



**Czech  
Republic**

# Gap Analysis

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# 1. INTRODUCTION

This report is part of the baseline analysis of the E-FIX project. The E-FIX project aims at triggering private finance for sustainable energy projects using innovative financing mechanisms. In the target countries of Central and South Eastern Europe as well as the countries of the Caucasus region there is considerable idle potential for sustainable energy products and services. Both potential energy project developers and financiers face diverse financing barriers. An innovative energy financing mix is needed in order to activate new source of finance and facilitate an increased implementation of sustainable energy projects. Accordingly, the objective of the E-FIX project is to facilitate the take up and intensified usage of innovative energy financing mechanisms in the energy sector.

In order to accurately assess the idle potential of both financing sources and energy project implementation in each of the focus countries the E-FIX experts are conducting a baseline study including Gap Analysis. The present report presents one part of the baseline analysis focusing on the Gaps identified during preparation of financial sector overview for the Czech Republic.

## 2. POTENTIAL DEMAND FOR EE/RE FINANCE

	<i>Projects in need of financing</i>												
	Improvement in building sector		Industry	Financing of energy performance improvements incl. ee equipment			Project preparation and development		R&D projects		Start-ups		Renewable energy production plants
<i>Sources of funds</i>	Public	Private		Large companies	SMEs	Public infrastructure					Large/ utility scale	Small-scale	
Equity financing	2	2	2	2	2	2	2	2	2	2	2	2	2
Financing through local finance institutes	1	2	2	2	2	1	1	1	2	2	2	1	1
Financing through intern. finance institutes	1	0	0	0	1	2	1	1	1	2	0	0	0
Microfinancing	0	2	0	0	1	0	0	0	2	2	0	2	2
Subsidies	2	2	2	1	2	2	2	2	2	2	1	2	2
Leasing	1	2	2	2	2	1	0	0	1	1	1	1	2
Energy Performance Contracting	2	0	2	2	0	1	0	0	0	0	0	0	0
Investment funds	1	0	2	2	1	0	0	0	0	0	2	0	0
Green bonds	0	0	0	0	0	0	0	0	0	0	0	0	0
Crowdfunding/ Energy Cooperatives	0	2	0	0	1	0	0	0	0	0	0	0	2

There are relatively available traditional forms of financing through an advanced banking system in the Czech Republic. Very important and affordable is financing via state funding. The market with EPC / ESCO tools is of a high level. While investment funds with environmental focus can be found in the offer of several multinational banking institutions, green bonds are completely absent on the market and there are no indications that a state or institutions are about to issue them.

**Underused potential offers mainly crowdfunding. There is no crowdfunding platform focused only on EE/RE in the Czech Republic. Simultaneously there is relatively routine social form of financing of charity projects or projects in cultural sphere in the Czech Republic. Thus, it is possible to suppose, that economically and promotionally well-adjusted EE/RE crowdfunding platform could succeed in the market.**

There are approximately 20 crowdfunding platforms in the Czech Republic currently, mainly in the sphere of reward crowdfunding. Fast progress is taking place and can still be expected for shared crowdfunding. There is also active a platform focusing on online investments in developer projects in this sphere. Since its founding in 2017, it was mediated 390 investments with the volume more than 20 million Crowns.

The annual economic potential of energy savings in the sphere of weatherization of existing buildings in the Czech Republic, considered till 2050, was valued in 2013 (PORSENNNA, 2013) at 18 billion crowns in case of residential buildings and 6 billion for public buildings. Buildings weatherization is possible to co-finance via New Green Savings Programme, which is declared until 2020, and it is allocated 9.3 billion crowns in it for the period 2018-2020.

With respect to utilization of renewable resources for electric energy production within individual buildings in the Czech Republic, only photovoltaic can be considered. The professional group Solar Association let elaborate study, from which follows, that the potential of roofs area suitable for photovoltaic power plants is up to 7 GWp. Other potential is also in various brownfields, contaminated or spoiled areas, car parks, waste disposals, etc. There are developing two photovoltaic markets in the Czech Republic currently, and each of them is supported by special grant program.

The first segment are family houses, where are typically installed roof systems with power output 3 to 5 kWp (approximately 12 to 16 panels) connected with warm water accumulation or with batteries. It is possible to obtain a grant from New Green Savings Programme for both systems.

The second segment are photovoltaic power plants for companies. It is possible to obtain grants up to 80 % of allowable costs on photovoltaic systems producing electricity for self-consumption from Operational Programme Enterprise and Innovations for Competitiveness (OPEIC), which is managed by Ministry of Industry and Trade. The possibility is once again connection with accumulators. There were announced two calls in the Programme, already closed (CAFT, 2018).

### 3. BARRIERS TO EE INVESTMENTS

The development of financial instruments for investments in EE / RE area is not directly constrained by the Czech Republic's policy or legislation. Also, financial resources in the private and state sector and the market offer of technologies can be considered as sufficient.

A major obstacle to the development of EE / RE in the Czech Republic is the distrust of a large part of the population in the renewable sources. It results mainly from the way of realization of the financial support for solar power plants in 2009-2010. During this period, rapid growth of photovoltaic power plants occurred on the basis of state support for their realization and especially long-term guaranteed purchase prices for electricity. The result is a large number of inappropriately placed photovoltaic power plants of poor-quality technologies with often unknown and disreputable owners. Costs for this form of support are paid by consumers of electricity in the form of a special bonus.

The public's lack of confidence was also caused by the support of the first-generation biofuels, which are verifiably less environmentally friendly than conventional fuels, and moreover negatively alter and distort the agricultural commodity market.

There are, from the point of view of energy efficiency, obligatory values for the Czech Republic, resulting from the Article 7 of Directive 2012/27/EU on energy efficiency. After the correction of calculation methodology for the Czech Republic was calculated 51.1 PJ of new savings in final energy consumption by 2020. From the latest version of the Report on the State of Achievement of the National Energy Efficiency Targets follows that there are no fulfilled positive assumptions about the drawing funds of support programs, and no reduction of energy demands of the Czech Republic. The interest association National Center for Energy Savings proposes the following measures to strengthen the implementation framework of the Directive:

- 1) Removal of barriers to drawing of support from operational programs (especially OPEIC, OPE, IROP).
- 2) Strengthening of funds in national support programs and their extension, namely programs EFEKT and ENERGA.
- 3) Targeted and systemic professional promotion and communication, its consultation with representatives of applicants and recipients.
- 4) Continue and strengthen of collaboration and cooperation between particular participants of the state administration, applicants and recipients, including the exchange of information and interpretation of the conditions.
- 5) Support of the application of the EPC method in the public and state sectors.
- 6) Analysis of possibilities of voluntary agreements to include feasible energy saving measures to meet the EU target.

## 4. PROPOSED E-FIX FINANCING MECHANISM

There are planned two to four demonstration projects for the pilot phase:

### 1. Energy reconstruction of the building of Diakonie ECCB, Litoměřice - crowdfunding

Diakonie ECCB Centre of Christian Help in Litoměřice is a part of the Diakonie of the Evangelical Church of Czech Brethren. It was founded in 1992 as a non-profit organization with the principal objective to help people on the fringe of society. Centre was gradually developed according to clients' requirements based on community plan of Litoměřice and employees' professional experiences. Nowadays it offers a range of services aimed at the support of disabled and socially disadvantaged people.

Diakonia gained a dilapidated building recently, which was formerly serving to the army. The building has been partially reconstructed and already serves its purpose, though rather temporarily.

The pilot project will be preparation, announcement and realization of a crowdfunding campaign aimed at increasing of the energy efficiency of building - building insulation, heat recuperation, etc. Measures will be realized primarily on the basis of the energy assessment of the building. In case of success of the campaign, the energy efficiency improvement will continue with the installation of technologies for the utilization of RES - PV panels, etc. The exact capacity of EE / RE measures (energy savings, RE performance) will be determined by energy assessment.

Donors receive products from social therapy workshops - painted cups, t-shirts, souvenirs, etc. within the campaign.

Implementation plan:

- Energy performance assessment elaboration
- Crowdfunding campaign announcement, transparent account founding
- Crowdfunding account administration, preparation the implementation of measures
- Measures implementation
- Rewards distribution to donors

There are also centres Krabčice, Valašské Meziříčí and Ostrava in consideration. No more than 2 projects will be chosen.

Estimated investment supported by this scheme: 50,000 to 200,000 €

Estimated annual primary energy savings: 0,1 GWh

### 2. Installation of PV power plant on rural farm – neighborly crowdfunding and sales support

Organization of neighborly (rural) crowdfunding campaign, of which objective will be installation of PV panels on family house (farm). Costs will be shared by village residents who will receive a part of the farm's production as a reward. For operation of the farm will be used electricity produced by PV panels, pressed

fruit cider, home-made beer, dairy products, etc. Produced electricity will be used for operation of the farm, production and storage of products. Supposed installed power of 3.5 kW comply with common daily consumption of the farm, so as to minimize surplus flow to public network.

Implementation plan:

- Crowdfunding campaign announcement, transparent account founding
- Crowdfunding account administration, preparation of realization
- Realization of PV power plant

Estimated investment supported by this scheme            15,000 €

Estimated annual electricity production from REN:        0,02 GWh

### 3. Co-financing of photovoltaic power plant installation via active mediation

Company, which ensures delivery and installation of PV panels on roofs, will make agreements with clients to reward them for next acquired customers. The reward will be financial amount, calculated from total costs of installation of acquired clients (e.g. 2 % of total costs of the installation). The client will be able to accelerate return of investment in PV power plant or to arrange significantly lower price in advance. The way of recommendation will be left to the client and probably will be based on practical demonstrations of the power plant and its results. The company ensuring installation will provide to client information support to present his own installation as clearly and transparently as possible. The expected co-financing is up to 30% of the PV power plant costs according to activity of the client.

Implementation plan:

- Preparation of support system and documentation (contract, promotional materials)
- Launching of the event including appropriate PR support, dealings with clients
- Realization of PV power plant
- Sales support via recommendation and demonstration of PV power plant functions to other interested persons, obtaining of co-financing

Estimated investment supported by this scheme:            100,000 €

Estimated annual electricity production from REN:        0,05 GWh



## 5. ANNEXES

### 5.1. ANNEX A: BIBLIOGRAPHY

CAFT. (05 de 2018). Solar power plants have potential in the Czech Republic. *Energie 21*.

PORSENNA. (2017). Potential energy savings in buildings in the Czech Republic, Prague: AVMI.



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