenges	From the building survey, it was concluded, that there is static problem in the building, the pillars need reinforcement. There were further obstacles with designing engineering solutions.
Potential of replication	Yes, because there are multiple outdated and low performing buildings. No, because there is no local experience in building renovation with ESCOs, difficult to put together an acceptable building ‘package’ for ESCOs. The capital needed from the Municipality is too high.

5.5. 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 projects¹¹ 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.

¹¹ INTERREG Feedschools, Transparence



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:

- 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. Table 8 summarizes the main conclusions and recommendations.

Table 8: Conclusions and Recommendations for Hungary on the possibilities of spreading the innovative forms of financing

	PPP	EPC	Crowdfunding
Benefits	<ul style="list-style-type: none"> ➤ risk sharing ➤ there is no need for one-time investment 	<ul style="list-style-type: none"> ➤ there is no need for one-time investment ➤ long-term follow-up, service quality guarantee for up to 10-12 years 	<ul style="list-style-type: none"> ➤ population is committed to achieving common goals
Limits and challenges	<ul style="list-style-type: none"> ➤ vulnerability of the public sector (lack of knowledge and preparation resources) ➤ mistrust due to failed and / or poor investment ➤ low energy prices 	<ul style="list-style-type: none"> ➤ vulnerability of the public sector (lack of knowledge and preparation resources) ➤ thermal insulation and door/window replacement are risky for ESCOs due to lack of financial control 	<ul style="list-style-type: none"> ➤ lack of trust ➤ high taxes and contributions (the population is reluctant to give in addition to public purposes)

	<ul style="list-style-type: none"> ➤ differences in private and public sector operating models 	<ul style="list-style-type: none"> ➤ market participants that circumvent regulatory shortcomings, which worsens the perception of ESCOs ➤ low energy prices ➤ differences in private and public sector operating models 	<ul style="list-style-type: none"> ➤ significant resources are required to run campaigns
Opportunities	<ul style="list-style-type: none"> ➤ forms of financing that can be used instead of bank loans 		<ul style="list-style-type: none"> ➤ match-funding ➤ strengthening relationship with the population
Recommendations	<ul style="list-style-type: none"> ➤ settling regulatory background, setting up supporting institution(s) ➤ presentation of good practices and reliable ESCO companies ➤ training of municipal experts/staff to be able to implement such projects 		<ul style="list-style-type: none"> ➤ settling regulatory background ➤ toolkit for LPAs supporting CF campaigns ➤ foundation set up by local governments, through which they can also implement campaigns

6. Slovenia

6.1. Public-Private Partnership

6.1.1. Legal, regulatory and administrative framework

Public-private partnership in Slovenia is regulated by a Public-Private Partnership Act (Zakon o javno-zasebnem partnerstvu; ZJZP), that came into effect with 7.3.2007. Key institution that regulates PPP in Slovenia is Sector for Public-Private Partnership and Public Procurement System ("Sektor za javno-zasebno partnerstvo in sistem javnega naročanja"), which is operating under Ministry of Finance. The main task of the mentioned sector is to develop, monitor, and help in the implementation of PPPs in Slovenia. In this capacity, the PPP sectors publishes manuals for operating PPPs, formulates expert proposals for amendments to regulations and the adoption of other measures that might improve practices and eliminate problems, and performs other tasks provided by the PPP Act. The reality however is much different. As 2018 report "Achieving the goals of introducing public-private partnership" elaborated by the Court of Audit states, "The government and the ministry have not established all the conditions for the development of public-private partnership. The legal framework had a number of shortcomings. The Public-Private Partnership Act does not clearly and unambiguously define the concept of public-private partnership, does not adequately regulate risk transfer, the method of reporting, the method of data collection, supervision, sanctions for violations and the like. The auditees noticed many shortcomings of the Public-Private Partnership Act soon after its entry into force, but in the decade that followed, they did not prepare and



propose the necessary changes. The Government did not establish adequate organizational support for the promotion, monitoring and supervision of the field of public-private partnership, as it did not ensure the functioning of the Council of the Government of the Republic of Slovenia for Public-Private Partnership or abolished it. The government has not adopted a strategy and goals in the field of public-private partnership and has not set them in other strategic documents. The Ministry initially set up an organizational unit for development and support in the field of public-private partnership, but this unit was gradually reduced and for the most part did not even function. /.../ The Ministry therefore did not implement measures aimed at supporting, monitoring and promoting public-private partnerships. The Ministry did not prepare appropriate analyzes of potential implemented projects, procedural manuals, guidelines, standards and the like for potential contractors of public-private partnerships. The Ministry did not keep public records of public-private partnership projects and no longer reported on registered public-private partnership projects after 2010. Since the enactment of the Public-Private Partnership Act, only one public-private partnership infrastructure project has been implemented at the state level, and the ministry or government has not analyzed the reasons for public-private partnerships' lack of interest in public-private partnerships, especially at the state level.“ (Vesel, 2018)

It is obvious that until 2018 the promotion of public-private partnerships has not been put into practice on a successful level. The government should take action regarding the absence of goals in the field of public-private partnership and their non-achievement. The Court of Audit finalized the report with several recommendations for Ministry of Finance and Government of Republic of Slovenia on how to successfully manage PPP area, among them:

- examine the system of reporting by public partners on public-private partnership projects and propose changes to the rules so that they result in a clear and unambiguous obligation as to who should report to whom, when or within what period and the content of reporting, and that appropriate actions will be identified in the case of violations or omission of reporting;
- Government and Ministry for Finance should clearly separate and regulate the tasks that each has in the area of public-private partnerships;

The Ministry for Finance should:

- establish an organizational unit for the performance of all tasks related to public-private partnerships and making a real assessment of staffing needs in relation to the scope of tasks;
- keep the evidence of public-private partnerships as this is a prerequisite for enabling professional support to involved actors and for actively supervising the appropriate distribution of risks between all partners involved. This is also a condition for successfully coordinating and integrating PPP policy with budgetary planning;
- monitor who conducts educational activities on public-private partnership in the Republic of Slovenia and if the content of educational materials is harmonized with the positions of the ministry, as well as translating and adapting professional materials in the field of PPP and supplement them according to specific needs in the Republic of Slovenia;
- take action to identify bad practices of public-private partnership providers.

By properly planning and monitoring the progress made in achieving the goals of introducing public-private partnerships, the government and the ministry could more effectively direct activities for more successful and efficient management of the public-private partnership area.

Regarding policy changes - Ministry of Finance presented new draft Public-Private Partnership Act in 2017. The draft presented was prepared upon changes on EU level, but the timeline for accepting new Public-

Private Act still remains uncertain to this day. In accordance with the requirement of Article 4 of Directive 2012/27 / EU on energy efficiency, Ministry of Infrastructure has also prepared a proposal of a "Long-term strategy for energy renovation of buildings until 2050", which has not yet been implemented. The strategy promotes PPP and includes „verification of suitability for public-private partnership“ as a necessary condition when planning energy renovation of the buildings in the wider public sector.

6.1.2. Market assessment

Implemented PPP projects have been relatively scarce in Slovenia, one of the reasons being that the organisational unit (of Ministry of Finance) responsible for PPPs acted too passively and, as a public partner, did not give enough stimulation for the private partner to get involved in PPPs, as mentioned above. The other reasons may be related to many municipalities being financially too weak to participate in PPP projects and the fact that undersized projects did not stimulate enough investment interest from the private sector. Surprisingly though municipalities are the drivers of PPP in Slovenia. As of 2012, most PPP infrastructure projects have been awarded at the local level by the municipalities in different fields - social housing, child day care, waste management, sports infrastructure, cultural buildings, parking garages, public lighting, photovoltaic, sports infrastructure, smart cities technologies, ICT, road maintenance, public transport services, etc. 51 energy renovations on a local level and 22 energy renovations in wider public sector were implemented from 2016 until 2019, mostly through PPP, although the exact number of PPP projects remain unclear.

6.2. Energy Performance Contracting

6.2.1. Legal, regulatory, and administrative framework

There is still no binding legislation in place that promotes EPC. However, a project office for energy renovation of buildings was established within the Ministry of Infrastructure in 2015 with a purpose of guiding and navigating the vast scope of the energy renovation field. Within this effort an important legal document „Detailed guidelines for public partners for energy renovation of public buildings“ was elaborated in 2018 that outlines the budgetary, legal and implementation aspects of EPC in public buildings in Slovenia.

Otherwise, the main legislation that indirectly outlines the implementation of EPC includes:

- The Energy Act (Energetski zakon, EZ-1, Official Journal of the Republic of Slovenia - OJ RS, No 17/14, 81/15)
- Public-Private Partnership Act (Zakon o javno-zasebnem partnerstvu /ZJZP/, OJ RS, No. 127/06): main legal framework for the implementation of EPC in public sector.
- Public Procurement Act (Zakon o javnem naročanju /ZJN-3/, OJ RS, No. 91/2015: regulates some PPP EPC models

6.2.2. Market assessment

The energy contracting market in Slovenia remains underdeveloped, as it seems there are too few providers in the market and not enough response. The reason for Slovenia's orientation towards the EPC was the lack of financial resources. This model should bring many positive effects: economic viability and success of projects, transfer of risks to bidders and facilitation of technical implementation to clients, measurement of savings, long-term stability of the system, provided assistance in financing individual projects and transparency of individual projects, and although all EPC models that exist in EU also exist in Slovenia, the dynamic development of this area hasn't happened yet.

Despite the fact that there are more and more actors since the beginning of the introduction of EPC in Slovenia, the size of the supply side of the ESCO market is below expectations and competition is scarce, as there are very few energy service companies (ESCOs). The ministry for infrastructure updates a list of energy service providers that already provide energy contracting services according to the model of contractual provision of energy savings, and currently only 6 such companies exist in Slovenia. For better development of EPC in Slovenia several project promoters and additional players in the field of financing (investment funds for guarantees) are needed as well as quality monitoring system and certification of ESCO companies. The reasons for such small number of ESCO companies in Slovenia are mainly high barriers obstructing the entry into the industry, related to financing and the complexity as well as length of development cycles of ESCO projects. Smaller companies have difficulty sustaining cycles lasting 12 or 18 months while maintaining financial stability. Indeed the number of projects has risen sharply, from an average of two new projects per year to more than 15 in 2013, and this growth continued in a similar way in 2016. The dominating EPC model was the guaranteed savings scheme. But the numbers still leave a lot to be desired. If we want to see development of EPC market in Slovenia, the scope of projects has to be increased, which would be possible through provision of guarantees for ESCO providers. The problem is that, due to the scale of projects, contractors have to take out loans that lower their bonuses and make it difficult to obtain financial resources. (Podnebna pot 2050, 2018)

In the future more technical and financial aid and guarantee schemes that would allow smaller businesses to operate more successfully in the market are needed. Some changes are to be expected, however. According to JRC research *»further market growth is expected and will be mainly linked to the renovation of public buildings, where some tenders have already been announced and projects are in the pipeline. Slovenia has an obligatory yearly renovation rate for governmental buildings, which translates to 1.8 million m² of useful area in the public sector to be refurbished by the end of 2023. /.../ The financing will support projects where ESCO funds and public funds can ensure that measures with long pay-back periods, which are not interesting for ESCOs, are involved in renovation projects, which could later lead to larger scale renovations. In order to achieve this target, EU funds will be allocated to leverage private funds and the EPC.«* (Šalamun, 2018)

»The highest economical energy saving potential in Slovenia up to the year 2020 exists within the residential sector (2 TWh) and industry (2.5 TWh), both with no or low levels of implemented ESCO projects. While the public sector is the main ESCO client, there are some projects in the commercial sector related to - among others - lighting, SHP, and heat pumps in the commercial sector. According to Slovenia's National Energy Efficiency Action Plan (NEEAP), energy performance contracting will play a key role in fulfilling public sector obligations (such as the obligatory buildings renovation rate), but in addition ESCOs will occasionally be supported to employ energy services projects in multiapartment buildings and commerce.« (Šalamun, 2018)

6.3. Crowdfunding

6.3.1. Legal, regulatory, and administrative framework

Slovenia does not have a proper legislation that would regulate crowdfunding. Existing EU laws allow individual countries to implement national legislation for crowdfunding projects that are worth less than 5 million EU, which leads to the lack of transparency and inefficiency of crowdfunding processes. Crowdfunding in Slovenia has not been directly regulated and is for now related to 17 existing laws, mostly linked to contractual or investment law.

There is no institution, that would legally regulate crowdfunding in Slovenia. For now, institution that is considered relative for crowdfunding projects is Securities Market Agency, which is a legal entity of public law. Its basic mission is to maintain a safe, transparent, and efficient market in financial instruments.

Crowdfunding projects are also under control of Financial Administration of the Republic of Slovenia (under Ministry of Finance). No policy or regulative changes have been made regarding crowdfunding until 2020.

6.3.2. Market assessment

In the year 2017 start-ups in Slovenia have launched 60 campaigns across three crowdfunding platforms (Indiegogo, Kickstarter and AdriaFund). The number of successful campaigns was 21, which is 35% success rate. Altogether start-ups have raised 743,500 EUR in the year 2017. 14,500 people have supported and donated for campaigns in 2017. The number of launched campaigns has decreased compared to previous years, but on the contrary, campaigns seem to be better prepared and thought through. The most common crowdfunding model that Slovenian start-ups use is a reward crowdfunding. Unfortunately, number of crowdfunding projects from 2018 to 2020 remain unclear.

6.4. Experiences from eCentral Pilot Action with crowdfunding in Velenje

The following table gives an overview on the eCentral pilot action in Slovenia.

Table 9: Overview on pilot action in Slovenia

Name of building	Andragoški zavod Ljudska univerza Velenje
Owner	Municipality of Velenje
Use of building	Educational
Building address	Titov trg 2, Velenje
Year of completion	Not yet completed
Heated gross floor area	689,77 m ²
Costs of renovation	112.946,12 €
Financial model	Crowdfunding Municipal funds
nZEB target requirements	Primary energy 65 kWh/m ² year or under Minimum 50 % of primary energy consumption must be generated from renewables.
Implemented renovation measures	<ul style="list-style-type: none"> - Modernisation of interior lighting; - Partial change of the porches; - Roof insulation; - Installation of a solar power plant on the roof of the building

- Details on financial model:



The goal was to renovate Ljudska univerza Velenje through crowdfunding model. Despite a very well-prepared campaign, the campaign failed to reach the pledged amount of money (€ 10.000,00) to be raised. The current legal framework poses several limits to crowdfunding also in Slovenia there is only one platform for crowdfunding, which is intended exclusively for entrepreneurs and municipalities with applicable legislation find it more difficult to cooperate.

□ Project duration:

The planning phase of the crowdfunding campaign lasted two months, and the implementation itself, including the time for contributions, lasted 4 months.



□ Feedback from public authorities during the whole process:

The implementation/renovation has just started, so the feedback on the whole process is not yet known. The process of crowdfunding though was met with a scepticism, which is expected with the financing models that are not widely used or known. The idea of crowdfunding for energy renovation projects was a novelty for public authorities as well as for citizens.

The table below provides an overview on lessons learned from the Slovenian Pilot action in the eCentral project, using the crowdfunding approach:

Table 10: Lessons learned from pilot action in Slovenia, Crowdfunding approach

Legal challenges	<ul style="list-style-type: none"> ☞ lack of legislation in this area ☞ lack of simplicity prevented by laws ☞ lack of visibility of the method of raising money also by legislators
Financial challenges	Despite a very well-prepared campaign, the campaign failed to reach the pledged amount of money (€ 10.000) to be raised.
Construction challenges	Given that it is a renovation of an older building, the construction challenges were mainly in the fact that we did not know in what condition certain parts of the building are, especially the hidden ones. The building is also part of the cultural heritage so exact guidelines for renovation had to be followed to keep the building appearance true to its historical origin.
Positive highlights, success factors which need to be mentioned:	For the first time in Slovenia the fundraising took place in the manner of crowdfunding by citizens for the renovation of a public building and the biggest positive surprise was the good response of citizens and their approval of the campaign itself
Potential of replication	Although this specific crowdfunding campaign was not as successful as we hoped, it is important to keep trying to implement such projects to



	<p>normalize the idea of crowdfunding among citizens and public authorities. This was one of the very first such projects in Slovenia (renovation of public building through crowdfunding), so the success wasn't really expected, but we did pave a way for future such projects until someday this kind of citizen involvement will be normalized and supported by all actors as well as legislation.</p>
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6.5. Conclusions and recommendations using innovative financing schemes in Slovenia

Table 11 summarizes the main conclusions and recommendations from the Slovenian perspective.

Table 11: Conclusion and recommendations on innovative financing schemes - Slovenia

	PPP	EPC	Crowdfunding
Advantages	<ul style="list-style-type: none"> ➤ Relieving public funds ➤ Transfer of risk to the private sector (eg construction risk and maintenance / management risk, service sale risk, etc.) ➤ Greater cost efficiency in project construction and management ➤ Higher standard of service quality for the end user ➤ The risk of delays in the completion of projects is transferred to the private sector by contractual agreement and contractual penalty. 	<ul style="list-style-type: none"> ➤ No initial investment needed, as all investment costs are usually undertaken by ESCO company ➤ ESCO company also undertakes technical and economic risk for the implementation and management of the project ➤ engaging private capital and reducing pressure on public funds; ➤ more efficient provision of services ➤ lower costs of facility management and maintenance, as this is also undertaken by private investor (ESCO company) 	<ul style="list-style-type: none"> ➤ Citizen involvement, making citizens part of changes in their city ➤ giving them opportunity to support projects they believe in ➤ would be easier to implement more useful projects across the city if citizen financial involvement would become something regular
Challenges and barriers	<ul style="list-style-type: none"> ➤ The promotion of public-private partnerships has not been put into practice on a successful level in Slovenia. ➤ The Government did not establish adequate organizational support for the promotion, monitoring and supervision of the field of public-private partnership ➤ The government has not adopted a strategy and goals in the field of public-private partnership and has not set 	<ul style="list-style-type: none"> ➤ The energy contracting market in Slovenia remains underdeveloped as it seems there are too few providers in the market and not enough response. ➤ Competition is scarce, as there are very few energy service companies (ESCOs). ➤ Financial initiatives would be needed (guarantee schemes), as 	<ul style="list-style-type: none"> ➤ Unregulated area, missing legislation ➤ hard to engage citizens for this novelty approach ➤ scepticism of local authorities



	<p>them in other strategic documents.</p> <ul style="list-style-type: none"> ➤ The Ministry did not prepare appropriate analyses of potential implemented projects, procedural manuals, guidelines, standards and the like for potential contractors of public-private partnerships. ➤ Many municipalities are financially too weak to participate in PPP projects ➤ Undersized projects do not stimulate enough investment interest from the private sector. 	<p>most companies can't sustain cycles lasting 12 or 18 months while maintaining financial stability.</p> <ul style="list-style-type: none"> ➤ Quality monitoring system and certification of ESCO companies is lacking, as well as general support system for this kind of financing model. 	
Opportunities	<ul style="list-style-type: none"> ➤ Regarding policy changes - Ministry of Finance presented new draft Public-Private Partnership Act in 2017. ➤ Ministry of Infrastructure has prepared a proposal of a "Long-term strategy for energy renovation of buildings until 2050", which has not yet been implemented, that promotes PPP and includes „verification of suitability for public-private partnership“ as an necessary condition when planning energy renovation of the buildings in the wider public sector. It could be expected that PPP will play a key role in fulfilling public sector obligations (such as the obligatory buildings renovation rate) in the following period. 	<ul style="list-style-type: none"> ➤ According to Slovenia's National Energy Efficiency Action Plan (NEEAP) it is expected that energy performance contracting will play a key role in fulfilling public sector obligations (such as the obligatory buildings renovation rate) in the following period. 	<ul style="list-style-type: none"> ➤ This was one of the very first such projects in Slovenia (renovation of public building through crowdfunding), so the success wasn't really expected, but we did pave a way for future such projects until someday this kind of citizen involvement will be normalized and supported by all actors as well as legislation.
Recommendations	<ul style="list-style-type: none"> ➤ New legislation and national support system for PPP is necessary. 	<ul style="list-style-type: none"> ➤ Quality monitoring system and certification of ESCO companies is needed on national level, as well as general support system. 	<ul style="list-style-type: none"> ➤ We would advise detailed examination of the legislation and, if necessary, its adaptation

7. Austria

7.1. Public-Private Partnership

7.1.1. Legal, regulatory and administrative framework

In Austria, there is no explicit legislation regarding PPPs and concessions, whereas currently are no plans to pass such legislation. The contractual frame for PPP is based on general civil and commercial law and procurement of PPP must usually follow the Federal procurement act.

The Federal Procurement Act (FPA) is influencing public procurement and contracts. “Classic” public contracting authorities covered by the Federal Procurement Act (FPA) are the State, local and regional authorities and public companies. In addition, there are less strict rules for utilities in the field energy, transport, water and postal services. (Theiss, 2010).

According to Austrian law, public companies are companies which are:

- at least 50% owned by public authorities
- or controlled by public authorities
- or underlie the Court of Auditors (Kunz, 2015)

Nevertheless, this Federal Act does not apply, when services, orders, etc. are carried out by a private partner on behalf of a public body when:

- the public body has the same supervision/control rights for the partner as for a public department - control criteria
 - > can be indicated by proving that the public body holds the assets of the contracting company
 - > public contractor has the possibility to influence strategic objectives and important operation decisions of the contracting company
- and the effort is mainly done for the public contractor - materiality principle
 - > contracting company is mainly operating on behalf of the public body

However, individual assessments are usually recommended. (Mickel & Pointner, 2014)

According to (Theiss, 2010) Federal Public Procurement rules which are applicable to PPP are:

- PPPs are not explicitly recognized by Austrian law and therefore usually classified as service or work concessions
- EC fundamentals (equality and transparency) and principle of non-discrimination must be applied for awarding service concessions
- If the Federal Procurement Act (FPA) applies (see exceptions above), a service concession shall be awarded through a competitive procedure
 - > Public contracting authority will be obliged to publish a tender notice and invite bidders
- For work concessions only certain provisions apply such as
 - > Minimum deadlines, provisions regulating prequalification and tender documents, contracting rules, etc.)



- > FPA leaves choice of procedure for awarding a work concession mainly to contracting authority, but generally requires a publication
- > Work concessionaires are obliged to put any work contracts for third parties out for tender (also private concessionaires must follow certain rules when awarding subcontracts)

Structure of concession contracts:

- Austrian law does not foresee any mandatory elements to be used in a concession contract; lack of common approach for concession contracts
- Contract stipulations are set by the good moral's clause (section 879 of Austrian General Civic Code) - this may be relevant in terms of contractual risk allocation, liability caps and termination clauses

In general, it must be mentioned that under Austrian civil law, a contract for the performance of a continuing obligation may at any time be terminated for good cause, even if the list of termination events under the concession contract is exhaustive. (Theiss, 2010)

7.1.2. Market assessment

In general, it must be said that there is no joint Austrian database for PPP projects, which significantly complicates a status quo analysis of the market in terms of “number/size of previous projects and types of implemented PPP models”.

Nevertheless, the Austrian Administration tries to facilitate PPP since the early 2000s and there is already some literature available which tries to summarize current trends and reviews already implemented PPP projects. Main sources for these market analyses are “WIFO” - the Austrian institute of economic research and reports of the Federal Audit office.

The most recent analysis of general trends in the Austrian PPP sector was done in 2010 by conducting surveys among the nine federal states of Austria and 257 Austrian cities. Objective of the survey was to summarize the amount of implemented PPP project and their success as well as an assessment of the attractiveness of these models among public authorities. The survey was implemented by (Puwein & Weingärtler, 2008)

At the level of Federal states of Austria, only Upper Austria and Carinthia participated in the survey, whereas Upper Austria claimed that they hadn't implemented any major PPPs since 1st January 2000. Federal State of Carinthia indicated that they adopted 7 major PPP projects since the early 2000s. Important decision factors for PPP were that they expected a faster project implementation and spread of the investment costs over a longer period of time. 41 (16%) cities answered the survey whereby 17 cities already implemented 25 PPP projects in the fields of buildings, infrastructure (transport, IT...) over € >1 million and environmental services (water supply, waste water, waste disposal, etc). The results of the survey are summarized below (Federal State of Carinthia, 41 cities):

- 53% have a high interest in implementing PPP models
- 6 out of 41 actively reject PPP models
- Main motivation for implementing PPP is that public partners expect efficiency advantages, private know how and a faster project implementation
- Major obstacles are the high effort for of public partners in the preparation phase, which must be compensated with efficiency advantages during the PPP implementation. This can be a major obstacle for smaller cities since efficiency advantages can only be reached at a certain project volume. In addition, legal requirements appear complicated.

Currently, some PPP projects are implemented in Vienna. The city of Vienna is currently working on a series of educational buildings, which will be all built using PPP model (Gary, 2018). The city will invest more than € 700 million (Stadt Wien, 2020) in 7 buildings:

- Bildungscampus Christine Nöstlinger: start of operation 2020
- Bildungscampus Aron Menczer: start of operation 2021
- Bildungscampus Inner-Favoriten: start of operation 2023
- Bildungscampus Gasometer-Umfeld: start of operation 2023
- Bildungscampus Wien West: start of operation 2022
- Bildungscampus Liselotte-Hansen-Schmidt: start of operation 2021
- Bildungscampus Atzgersdorf: start of operation 2022

The Austrian Audit Office and the Audit Offices of the Federal States evaluate public investments on a regular basis. During the literature research it appeared that PPP projects on this administrative level (federal and state) are mainly carried out for infrastructure projects such as road constructions and rail tracks (exceptions in Federal State of Carinthia, see table above), based on the concession model. Through the evaluations of these projects the audit offices found disadvantages for public partners on a repeated basis. Usually, the public partners lost important supervision rights of the private partners, which resulted in a lack of transparency. Additionally, the financing of the projects appeared to be more expensive since private partners usually get worse loan conditions. (Rechnungshof, 2016) (Rechnungshof, 2018)

7.2. Energy Performance Contracting

7.2.1. Legal, regulatory and administrative framework

In general, in the public sector, the procurement procedure must follow the national public procurement legislation (EU Public Sector Directive).

The EPC itself is yet not regulated directly. But the Federal Public Procurement Law (Bundesvergabegesetz) is providing the legal framework for EPC and PPP. The amendment of the Federal Public Procurement in 2018 did not affect the relevant paragraphs for EPC. The law now consists of 382 paragraphs and provides essential definitions, which are relevant for the EPC. This includes contract types, tender procedures, money threshold, deadlines and so on. Generally, the law differs between construction contracts, delivery contracts, service contracts, building permit contracts and service permit contracts. The following tender procedures are described:

- Open proceed and closed proceed (with/without announcement)
- Negotiation procedure (with/without announcement)
- Direct award procedure (with/without announcement)
- Framework agreement
- Dynamic procurement
- Competition process/competitive dialogue

Traditionally the first two types are the most common ways for Energy performance contracting. Direct awarding is also a possible way to procure an EPC contract.



Also, the requirement a tender document must follow has not changed in the last years. The tender must contain:

- Timely announcement of tender (if applicable)
 - > Requirements of demanded services must be specified - two ways of performance specification: constructive specification or functional specification
 - > Tender documents must allow comparability of offers of different bidders
- Clear announcement of contracting authority
- Description of necessary documents (e.g. evidence for technical competence of bidder)
- Selection procedure and how the contract is awarded (Bundesvergabegesetz, 2018).

7.2.2. Market assessment

Referring to (Windsperger, Windsperger, & Schörner, 2014) there were around 41 active Contractors on the market in 2013. Altogether were responsible for 79 projects in Austria. (Windsperger, Windsperger, & Schörner, 2014). Today the number of projects in the field of EPC are around 117 - including performance contracting and operation contracting. Most of the contracting projects deal with the administration of public buildings like schools or swimming pools (ÖGUT, 2020).

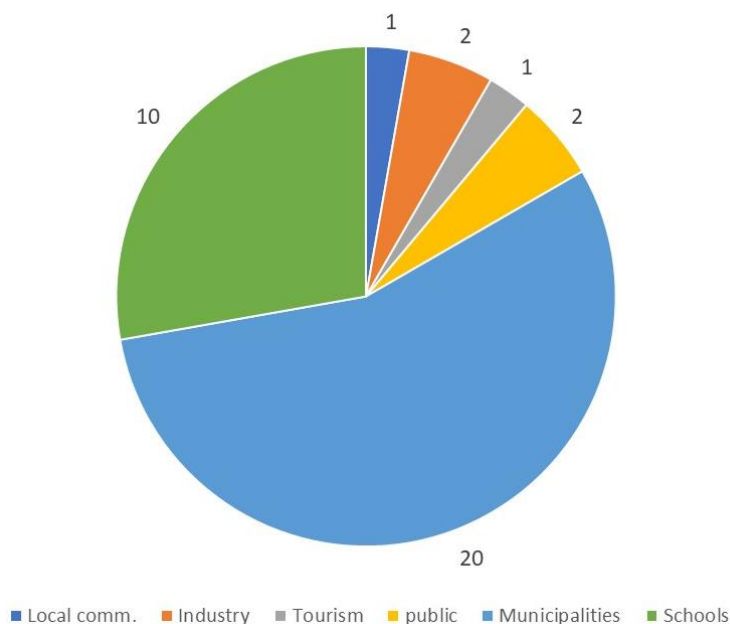


Figure 8: Sectoral distribution of EPC in 2013 (Windsperger, Windsperger, & Schörner, 2014).

7.3. Crowdfunding

7.3.1. Legal, regulatory and administrative framework

In Austria, the crowdfunding approach for companies is legal since 1st September 2015 (Alternative Financing Law). Since then, small and medium companies are allowed to collect money via this way. Following rules apply to in Austria:



- Emitter (collector of money)
- Natural or legal person, which operates a company.
 - > Before the amendment 2018 of the law, only companies which are classified as SME (micro, small and medium sized enterprise) according to the L 124/36 recommendation of the European Commission were allowed to implement crowdfunding
 - Since 01.08.2018 these limitations are invalid
- Obligation to inform possible investors about the project; emission volume
 - > €100.000-€ 1,5 million: simple information sheet with relevant hard facts → new thresholds since 01.08.2018: €250.000-€ 2 million
 - > €1,5 million - € 5 million: simple capital market prospectus (“vereinfachter Kapitalmarktprospekt”) according to Austrian Financial Market Authority → new thresholds since 01.08.2018: €2 million - € 5 million
 - > > € 5 million: full capital market prospectus (“Kapitalmarktprospekt”) according to Austrian Financial Market Authority, including emitter’s data about assets and liabilities, profit and losses, future development, rights and permissions, etc. (FMA, n/a) This prospectus causes a lot of effort and needs expertise to fulfil the legal requirements
 - Emitters are not allowed to collect more than € 5 million in seven years, minus already repaid investments - if they exceed this level emitters must develop a full capital market prospectus
 - Emitters have to inform their investors on a periodical basis e.g. publishing the annual accounts.
- If requested crowdfunding level is not reached, e.g. € 50.000, the money must be paid back to the investors
- Private (non-professional) investors are allowed to invest max. € 5.000 per project and year. There is no restriction for professional investors or legal persons.
 - > Private investors are allowed to invest more than €5.000 per year if private investors can proof that they invest not more than twice as much as their annual net income and not more than 10% of the investor’s full financial asset.

The law only applies to “lending based crowdfunding” and “equity based crowdfunding”. The other forms with no monetary rewards (donation based and reward based (goods, pre-sales..)) are not affected.

The execution of this law is done by district authorities. (Wirtschaftskammer Österreich, 2018) (Alternativfinanzierungsgesetz - AltFG, 2018)

7.3.2. Market assessment

The Austrian crowdfunding market is very well documented. Actual data and statistics are available at crowdcircus.com, which is an service provider for Austrian crowdfunding platforms. Currently, 23 Austrian crowdfunding platforms generate money for projects. The used crowdfunding types are donation-based, reward-based, crowdfunding and crowdlending as well as mixed forms.

Austrian activities in the crowdfunding sector keep growing. The first Austrian crowdfunding project was implemented in 2012. Since then the annual investment volumes are constantly rising. In 2017, an investment volume of € 32 million increased to € 38,2 million in 2018 and reached € 67 million in 2019.



(Brutkasten.com, 2020) (Brutkasten, 2019) This is even higher than the cumulated investment volume from 2012-2017 with € 65 million. (CrowdCircus, 2018)

According to (Brutkasten.com, 2020) the main force of this development is the strong growth of building projects, which had a market share of 78 % in 2019. Therefore, the biggest Austrian crowdfunding platforms are specialised in building projects:

- www.dagobertinvest.at (29,94 % share in 2019)
- www.homerocket.com (26,97 % share in 2019)
- www.rendity.com (21,39 % share in 2019t)
- www.greenrocket.com (8,99 % share in 2019)
- www.conda.at (8,77 % share in 2019)

The financed building types are mainly private residential buildings or office buildings. An example for an Austrian crowdfunded public building was not found.

The majority of the implemented crowdfunding projects is based on investing or lending. E.g. in 2017, only 10 % of the total investment volume was generated by donation-based or lending-based projects. (CrowdCircus, 2018)

The average project volume in 2019 was € 450.000 compared to 2018 with approx. € 334.000. The average investment sum is currently € 1.440 per investor. (Brutkasten.com, 2020)

The applicability of different crowdfunding types for financing public nZEB renovations is shown in the table below. The rating is: 1= high applicability, 5=low applicability. The rating was done by the Austrian eCentral-project team. It is a subjective evaluation.

Table 12: applicability of CF models for public nZEB renovation

Type	Rating	Justification
Reward based	1	Can be a good option for collecting a share of necessary investment volume - non-monetary rewards such as name boards on the building's façade etc. can be a good motivation for public
Donation based	3	Questionable: people may be hard to motivate to donate for the state since they're already paying taxes - good marketing/background story necessary
Crowdinvesting	4-5	Investors acquire equity and relatively high return of investment - public entities usually get cheaper credits from traditional banks (lower interest rates), gradual privatization through equity share → advantages for public entities not really clear
Crowdlending	4-5	Investors expect relatively high return of investment - public entities usually get cheaper credits from traditional banks (lower interest rates), gradual privatization through equity share → advantages for public entities not really clear

7.4. Conclusions and recommendations using innovative financing schemes in Austria

Following Table 13 shows the main conclusions and recommendations which were found during the project duration of eCentral project. The sources are the results of discussions with relevant stakeholders, the knowledge of EAST and eCentral project's Assessment and Support Group, as well as research from national literature (publications and studies, legislation documents, etc.).



Based on Austrian experiences it can be stated that the biggest barriers for wider PPP uptake are the legal requirements. The PPP project must be in line with the Austrian procurement law, contract law, tax law and European competition law. This requires a deep know how, which is a major barrier, especially for smaller municipalities. Lack of know how in PPP tender process may result in higher project costs, lower quality, extended implementation time and delays of the project. A big “PPP”-initiative currently takes place in the city of Vienna, where the city implements currently seven educational buildings with PPP scheme.

Since EPC is a type of PPP, the advantages and market barriers are similar. A lack of know how in tender procedures were found as major barrier for wider EPC uptake, especially for small municipalities. Advantages of EPC are that there are already many specialised companies in this field, which are competent partners for public authorities. On the webpage www.contracting-portal.at is a list with specialised companies in this field, which are grouped according to their type of experience (residential buildings, industry, public buildings, energy performance contracting or plant contracting....). Additionally, this financing scheme has a long tradition in Austria and is widely used for larger projects. Nevertheless, especially smaller municipalities are lacking trust in this financing scheme

Especially for smaller municipalities EPC can have relatively high specific project preparation costs. In this case, EPC experts recommend to bundle projects in groups of 5-20 buildings. This allows lower specific preparation and maintenance costs for the contractor. It is also comfortable for the building owner to have only one cooperation partner during the next 5-10 years.

The Austrian crowdfunding market experienced a strong uptake since 2015 due to the introduction of the Alternative Financing Act and its amendment in 2018, which simplified the regulation again (higher thresholds, elimination of regulation that only SMEs are allowed to collect money....). Crowdlending and Crowdinvesting is well established, especially in the building sector, whereas reward-based and donation-based financing covers only a minor share. Since public buildings usually don’t produce any saleable products or services, income from the building itself can be very difficult to generate. This complicates the applicability of CF forms like crowdinvesting and crowdlending, since a certain monetary return of investment is expected by the private investors. All four forms of crowdfunding have in common, that the image loss risk for public entities is relatively high. Since crowdfunding is a quite risky form of investment for investors (they can lose up to 100% of investment sum, if project went wrong), public project must ensure that the failure risk is as low as possible. Failed public projects, at which investors (private persons....) lose all their money can cause major trust troubles for public institutions and should be avoided.

Table 13: Conclusion and recommendations on innovative financing schemes in Austria (literature sources: (Winroither & Kary, 2015) (Puwein & Weingärtler, 2008)

	PPP	EPC	Crowdfunding
Advantages	<ul style="list-style-type: none"> ➤ Risk allocation ➤ Use of know-how of private partners ➤ Renegotiations possible (no legal tender restrictions for private partners compared to public ones) ➤ Investments can be considered as off-balance 	<ul style="list-style-type: none"> ➤ Several experiences in Austria available, well known financing schemes ➤ Many experienced contracting partners available including a certification label (DECA) 	<ul style="list-style-type: none"> ➤ Legally well defined ➤ Different financing types available (reward-based, investing, lending..)



	sheet and the Maastricht Treaty met		
Challenges and barriers	<ul style="list-style-type: none"> ➤ Complex PPP tender processes ➤ No explicit legal definition for PPP projects in Austrian procurement law ➤ Detailed legal know how needed in procurement law, contract law, competition law and tax law ➤ Lack of know how causes higher transaction costs (costs for consulting, legal expertise, etc.) ➤ Austrian Audit Office experienced lack of control rights for public partners ➤ PPP projects appeared to be more expensive over the project's lifetime compared to conventional procurement 	<ul style="list-style-type: none"> ➤ Lack of know how in tender procedures ➤ High preparation costs for small projects 	<ul style="list-style-type: none"> ➤ Investment threshold for private investors of €5.000 per year ➤ Crowdfunding can be a risky form of investment ➤ Advantages of crowdfunding for public institutions are not clear ➤ lack of legal know-how for crowdfunding (especially in smaller municipalities with less infrastructure..) ➤ Risk of losing population's trust through failed public projects ➤ No European wide standard regulation yet ➤ Difficult to apply for municipalities
Opportunities	<ul style="list-style-type: none"> ➤ Life-cycle oriented project development ➤ Alternative financing source compared to bank loans, etc. 		<ul style="list-style-type: none"> ➤ Establishing joint European legal framework ➤ Innovative financing source
Recommendations	<ul style="list-style-type: none"> ➤ Not suitable for small projects 	<ul style="list-style-type: none"> ➤ High transaction costs for small projects → bundling of several buildings when doing EPC 	<ul style="list-style-type: none"> ➤ Good marketing and background story necessary ➤ Flexible financing form which can be used for small measures,

8. Italy

8.1. Public-Private Partnership

8.1.1. Legal, regulatory and administrative framework

Information and data on public-private partnership contracts in Italy are regulated by the Code of Public Contracts (Legislative Decree n.50/2016); article 50 reports the PPP definition, while several contract information are collected in part III and IV, this last includes the Directive 2014/23/EU. Articles 180-191 report the base regulation of the contracts, from assignment procedures to contract duration or contingencies in progress and extinguishing events. Art. 80 reports the main features of the PPP contracts, and the various typologies, as the difference between “cold works” and “warm works” due to the operator’s operating income and revenues.

In September 2018, the Economic and Financing Italian Minister has elaborated a guideline (MEF, 2018), in Italian language, to public administration “Concession contract for the design, construction and management of public works for direct use by the Public Administration, to be carried out in public-private partnership”¹². The guide reports data and information necessary to organize a public-private partnership, from the general condition to the documentation and contract guarantees.

Resolution No. 318 of 28 March 2018¹³ adopted by ANAC (Ante Nazionale Anti Corruzione), is in force from 5 May 2018. It implements the Guidelines no. 9 Legislative Decree no. 50/2016 on “Monitoring contracting authorities on the activity of the economic operator in Public Private Partnership contracts”.

Legge di Bilancio 2020, a new Italian law, requires public administrations to communicate to the General Accounting Office of the State information and data relating to public-private partnership contracts.

8.1.2. Market assessment

In Italy Public works concession and service concession contracts represent the most widely used forms of PPP contract. Between 2012-2018 over 35.000 PPP contracts have been published in the public construction market, with an amount investment in terms of money of around 95 Billion Euro. From 330 PPP contracts in 2012 to 3.806 in the 2018.

In 2018-2019 the PPP tenders result more competitive in terms of number of tenders and money invested in respect to the previous period, passing from 3.000 annual public tenders of 2013-2017 to 4.000 annual tenders of 2018-2019. Furthermore, the investment value of PPP contracts of 2018 represents the 16,3% of the number of all typology’s contracts done, and the 29,4% of the investment of the public work contracts done in this year.

Public work market has had a positive trend in 2018 growing of 26,5% for number of tenders and 31% for budget investments, divides between:

- traditional funding, with an incrementation rate of 29% in numbers of tenders and 27,5% in capital invested;
- PPP, with an incrementation rate of 18% in numbers of tenders and 82% in capital invested;
- Mixed public procurement on construction, maintenance and management, with a reduction rate of 5% in numbers of tenders and 35,5% in capital invested.

¹² http://www.mef.gov.it/documenti-allegati/2018/Contratto_PPP_21_settembre_2018-C.pdf

¹³ https://www.anticorruzione.it/portal/public/classic/AttivitaAutorita/AttiDellAutorita/_Atto?id=9adca5020a778042591de07d7b00658e



PPP contracts used by public authorities between 2002-2018 can be divided in three groups:

- Public procurement for public works, with a rate of 17% for number of tenders and a rate of 53% in capital invested;
- Public procurement for services (concession/management) and energy services, with a rate of 73% for number of tenders and a rate of 39% in capital invested;
- Other kind of public procurement, from sponsorship contract, leasing of public works or public utilities, to urban regeneration programmes, etc., with a rate of 10% for number of tenders and a rate of 8% in capital invested.

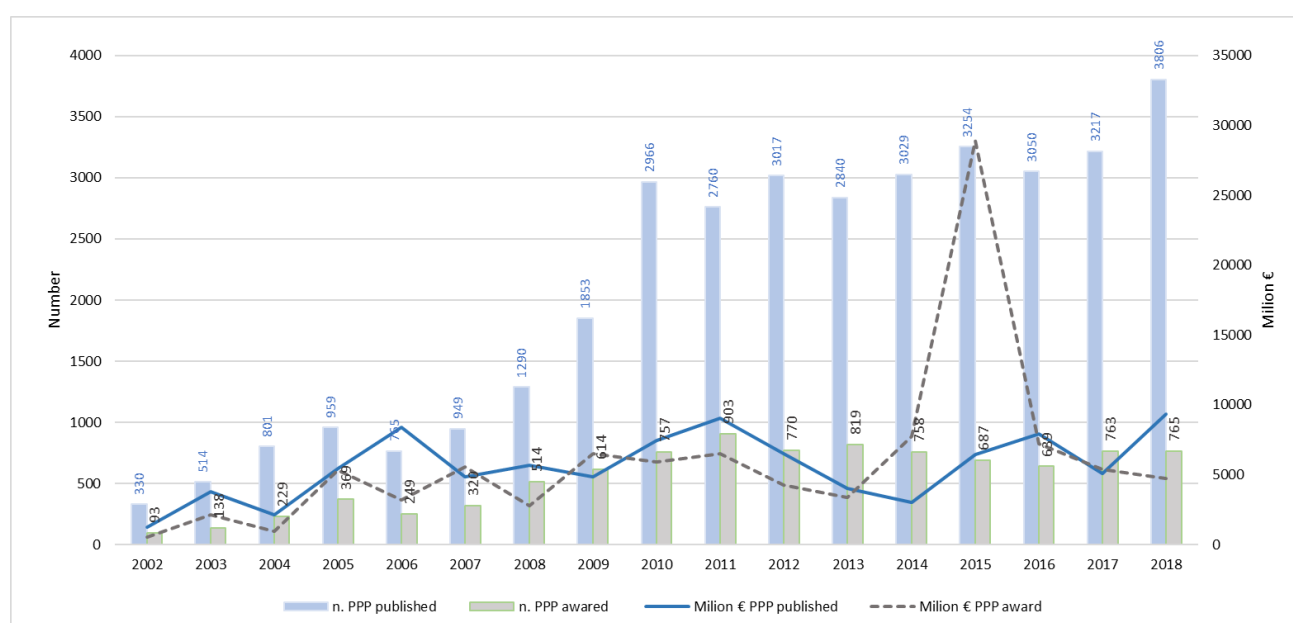


Figure 9: Italian PPP market tenders published between 2002-2018. Source: IFEL Cresme Europa Servizi elaboration on data infopp.it (iFEL, Marco Nicolai, Ilaria Paradisi, Daniele Valerio, Mercedes Tascetta, Donato Lacetra, Terza Edizione - 2019)

Fehler! Verweisquelle konnte nicht gefunden werden. shows the Italian PPP market since 2002. Apart some specific years (2006, 2011, 2013, 2016) the number of published PPP is growing constantly. At the same time, the number of PPP award trend is quite different, with a lower number of adjudications each year.

In 2018 it was reported a minimum value of interrupted initiatives, reduced to 9% of the active ones (iFEL, Marco Nicolai, Ilaria Paradisi, Daniele Valerio, Mercedes Tascetta, Donato Lacetra, Terza Edizione - 2019). This is a positive trend probably due to the know-how growing of public authorities, as Municipalities. In fact, the first interruption reason is that some initiatives have been deserted, without participants or, in some cases, bids/bidders did not satisfy the requirements of the tenders. At national level a guideline on PPP procedures was published by the Ministry of economics and finance¹⁴ (MEF, 2018)). The guideline supports public authorities for drafting a concession contract for design, construction and management of PPP public work procedures.

¹⁴ http://www.mef.gov.it/documenti-allegati/2018/Contratto_PPP_21_settembre_2018-C.pdf



In 2018, PPP contracts result very used for energy services and for sports facilities, cemeteries, and healthcare buildings. The energy service sector for the public investment of the municipalities represents the 34% of their total investment amounts, with a large number (about 92%) of PPP tender for public lighting.

Table 14: Energy PPP market, published calls for tender, by below sector, 2002-2018

Source: IFEL and Cresme Europa Services on infopp.it data, various years. (iFEL, Marco Nicolai, Ilaria Paradisi, Daniele Valerio, Mercedes Tascetta, Donato Lacetra, Terza Edizione - 2019)

Sector	Total customers		Municipalities	
	Number	Investment (Mil €)	Number	Investment (Mil €)
Gas	870	8.709	713	6.298
Public Lighting (a)	1.041	7.181	954	4.034
Energy production and distribution (b)	2.239	3.528	1.842	2.073
Energy renovation	282	2.452	162	597
TOTAL ENERGY PPP	4.432	21.870	3.671	13.002
TOATAL PPP	35.400	95.176	28.671	37.875
<i>(a) Including tenders for building energy service technologies and public lighting installations.</i>				
<i>(b) Including tenders for installation of photovoltaic systems integrated in buildings</i>				

8.1.3. Conclusion

PPP is an important instrument commonly used by public authorities to finance public investments in infrastructure and building sectors. In the period between 2002-2018 the number of PPP published respect to the total number of public tenders done by public authorities is increased, from a 0,9% of 2002 to a 16,3% of 2018, with a pick of 20,3% in 2013. In particular, the 67% of the Italian municipalities have used at least one time the PPP procedure to finance the public work, with a total range of 80% of PPP procedures elaborated by municipalities, as result of a continuous reduction of the economic resources.

PPP are more frequently used in four sectors as (i) public residential buildings, (ii) sports facilities, (iii) urban context and (iv) energy and telecommunications. These last, telecommunication and transport sectors are the most relevant from the economic point of view (in euro invested).

At the end, the PPP, in terms of number and millions of euro involved, results a very important financing scheme for public authorities, who for first are continuously involved in the PPP contracts writing, planning and management, improving their know how and knowledge about it.

8.2. Energy Performance Contracting

8.2.1. Legal, regulatory, and administrative framework

The energy performance contract is a financing scheme based on energy saving produced by the renovation of the building and involves private partners (as ESCO) to participate in first person in the renovation process.

At European level the EPC is defined in the Directive 2012/27/EU as “contractual arrangement between the beneficiary and the provider of an energy efficiency improvement measure, verified and monitored during

the whole term of the contract” where the investments are paid by financial savings. Annex XIII reports minimum requirements that should be defined in the energy performance contracts.

At Italian level, the last updates on law regulations on EPCs is the legislative decree 141/2016 that modifies the legislative decree 102/2014 implementing of Directive 2012/27/EU on energy efficiency, reporting:

- **“performance contract (EPC) is a contractual agreement between the beneficiary or the person exercising the power of negotiation and the supplier of an energy efficiency improvement measure, verified and monitored** throughout the duration of the contract, where the investments (works, supplies or services) realized are paid according to the level of energy efficiency improvement established by contract or other agreed energy performance criteria, such as financial savings”.

Legislative decree n. 102/2014 “Attuazione della direttiva 2012/27/UE sull’efficienza energetica, che modifica le direttive 2009/125/CE e 2010/30/UE e abroga le direttive 2004/8/CE e 2006/32/CE” defines a set of actions to improve the energy efficiency in all sectors in order to achieve, in 2020, the national energy saving target, as required:

- An energy renovation of 3% minimum of the covered roof area of the public buildings
- Public tenders in all sectors following the “Minimum environmental criteria (CAM)”
- Energy diagnosis and energy management systems for big enterprises
- Energy diagnoses must be conducted by energy service companies (ESS), energy management experts (EGE) or energy auditors, after the 2016 they need to be certified according to UNI CEI 11352 (ESCO), UNI CEI 11339 (EGE) standards or by certified energy auditors according to technical standards to be developed
- Ministry of Economic Development establishes the “National Fund for Energy Efficiency”, to finance the energy efficiency measures, also through the ESCOs, and/or other forms of public-private partnerships.¹⁵

Fehler! Verweisquelle konnte nicht gefunden werden. reports in groups four kind of EPC schemes, the difference is divided between capital, contract duration, typology of saving sharing, and ownership of the plants.

Table 15: Energy performance contracts as identified by NESS (an Italian ESCO) certified UNI 11352. Source: www.nessitalia.it

	FIRST OUT	FIRST IN	SHARED SAVING	GUARANTEED SAVING
Capital	ESCO/ third party lender	ESCO/ third party lender	ESCO/ third party lender	Client/third party lender
Duration	3-5 year	5-10 years	over 10 years	4-8 years
Saving	The savings achieved are entirely used to repay the financing and remunerate the ESCO. At the end of the contract it goes entirely to the customer.	The savings achieved are divided between ESCO. and the customer.	The parties agree to share the savings achieved: only a contractually defined portion contributes to the recovery of the initial investment.	The ESCO is committed to ensuring that the savings are not less than an agreed minimum and receives a fee that remunerates the operation and maintenance service.

¹⁵ <http://www.poloenergia.com/news/news-pte/20-news-efficienza/114-news-decreto-102-2014#.W8WcJfZoSUK>

Ownership	The ESCO retains ownership of the plant until the end of the contract, after which it is transferred to the customer	The ESCO retains ownership of the plant until the end of the contract, after which it is transferred to the customer's ownership.	The ESCO retains ownership of the facility until the contract expires, after which it transfers ownership to the customer.	The property is owned by the customer from the outset.
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Legislative decree 115/08 article 2 defines: ESCO as “a natural or legal person providing energy services or other measures to improve the energy efficiency”, and TTF as “third-party financing’ means a contractual arrangement with a third part, which provides the capital for the investment and charges the beneficiary with a fee equal to part of the energy saving achieved”. Furthermore, the decree identifies the Energy Efficiency Title (TEE), known as “as white certificates”, already introduced by D.M. 24/04/2001, D.M. 20/07/2004 e D.M. 21/12/2007. White certificates establish the national energy efficiency improvements and related requirements, in terms of quantities (numbers) for electricity or gas distributors with more than 50,000 final customers.

UNI CEI 11352: 2014 standard defines the requirements for companies that provide energy services (ESCO). D.M. March 7th 2012 provides for Energy Services companies that operate with Public Administrations to be certificated with the UNI CEI 11352 Standard, and Legislative Decree 102/2014 provides for the ESCO that offer the diagnostic service energy efficiency or TEE a mandatory certification with UNI CEI 1135216.

ENEA (the national agency for the new technologies, energy and sustainable economic development) has published “Guidelines on energy performance contract” (G. Fasano, G. Centi, M. G. Landi, F. Margiotta, Settebre 2015) following the legislative Decree n. 102 of 2014. The guidelines aim to support public authorities to elaborate the EPCs. Unfortunately, this guideline included the EPC requirements identified in the Annex XIII of the Directive 2012/27/EU, but no with the last information included (modified) in the Annex B of the UNI CEI 11352:2014.

On 6th March 2018, the Decree of the National fund for the Energy Efficiency (FNEE) was published. The fund has the objective to support energy efficiency investments, promote public initiatives and the participation of private companies as ESCO. The fund amount is about 150 million of euro offered by the Minister of Economic Development (MISE).

8.2.2. Market assessment

In the Italian market of the energy efficiency in 2020 there were 1025 ESCO certificated UNI CEI 11352 of which, more than a third certificated in the 2018.

In 2019 the investment in the energy efficiency were about 2.6 Milion of euro, which an incrementation range of 1,9% respect the year before 2018. Although the energy efficiency trend of the last 5 years results in growth, the rise is quite reduced in the last two years: from a rise a 8,2% in 2015, 10,7% of 2016, and 12% of 2017 to a 4,1 of 2018 and 1,9% of 2019. The beginning of 2020 is been affected by COVID -19 effect, due to this reason the market trend results difficult to valuate. (V.Chiesa, D. Chiaroni, S. Franzò, F. Frattini, E. Bosco, Luglio 2020). In the last two years the number of TEE was reduced, in 2019 the reduction was 24% respect 2018 (2.906.000 of TEE, 927.000 less respects to 2018), while in 2018 the reduction was of 34% respects to 2017. EPC is the contract more used in the energy efficiency sector with a share of 56%. The 22% of these contracts results to be a turnkey solution contract. The contract investment risk is usually supported by the ESCOs in the 80% of the cases, while with a range of 10% result divided between customer and ESCO, and with another 10% of cases charged by the client. The results of the survey presented in the report show

¹⁶ <https://www.esco.one/en/notizie/first-periodic-checking-maintenance-uni-cei-11352-2014-certification/>



that the 70% of the ESCO work in parallel both in the civil and industrial sector, while the 20% of them work exclusively in the industrial one and the remaining 10% in the solely civil sector. Within the civil sectors the ESCO works mainly in the tertiary sectors, followed by residential sector and with the public one.

In the building sector ESCO usually work installing more efficient lighting for public spaces, new heating pumps and building energy management system (BEMS). A quite different overview respect to the data found in the period between 2014-2016, where the building energy efficiency renovation sector was driven by the national tax financing scheme, that supported substitutions of windows and heating generations, and solar shadings. (V. Chiesa, D. Chiaroni, F. Frattini, L. Casolo Ginelli, G. Besozzi, C. Pilitano, M. Bonalumi, F. Capella, D. Cavallaro, A. Di Lieto, S. Franzò, M. Guiducci, L. Manelli, V. M. Manfredi Latilla, D. Perego, A. Temporin, A. Urbati, Giugno 2018)

In Italy, an investigation made from Italian Federation for rational use of Energy (FIRE) made in the 2014 identified the common barriers found in the utilization of FTT (financing through third parties) and EPC, as:

- Lack of knowledge of public authorities in these innovative financing schemes
- Limited financial and human resources
- Difficulty in preparing the tender documents
- Lack of energy management systems and complexity of energy management in particular on roles and functions
- Political changes, that often tend to favour interventions with medium-low return time rather than identifying medium-long term strategies.

8.2.3. Conclusion

In Italy the number of energy efficiency contracts is grown in 2019 of 1,9% respect to 2018, with a grown reduction respect to the previous years. Nevertheless, EPC results a common contract used in the industrial and civil sectors. (V.Chiesa, D. Chiaroni, S. Franzò, F. Frattini, E. Bosco, Luglio 2020).

At the beginning of 2020, with the negative presence of COVID 19, the investments on energy efficiency and not, are been reduced.

8.3. Crowdfunding

8.3.1. Legal, regulatory and administrative framework

In July 2013, Italy was the first country in the world to enact comprehensive regulation for the collection of capital through equity crowdfunding authorised online portals.

On the way of the Jobs Act adopted in the USA in the 2011, and in order to go over to the economic crisis of these years Italy decided to invest in innovative business innovations, processes and ideas, as:

- Simplification of the enrolment procedures in the “business register”, with lower annual costs
- Labor reform and works contracts (with “Renzi government”)
- Introduction of exceptions to the bankruptcy law
- Introduction of a specific regulations for innovative startup, Legislative Decree 179/2012, successively modified by the Law 221/2012
- Definition of incentives to finance innovative new start-up.



Reward crowdfunding

It consists in a financing model that permits to pre-sell or pre-order a product or a service.

In Italy, there are three different categories of reward crowdfunding:

- **Donation**, also regulated by civil code. In this case a reward (not in money and with a lower value of the investment) can be given after the donation. For donation with high value a notarial deed is necessary¹⁷
- **Pre-selling** of the products or service, rules by the Civil Code. It defines the *e-commerce*, a future trade of the final product or service, to which the VAT is applied and an invoice emitted
- **Royalty** (donation & reward and equity crowdfunding) when a monetary reward is offered and it consists in the sharing of the profits or revenues associated to the investment, but without title of property or repayment of capital. This model is ruled by the regulations on association in participation (*norme sull'associazione in partecipazione*), (art. 2549 of the Civil Code), declaring that “who finances also takes part to the profits (or loss) generated”. Each financier receives some “royalties” in relation to the value of the investment. In this case VAT tax applies.¹⁸

Equity crowdfunding

It consists of capital collection direct on the web through the subscription of participative titles of the capital of a company (start-ups or small and medium companies) with an economic return.

In 2012, the possibility to use the crowdfunding as innovative financing scheme, exclusively for “innovative start-up”, was introduced in the Italian country by the legislative decree n. 179 (art. 25-32) about “Urgent measures for the growth of the country”, successively converted in the Law 221/2012, called “Crescita bis/Crescita 2.0”. In particular, article 30 introduced innovative dispositions for the Finance Code (Consolidated Law on Finance, Legislative Decree 24 February 1998, n. 58 called “TUF”) related to the equity crowdfunding: “(i) paragraph 5-novies of art. 1, which defines what an equity crowdfunding portal is, (ii) art. 50-quinquies, which defines and regulates the activity of portal operators, and (iii) art. 100-ter, which regulates the public offers of financial instruments conducted through the portals.”

One year later, in 2013, CONSOB19 (Commissione Nazionale per le Società e la Borsa - Italian Companies and Exchange Commission) published a resolution n. 18592 on “Regulation on raising risk capital through online portals”.

In the 2015, the Decree n.3 of 24 January 2015, successively converted in the Law n.3 of 24 March 2015, called “Investment Compact”, enlarged the possibility to collect money online to the “innovative SME” (an innovative private category of micro, small and medium-sized enterprises) and CIUs (Collective Investment Undertakings) companies that collect investments funds and invest in innovative start-ups. According the EU directive, the professional investors can be also the “Markets in Financial Services” (Mifid), and “investors in support of innovation”, which includes the so-called *business angels*.

Definition of innovative SME (Dlgs.3/2015). The start-ups enterprise is innovative if it meets at least 1 of the following criteria:

- expenses in R&D (research and development) and innovation are at least 15% of either its annual costs or its turnover (the largest value is considered)

¹⁷ <https://www.crowd-funding.cloud/it/reward-233.asp>

¹⁸ <https://www.crowd-funding.cloud/it/royalty-243.asp>

¹⁹ <http://www.consob.it/>



- employs highly qualified personnel (at least 1/3 PhD holders and students, or researchers, or at least 2/3 Master's graduates)
- is the owner, depository or licensee of a registered patent, or the owner of a registered software.

The law n.232 of 2016 called “Legge di stabilità”, successively updated by Legislative Decree n. 50 of 24 April 2017 called “Decreto Correttivo”, enlarged the applicability of collect money online to all Italian SMEs.

In Italy, the Italian Association Equity crowdfunding (Associazione Italiana Equity Crowdfunding, AIEC) that represents the online equity CF platforms, the supervised intermediaries who take care of online investment transactions (<http://www.equitycrowdfundingitalia.org/>).

Lending crowdfunding

Investors can lend money to individuals (consumers) or businesses over the Internet with interest and repayment of capital.

In Italy, the first lending crowdfunding operators were initially authorized to operate from the Bank of Italy as financial intermediaries, as reported in the ex-art. 106 of the “Testo Unico Bancario” D.Lgs 385/1993. Afterward, the Dlgs 11/2010 implemented the European Directive 2007/64/EC (Payment Service Directive). It allowed the Bank of Italy to define the regulatory framework for the lending crowdfunding platforms considered as “payment institutions” (ex-art. 114 septies of the “Testo Unico Bancario”). This decision fostered the creation of a new category of operators, also coming from non-financial sectors, active in the execution of orders of payment. As all the “payment institutions” they had to respect some regulations and controls.

In 2016, the Bank of Italy published the Resolution 584/2016, about regulations of subjects different from the bank who can collect money. Section IX defines “social lending” (lending-based crowdfunding) financed by a wide number of private lenders (small savers or institutional investors). The relation between the lender and the financed subject is ruled by Civil Code article 1813, it is a loan contract.

Unfortunately, the high taxation of the incoming obtained from the lending crowdfunding reduces investments.

Invoice trading crowdfunding

Invoice trading crowdfunding businesses allows to sell individual invoices and receive to free up cash, though an online community of investors (dedicated crowdfunding platforms). The concept takes the principle of peer-to-peer lending and applies it to invoice finance.

This business model is ruled by the Civil Code article 1260 and successively that rules the transfer operations of the credits. (Politecnico of Milan, 2017)

Tax incentives

In Italy there are Tax incentives for corporate and private investments in start-ups, both by individuals and by legal entities. This benefit, stabilised and significantly bolstered by the 2017 Budget Law (art. 1, par. 66), envisages for individuals a deduction on personal income tax (IRPEF) amounting to 30% of the amount invested, up to a maximum sum of € 1 million; for legal entities the benefit consists in a fiscal deduction on the taxable income for company tax purposes (IRAP) equal to 30% of the amount invested, up to a maximum of € 1.8 million. Until 2016, these incentives amounted to 19% for investments made by individuals and to 20% for investments made by legal entities, except the special rates, respectively amounting to 25% and 27%, reserved to investments in innovative start-ups with social goal or operating in the energy field: since 2017 the 30% flat rate applies to these special typologies as well (see Implementing Decree for 2013-2015;



Implementing Decree for 2016). Starting from 2017, the incentives are conditioned to a holding period of the shareholding in the innovative start-up for a minimum of 3 years (previously, 2 years).

The already mentioned Decree-Law 3/2015 introduced three important amendments:

- innovative SMEs can now take advantage from the instrument.
- CIUs and other corporations that invest predominantly in innovative start-ups and SMEs can resort to equity crowdfunding as well, an evolution that allows for the diversification of the portfolio and decreased risk towards retail investors;
- once again waiving ordinary norms, the transfer of shares of innovative start-ups and SMEs is dematerialised, and as such related burdens are reduced, aiming for higher fluidisation of the secondary market. (Crowd Fund Port Consortium, 2017)

8.3.2. Market assessment

In 2019 the crowdfunding grew of 59% respect to 2018, with a collection of 163.953.065€ in the 2019 and 442.684.694€ by the total crowdfunding platform in Italy. In particular, the equity crowdfunding in 2019 is grown of 114% respect to the year before. (Starteed, Report 2019) As shows in the Italian crowdfunding report the CF in Italy is growing as reported in Fehler! Verweisquelle konnte nicht gefunden werden..

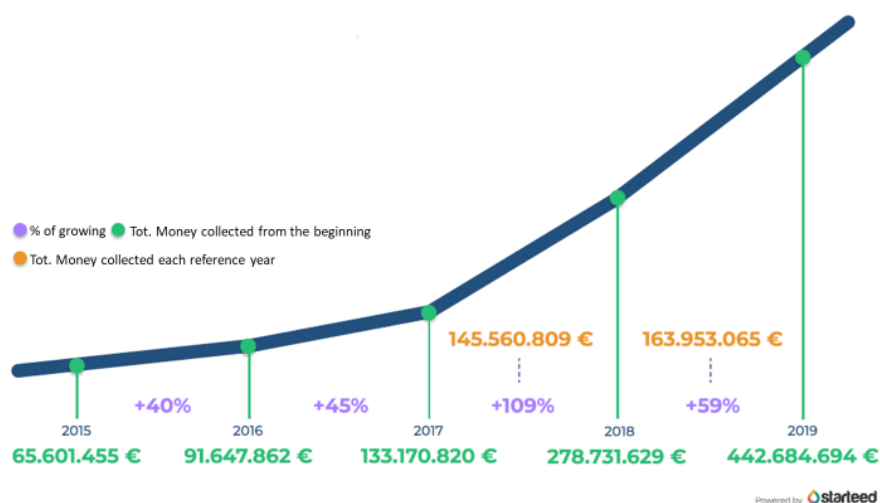


Figure 10: Crowdfunding trend in Italy between 2015-2019. Source: <https://starteed.com/> (Starteed, Report 2019)

The Crowdfunding in Italy is mainly based on three kind of models:

- lending, the most common used in 2019, with a total amount of about 79.357.336 €,
- equity about 68.592.527 €
- donation and reward about 16.003.202 €. (Starteed, Report 2019)

Equity Crowdfunding

In 2019 the equity crowdfunding campaigns were 408, with an average of money collected by each campaign of 374.937 € with a usual investment of 2.701€. Platforms that collected more money in the 2019 are Mamacrowd, Crowdfundme, Two Hundred, Walliance and Backtowork24 on a total of 38 equity platforms.

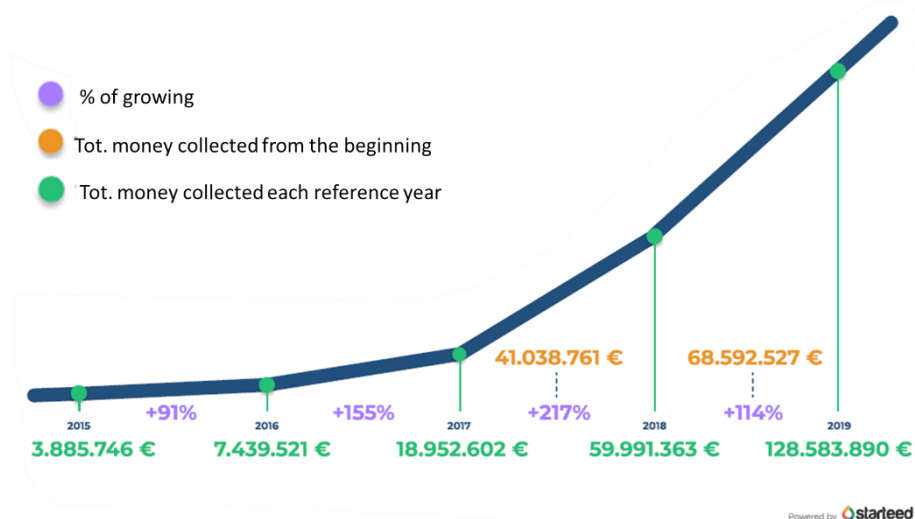


Figure 11: Growing trend of equity crowdfunding platforms. Source: <https://starteed.com/> (Starteed, Report 2019)

Lending crowdfunding

In 2019 the lending crowdfunding campaigns were 37.343, with an average of money collected by each campaign of 109.315 € with a usual investment of 1.680€. Platforms that collected more money in the 2019 are October, Borsa del credito, Soisy, Rendimento etico and Prestiamoci, on a total of 12 lending platforms, 3 new in the 2019.

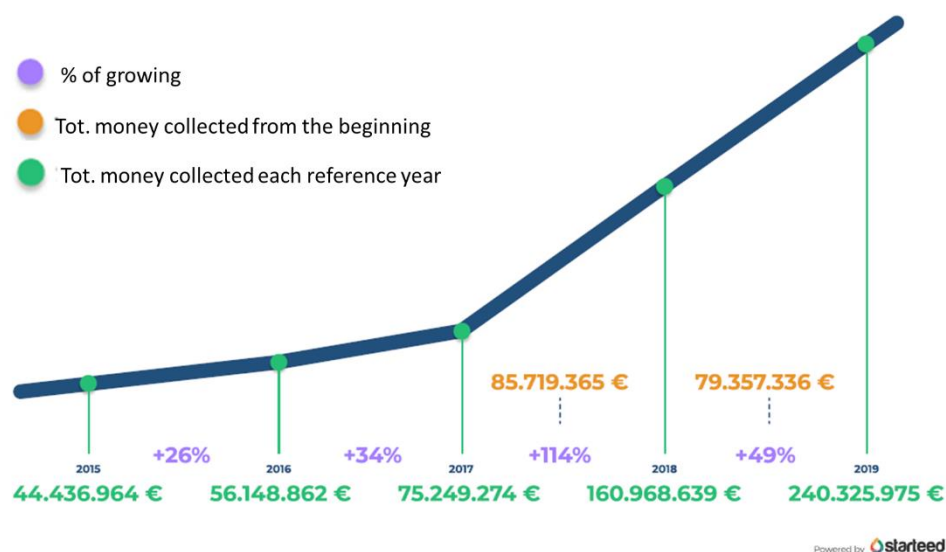


Figure 12: Growing trend of lending crowdfunding platforms. Source: <https://starteed.com/> (Starteed, Report 2019)

Donation & Reward

In 2019 the equity crowdfunding campaigns were 14.806, with an average of money collected by each campaign of 8.608€ with a usual investment of 150€. Platforms that collected more money in the 2019 are Produzioni dal Basso, Rete del dono, Forfunding, Eppela and Buonacausa on a total of 51 equity platforms.

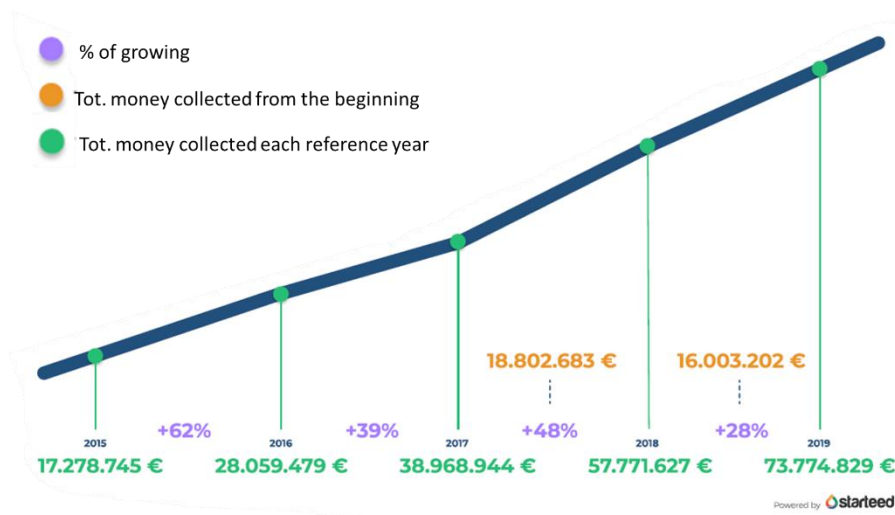


Figure 13: Growing trend of donation & reward crowdfunding platforms. Source: <https://starteed.com/> (Starteed, Report 2019)

Crowdfunding real estate platforms

In Italy there are some real estate crowdfunding platforms ([https://www.crowdfunding.cloud/it/piattaforme-di-crowdfunding-italiane-attive-143.asp?cat_type=3&cat=Real\\$estate](https://www.crowdfunding.cloud/it/piattaforme-di-crowdfunding-italiane-attive-143.asp?cat_type=3&cat=Real$estate)) as such Concrete, House4Crowd, Housers, Italy Crowd and Walliance.

Table 16: Overview on Italian Crowdfunding platforms

Concrete
www.concreteinvesting.com
Equity Crowdfunding
CONSOB authorization number n. 20405 del 24/04/2018 - n. 27
House4Crowd
www.house4crowd.it
Equity Crowdfunding
CONSOB authorization number n. 20528 del 17/07/2018 - n. 32
Housers
www.housers.com
Social lending Crowdfunding
Italy Crowd
www.italy-crowd.com
Royalty Crowdfunding



Walliance
www.walliance.eu
Equity Crowdfunding
Registro Consob - sez. ordinaria*: n. 19939 del 30/03/2017 - n. 21

8.3.3. Conclusions and Recommendations

In the building sector, Crowdfunding is an innovative method to collect money and support several projects in several sectors. The crowdfunding trend in Italy has obtained quite positive results, with a continuously grown in terms of projects financed and money invested.

8.4. Conclusions and recommendations using innovative financing schemes in Italy

PPP is an important instrument commonly used by public authorities to finance public investments in infrastructure and building sectors. In particular PPP contract results usually used by Italian municipalities to finance the public work, with a total range of 80% of PPP procedures elaborated by municipalities, as result of a continuous reduction of the economic resources. PPPs are more frequently used in four sectors as (i) public residential buildings, (ii) sports facilities, (iii) urban context and (iv) energy and telecommunications. These last, telecommunication and transport sectors are the most relevant from the economic point of view (in euro invested).

At the same time, the number of energy efficiency contracts in Italy is in grown. EPC results the contract commonly used in the industrial and civil sectors.

Crowdfunding is usually used between private, but there same positive experiences in its application to collect money and finance public works, as in the renovation of the Porticos of S. Luca in Bologna.

At the end of this analysis we have collected in **Fehler! Verweisquelle konnte nicht gefunden werden.** some conclusion and advice on these three-financing schemes (PPP, EPC, CF) in relation to the advantages, challenges and barriers, opportunities, and recommendations.

Table 17: Conclusion and recommendations on innovative financing schemes - Italy

	PPP	EPC	Crowdfunding
Advantages	➤ PPP permits to mix public needs with private interests, which together can increase the potential investment, identify the level of the priority works for citizens and territories.	➤ EPC is a kind of contract between a PA partner and a private partner that wants to invest in public works. EPC can be considered as a type of contract able to guarantee the project results, in terms of energy saving and investment.	➤ CF is an innovative model to finance different types of creative, cultural or social projects and initiatives, which usually have big difficulty to access in traditional form of financing (bank loan), due to several reasons.
Challenges and barriers	➤ Improve the PA know-how on PPP contract, technical knowledge and an effective and efficient	➤ It is a difficult type of contract from administrative complexity and sometimes inadequate	➤ It is an innovative model to collect money from different people, family and friends also external.



	<p>planning, design, evaluation and control of the project updates and results.</p> <ul style="list-style-type: none"> ➤ PA will improve their ability to dialogue with the third part, in order to develop and choose the best set solution protecting the public interest. 	<p>and contradictory legislation.</p> <ul style="list-style-type: none"> ➤ The energy savings are sometimes uncertain and unambiguous. 	<ul style="list-style-type: none"> ➤ CF has low barriers and low legal and institutional barriers. This is a positive point because it permits to everyone to use it, but on the other side, the promoter presents the “idea” in a public form risking to being copied. ➤ CF can result difficult for a PA for administrative issues connected to the use of a private platform and relative payment. Sometimes it is not permitted.
Opportunities	<ul style="list-style-type: none"> ➤ PPP has the advantage to match the public and private knowledge and experiences, amplify the potential investment and the quality of the results. ➤ PPP is a common contract used usually by Italian municipalities. 	<ul style="list-style-type: none"> ➤ EPC has the advantage to match the public and private knowledge and experiences, amplify the potential investment and the quality of the results, also in term of energy saving and CO2 reduction. 	<ul style="list-style-type: none"> ➤ Easy to use from everyone. ➤ Low barriers.
Recommendations	<ul style="list-style-type: none"> ➤ Improve the sharing risks to the private partners respect to PA ➤ Improve the PA knowledge on PPP contracts and technical issues, in order to plan, require and check the project results. 	<ul style="list-style-type: none"> ➤ To avoid conflicts between PA and Private investors (ESCO) it is necessary that both parts sharing and approving the (i) calculation method, (ii) the baseline(state of the art), (iii) the objectives (final target), before the contract is signed. ➤ It is suggested to use a tested and approved protocol as IPMVP (International Performance Measurement and Verification Protocol), or UNI ISO 50001 for the verification of the energy consumptions. ➤ The presence of a “facilitator” is suggested. 	<ul style="list-style-type: none"> ➤ It is very important to plan and organize an interesting campaign able to support and attract as much as possible people.



D. Comparison 2018 - 2020

This chapter provides a comparison of 2018 and 2020 for all eCentral project partner countries Austria, Croatia, Hungary, Italy and Slovenia. The comparison was done using an online survey among the project partners, after they finished their research for the second assessment round of this deliverable. Therefore, the results of this survey are based on the experiences from the last three years with eCentral project, literature research and expert’s opinions. The following paragraphs and figures will summarize the opinions. The survey is attached in the annex.

Legal framework and changes in the legal framework since 2018

The following Figure 14 shows the opinion of the eCentral project partners related to the legal framework of innovative financing schemes in their countries. At least PPP and EPC are fully or partially developed in all countries, whereas crowdfunding legislation is considered as premature or even not existing in Croatia, Hungary and Slovenia. Only Austrian partner considered the legal framework for all three financing schemes as very well developed.

Project partners in Croatia, Hungary, Slovenia and Italy stated, that there haven’t been any changes related to the legal framework for innovative financing schemes since the first assessment round in 2018. In Austria, the “crowdfunding law” was adjusted in 2018 and the Federal Public Procurement Law (Bundesvergabegesetz), which is providing the legal framework for EPC and PPP was also slightly modified.

In general, it is expected that the national laws related to crowdfunding will be more specified in the future, based on the European Crowdfunding Service providers (ECSP) regulation, which became valid in mid-November 2020.

In your opinion, how ist the national legal framework (well defined, clear guidelines....) for innovative financing schemes in your country?

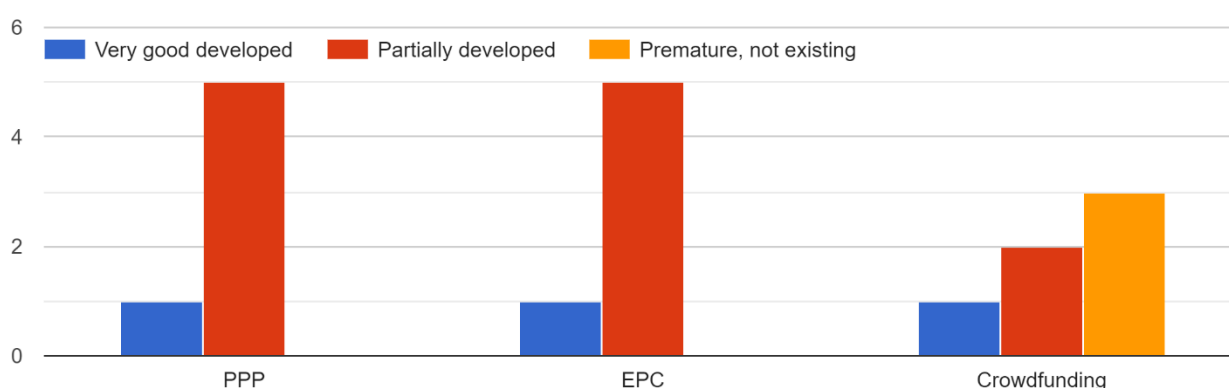


Figure 14: survey result related to national legal frameworks



Realisation of projects with innovative financing schemes

All partners were asked, if implementing PPP, EPC or CF became easier (e.g. policy changes, market situation, promotional campaigns..) or more difficult (e.g. more restrictions, bad reputation..) in the past two years. Partners from Croatia, Hungary, Italy and Slovenia stated that there is no significant change in their opinion. However, due to the change in the Austrian Crowdfunding law, implementing crowdfunding projects (especially crowdlending and crowdinvesting) became easier for investors and emitters in Austria. For the other two financing schemes, no relevant changes were observed.

Economic changes in the countries

The partners were asked to share their opinion related to economic changes in their countries in the past two years. There have been changes nearly in all factors (Figure 15). Especially economic growth was considered lower and unemployment rate higher in 2020 compared to 2018. Inflation rates were also indicated higher, whereas energy prices were stated lower in Austria, Croatia and Hungary. The main influence factor for these changes was identified with the COVID 19 pandemic, which has significant impact on all economies all over the world.

Comparing 2018 and 2020, are there economic changes in your country?

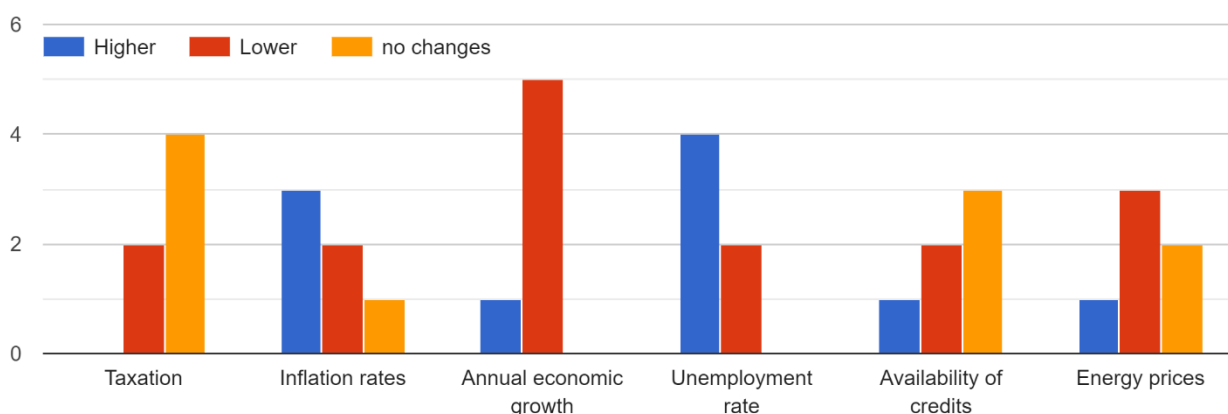


Figure 15: changes of different economic factors, comparison 2018-2020

Current market impact of innovative financing schemes

The current market impact of PPP, EPC and CF was widely classified as not widespread and only a few projects available (Figure 16). The Hungarian partners identified the PPP scheme as outdated and not used anymore, whereas the Italian partners classified PPP as well established and used on the market. EPC and crowdfunding are considered to be well positioned on the Austrian financing market.



In your opinion, how is the current market impact (spread of projects, growing market....) for innovative financing schemes in your country?

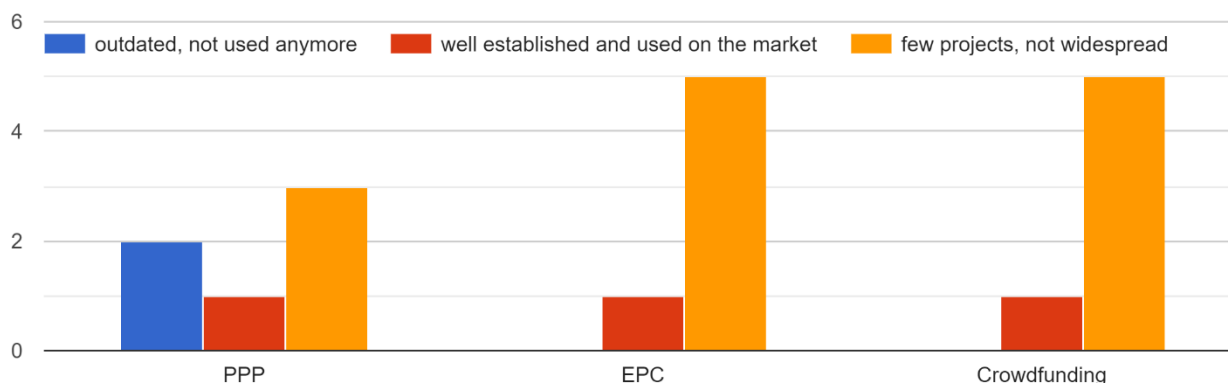


Figure 16: current market impact of different financing scheme per country

Influencing factors on public authority's decision to use innovative financing schemes

The following table shows the classification of different influencing factors per country. As example, the predominant religion in a municipality or region as well as immigration trends aren't perceived as relevant influencing factors when using innovative financing scheme as a public authority. On the other hand, nearly all countries considered social movements, the main political orientation of the decision makers or the demography figures in a municipality as factors with a high or medium impact. The number of inhabitants is also perceived as important, which is based on the assumption that innovative financing schemes are more difficult to be implemented in smaller municipalities or regions because of lack of know how.

Table 18: classification of influencing factors per country

	Austria	Croatia	Hungary	Italy	Slovenia
Demography (age and population)	+++	++	+	++	++
Number of inhabitants	+++	++	++	++	++
Predominant religion	+	+	+	+	+
Upcoming elections	++	+	+	++	++
Immigration trends	+	+	+	+	+
Social movements (e.g. Friday for futures)	+++	+++	++	+	+++
Political orientation	+++	+++	++	+	+++
+++ high impact					
++ medium impact					
+ low or no impact					

Potential of different innovative financing schemes

The following Figure 17 shows how the eCentral project partners perceive the implementation potential of PPP, EPC and CF. The highest potential was assigned to the EPC scheme, followed by PPP and crowdfunding. The Slovenian partners concluded that under the current circumstances there no potential for the crowdfunding scheme.

In your opinion, which financing scheme has the biggest potential to be used by public authorities?
(please rank the three schemes..)

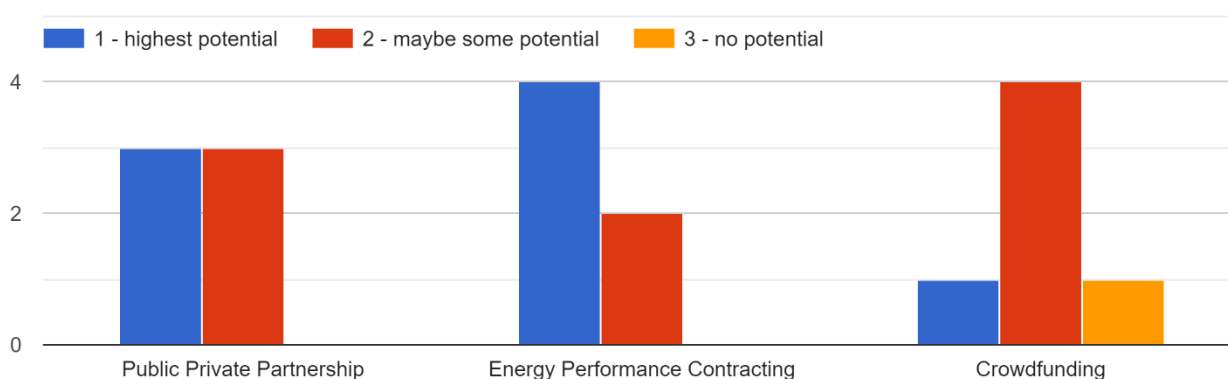


Figure 17: potential of different financing schemes

Recommendations for uptake of innovative financing schemes

Based on their experiences, the project partners provided the following recommendations:

- Italy:
 - > Clarify the cost-benefit, the requirements and the calculation and verification processes.
 - > Share the risks and benefits in a reasonable way between PA and private partner.
 - > Improve the PA know-how on EPC, PPP contracts and technical issue, in order to realize high level quality investment, and to achieve and verify the planned results.
- Slovenia:
 - > Establish working groups on specific ministries specifically devoted to creating and implementing legislation for innovative financing schemes
 - > perform educational activities, monitoring of successful projects, support, guidance, analysis etc.
- Hungary:
 - > More public funding for project preparation
 - > better communication of best practice



- > information and capacity building about these forms and their promotion
- > regulatory harmonization of (ESCO) legislation and more developed legislative framework
- Croatia:
 - > specifically include Crowdfunding into the legal framework as alternative model of financing
 - > improve the public opinion on PPP
 - > include more PPP model alternatives (i.e. Design-Build-Finance) into the legal framework
- Austria
 - > Establishing best-practice examples and promotion of successful projects
 - > provide training and know how exchange
 - > and provide federal funding for innovative projects such as crowdfunding used in a region

The partners agreed that using innovative financing schemes encourages to find more creative and innovative solutions for the project itself (e.g. using novel technologies), public authorities shall use more innovative financing schemes and using innovative financing schemes requires additional experts compared to traditional procurement.

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