

# Financing Baseline

## Country Report: Croatia

Project acronym:	E-FIX
Project full title:	DEVELOPING AND TRANSFERRING INNOVATIVE ENERGY FINANCING MIX IN ORDER TO ACTIVATE PRIVATE SECTOR INVESTMENTS IN SUSTAINABLE ENERGY PROJECTS
Grant agreement no.:	785081
Doc. Ref.:	E-FIX WP1-1 – Financial Sector Overview
Responsible:	Development Agency Zagreb North-West Croatia Regional Energy Agency
Author(s):	Marko Helfrih (Development Agency Zagreb) Milica Projić (Development Agency Zagreb) Željana Barišić (Development Agency Zagreb) Tijana Šimek (North-West Croatia Regional Energy Agency) Hrvoje Maras (North-West Croatia Regional Energy Agency)
Date of issue:	July 2018
Status:	Final
Security:	Public



# TABLE OF CONTENTS

<b>1. INTRODUCTION</b>	<b>3</b>
<b>2. FINANCIAL SECTOR OVERVIEW</b>	<b>4</b>
2.1. BANKING SECTOR	4
2.2. MICROFINANCE SECTOR	6
2.3. LEASING SECTOR	8
2.4. CROWDFUNDING SECTOR	9
<b>3. ENERGY EFFICIENCY/RENEWABLE ENERGY FINANCE ACTIVITIES</b>	<b>11</b>
3.1. INTERNATIONAL AND LOCAL FINANCE INSTITUTIONS WORKING IN EE SECTOR	11
3.2. EPC AND ESCO MARKET	15
3.3. INVESTMENT FUNDS	17
3.4. GREEN BONDS	18
3.5. CROWDFUNDING	19
3.6. PUBLIC SUPPORT MECHANISMS	20
<b>4. CONCLUSIONS</b>	<b>22</b>
<b>ANNEX: BIBLIOGRAPHY</b>	<b>24</b>
<b>ABBREVIATIONS</b>	<b>25</b>

# 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 financial sector for Croatia.

## 2. FINANCIAL SECTOR OVERVIEW

The Croatian financial system is dominated by 24 commercial banks whereas the banking sector itself is highly concentrated: Zagrebacka banka, Privredna banka and Erste Bank account for 61 percent of assets.

In Croatia, 30 credit institutions are operational - 25 banks (including one savings bank) and five housing savings banks, 17 leasing companies, 6 factoring companies, 19 insurance companies, and four mandatory pension companies.

### 2.1. BANKING SECTOR

Banking sector in Croatia is overwhelmingly privatized, consolidated, highly developed, competitive and features an increasing diversity of business and consumers products (foreign and domestic). French, German, Italian and Austrian companies own over 90 percent of banks, and in 2016 the first U.S. bank was registered in Croatia (Addiko Bank).

The banking sector is healthy and has suffered no consequences during the last global banking crisis. More than 90 percent of total banking sector assets are foreign-owned. As of March 2018, there were 25 banks and 5 savings banks, with assets totaling HRK 407 billion (USD 61.7 billion). The largest bank in Croatia is Zagrebacka Banka, with assets of HRK 124 billion (USD 18.8 billion), and a market share of 30.04 percent of total banking assets in Croatia. Second-largest is Privredna banka Zagreb, with HRK 72 billion (USD 10.9 billion), or 17.06 percent of total banking assets. The third largest is Erste&Steiermärkische Bank, with assets of HRK 56 billion (USD 8.5 billion), and a 13.76 percent market share in Croatia.

The country has a central bank system. As the central bank of Croatia, the Croatian National Bank has six core areas of responsibility. These are monetary and foreign exchange policies, international reserves management, financial stability, supervision, credit institution remediation and payment transactions.

**Table 1** List of commercial banks in Croatia

No.	Name of financial institution	Total Assets (HRK)	Net Loans (HRK)	Market share (% of total as-sets)
1	ADDIKO BANK d.d.	21,130.5 mil.	10,401 mil.	5.31%
2	BANKA KOVANICA d.d.	x	x	x
3	CROATIA BANKA d.d.	2,490,816 mil.	1,153 mil.	0.6%
4	ERSTE & STEIERMÄRKISCHE BANK d.d.	57.3 mil.	35.4 bln.	14.33%
5	HRVATSKA POŠTANSKA BANKA d.d. Zagreb	19.4 bln.	11,398 mil.	4.96%
6	HRVATSKA BANKA ZA OBNOVU I RAZVITAK	28,055,80 mlrd	104.56 bln.	x
7	IMEX BANKA d.d. Split	1,746,597 mil.	x	x
8	ISTARSKA KREDITNA BANKA UMAG d.d. Umag	3.37 bln.	x	x

9	JADRANSKA BANKA d.d. Šibenik	X	x	0.4%
10	J&T BANKA d.d. Varaždin	1,274,5 mil	642,728	
11	KARLOVAČKA BANKA d.d. Karlovac	2,181 mil.	x	x
12	KENTBANK d.d. Zagreb	2,078 mil.	1,170 mil.	x
13	KREDITNA BANKA ZAGREB d.d. Zagreb	3.4 bln.	1.8 bln.	0.85%
14	OTP BANKA HRVATSKA d.d.	19,599,039	x	4.91%
15	PARTNER BANKA d.d. Zagreb	x	X	x
16	PODRAVSKA BANKA d.d. Koprivnica	3.27 bln.	x	x
17	PRIMORSKA BANKA d.d. Rijeka	x	x	x
18	PRIVREDNA BANKA ZAGREB d.d. Zagreb	x	x	19.01 %
19	RAIFFEISENBANK AUSTRIA d.d. Zagreb	31,379 mil.	240 mil.	7.86%
20	SAMOBORSKA BANKA d.d. Samobor	x	x	x
21	SBERBANK d.d. Zagreb	x	x	2.23%
22	SLATINSKA BANKA d.d. Slatina	1,594 mil.	x	x
23	SPLITSKA BANKA d.d. Split (OTP Grupa)	26,876 mil.	14,839 mil.	6.73%
24	VENETO BANKA d.d. Zagreb	x	x	x
25	ZAGREBAČKA BANKA d.d. Zagreb	102,184 mil.	61,893 mil.	25.60 %

The average weighted interest rate on housing loans granted in the Republic of Croatia with a contracted floating rate in HRK without a currency clause on 31 October 2017 amounts to 4.45%.

The average weighted interest rate on housing loans granted in the Republic of Croatia with agreed floating rate in euro and in HRK with a currency clause in euro on 31 October 2017 is 4.62%.

The average weighted interest rate on housing loans granted in the Republic of Croatia with agreed floating interest rates in Swiss francs and in HRK with a currency clause in Swiss francs on 31 October 2017 amounts to 2.87%.

The average weighted interest rate on other consumer credits granted in the Republic of Croatia with a contracted floating rate in HRK without a currency clause on 31 October 2017 amounts to 7.89%.

The average weighted interest rate on other consumer credits granted in the Republic of Croatia with a contracted floating rate in euro and in kuna with a currency clause in euro on 31 October 2017 amounts to 7.39%.

The credit market in Croatia designed for small and medium-sized enterprises is particularly developed. Loans to Croatian SMEs make up approx. 66.1% of the total business loan portfolio. Almost every bank offers loans to SMEs through a wide range of products and services: loans for export financing, working capital loans, investment loans, construction loans, tourism loans, loans for specific activities (olive growing, development of wine and wine growing), loans for financing solar power generation for electricity and heating, start-up loans, loans for women entrepreneurs, etc). Based on the review and analysis of the financial products supply for SMEs, the following funding conditions are dominant:

- **Long-term loans:** Amount: up to HRK 5 million (depending on the creditworthiness and purpose); Duration: up to 15 years; Interest: fixed or variable interest rate; Insurance: mortgage in min. 1:1 - 1:1.5; bills of exchange, debt securities of value, deposits, real estate insurance policy.
- **Short-term loans:** Amount: from EUR 1,500 to 20,000 (depending on the client's creditworthiness); Duration: up to 12 months; Interest: contractual; Insurance: bills of exchange, debt securities, deposits etc.

## 2.2. MICROFINANCE SECTOR

In Croatia, entrepreneurs may obtain micro loans from Croatian Agency for Small and Medium Enterprises, Innovation and Investments (“**HAMAG-BICRO**”), Croatian Bank for Reconstruction and Development (“**HBOR**”), credit unions and Ministry of Economy, Entrepreneurship and Crafts (“**MINGO**”).

### **Croatian Agency for Small and Medium Enterprises, Innovation and Investments**

Financing instruments provided by HAMAG-BICRO are aimed at providing financial support to investments via granting loans and guarantees with the possibility of combining subsidized interest rates, and ownership and quasi-ownership financing instruments. These financial instruments serve as support for mobilizing additional private and/or public financing sources. In general, HAMAG-BICRO controls the use of all loans. Users are, therefore, required to submit documentation in accordance with their respective loan agreements in order to be able to control the use of the loan. These financing instruments shall remain in force no later than 31 December 2020.

HAMAG-BICRO offers programs of ESIF Micro loans and ESIF Small loans. ESIF Micro loans may be used for an investment into capital assets or working capital and are intended for micro and small entrepreneurs. ESIF Small loans are intended for micro, small and medium entrepreneurs.

ESIF Micro loans for investment into capital assets are intended for micro and small entrepreneurs as well as natural persons who in the moment of filing the request do not have a registered business entity, in which case if the loan is granted it is necessary to register a business entity because only a business entity may be granted a loan. The aims of ESIF Micro loans for investment into capital assets are:

- incorporation of crafts or trade companies;
- modernization and expansion of existing business;
- self-employment;
- keeping and increasing the number of existing working places.

**Table 2** Overview of terms of ESIF loan

	<b>Micro investment loans</b>	<b>Micro loans for working capital</b>	<b>Small loans</b>
<b>Users</b>	Micro and small entrepreneurs, natural persons	Micro and small entrepreneurs	Micro, small and medium entrepreneurs
<b>Amount</b>	EUR 1,000 – 25,000	EUR 1,000 – 25,000 €	EUR 25,000 – 50,000
<b>Interest</b>	0.5 – 1.5%	1.5 – 3.5 %	0.5 – 1.5%
<b>Term</b>	5 years	3 years	10 years

The funds from both ESIF Small loans and ESIF Micro loans, for investment into capital assets, may be used for:

- a) capital assets: land and construction objects, equipment and devices, development of products or services, patents, licenses, concessions, copyrights and franchises; and/or
- b) working capital - only up to 30% of the loan.

ESIF Micro loans for investment into working capital is intended for micro and small entrepreneurs for the following purposes:

- financing long-term working capital;
- modernization and expansion of existing business;
- financing daily business short-term obligations;
- keeping and increasing the number of existing jobs;
- increase, maintenance and improvement of solvency;
- improvement of competitiveness;
- settlement of obligations towards suppliers;
- preparation of export;
- improvement of quality of tourist services.

The funds from ESIF Micro loans for investment into working capital may be used for preparation of production; raw and other materials; other production costs; employment costs; new employment; lease of business premises; utilities and general costs.

### **Croatian Bank for Reconstruction and Development**

HBOR implements its micro financing program in cooperation with the Kreditanstalt für Wiederaufbau (KfW), Development Bank of the Council of Europe and the European Commission under conditions more favourable than those on the open market (Table 3).

**Table 3** Overview of terms of loans

<b>Users</b>	Micro, small and medium entrepreneurs, natural persons
<b>Amount (HRK)</b>	25,000
<b>Interest paid by the bank to HBOR</b>	3,7%
<b>Interest rate paid by the final user</b>	Depending on the banks' business decision
<b>Term</b>	5 years

Business banks included in this micro financing are: Croatia banka d.d., Erste & Steiermärkische Bank d.d., Hrvatska poštanska banka d.d., Kentbank d.d., OTP banka Hrvatska d.d., Partner banka d.d., Podravska banka d.d., Raiffeisenbank Austria d.d., Sberbank d.d., Slatinska banka d.d., Vaba d.d. banka Varaždin, Veneto banka d.d.

### Credit unions

In Croatia microfinance services are also provided by credit unions, which operate in more than 100 countries worldwide and provide various financial services, primarily credit and deposit services. In Croatia, compared to other actors in the capital market, the share of credit unions is very small, only 0.1%.

Based on the Credit Unions Act from 2011, savings and loan cooperatives in Croatia have been replaced by credit unions. The Credit Unions Act has also introduced numerous restrictions, and a certain number of cooperatives did not have the personnel, technical and financial capacity for transformation and establishment of a new way of operation as a credit union, which significantly reduced the number of savings and loan cooperatives that were transformed into credit unions.

In Croatia, there were 20 credit unions operating at the end of 2016, 5 less than the previous year. In January 2017, 20 credit unions have been registered in the commercial court register (Table 4).

**Table 4** List of credit unions

Credit Union Apoen	Credit Union Sjenica, Čakovec
Credit Union Deponent, Zagreb	Credit Union Zagreb, Zagreb
Credit Union Dukat, Viškovo	ABC Credit Union, Sisak
Credit Union Euro, Nova Gradiška	Bjelovar Credit Union, Bjelovar
Credit Union Gama, Zagreb	Fidus credit union Đakovo
Credit union Guarantee, Županja	Craft Credit Union, Križevci
Credit Union Krajcar, Županja,	Vrbovečka kreditna unija, Vrbovec
Credit union Libertina, Čakovec	Credit union Štednokred, Zagreb
Credit union Marjan, Split	Labor Union Savings and Credit Union, Zagreb
Credit union Noa, Osijek	Zagorje credit union, Zabok

## 2.3. LEASING SECTOR

Leasing is a well-established method of financing energy efficiency projects in the industry and SME sector in Croatia. The leasing business is steadily growing and is showing a trend in specializing towards specific types of operations. On 31 March 2018, 17 leasing companies were present in Croatia with a wide range of products and services, including financial and operating leases in HRK and EUR (Table 5 and 6). Financial leasing is currently dominating the market with most of the contracts being awarded for procurement of new cars and commercial vehicles.



**Table 5** Operational and financial leasing market overview

<b>By leased assets</b>	<b>Number of active contracts – Operational leasing</b>	<b>Number of active contracts – Financial leasing</b>
Property	36	425
Passenger cars	36,694	51,147
Commercial vehicles	6,445	20,348
Vessels	182	1,013
Aircraft	-	1
Plant, machinery, transport machines and equipment	927	7,289
Other	40	634
<b>Total</b>	<b>44,324</b>	<b>80,857</b>

**Table 6** Operational leasing market overview – by sector

<b>By leasee's activity</b>	<b>Number of active contracts – Operational leasing</b>	<b>Number of active contracts – Financial leasing</b>
Agriculture, forestry and fishing	705	4,251
Manufacturing, mining and quarrying and other industries	5,936	7,833
Construction	1,523	5,718
Wholesale and retail trade, transportation, storage, accommodation and food service	12,901	27,457
Information and communication	2,703	1,111
Financial and insurance activities	1,509	593
Real estate activities	259	429
Professional, scientific, technical, administrative and support service activities	7,072	7,466
Public administration and defense, education, human health and social work activities	3,373	2,374
Other service activities	5,353	7,011
Population (households)	2,990	16,614
<b>Total</b>	<b>44,324</b>	<b>80,857</b>

## 2.4. CROWDFUNDING SECTOR

**Crowdfunding** is a way of financing a project via collecting small sums of money from a large number of investors and thus creating a starting capital for startups. It is completely different from other forms of financing since it represents a minor risk for investors due to their small role. The process takes place over the internet and the goal is to involve a large number of people with varied motivational factors whose

cumulative payments will result in a significant amount of money sufficient to bring even big projects to realization.

We consider crowdfunding an alternative form of financing because it is not a part of a traditional financial system. There is a time limit because the money is being collected for a specific period of time, usually 30 to 60 days.

Most of campaign creators and backers from Croatia use international platforms:

- **Kickstarter** - currently the largest collective funding site. It was founded in 2008 to fund creative projects that enabled producers of video games, magazines and small innovative products to gather capital. Today it boasts over USD 230 million of project investments and more than 23,000 successfully funded projects;
- **Indiegogo** - a platform that is created for creators but can also be used to raise funds for charitable and non-profit organizations.
- **Gofundme** - a platform that allows users to get the money needed for all life events; from celebration and promotion to disaster and disease;
- **Causes** - for users who want to "change the world"; from major world natural disasters to human rights;

The number of domestic campaign sponsors in 2017 has been the highest so far: 13,531. This year's campaigners were from the creative and art industries (e.g. films, music and writing). More than half of the campaigns were launched in Zagreb, and only a small percentage in other Croatian cities. While 44 campaigns were launched in Zagreb, three campaigns were started in Rijeka, Zadar, Osijek and Vukovar.

Crowdfunding.hr declared "micro: bit STEM revolution" campaign of the year because of the biggest number of domestic crowdfunding campaign supporters to date: 2,364 supporters totaled USD 290,324 or 1,737,726 HRK.

Following a decline in crowdfunding activities in Croatia in 2016, the latest data show that 2017 has been the most successful domestic crowdfunding year so far. Croatian campaigns raised HRK 15 million last year and almost HRK 30 million has been raised in Croatia in crowdfunding campaigns to date.

Out of 78 domestic projects that were launched this year (mainly on the Indiegogo platform), 26 collected the required amount. More than half of the funds collected in 2017 refers to a campaign financed by equity holdings.

Most crowdfunding platform business models are based on taking a percentage of payments collected. This percentage ranges from 4 to 10% depending on the platform and model. Kickstarter has introduced the so-called all-or-nothing model where money is returned to donors if the amount raised is not equal to or greater than the campaign goal.

### 3. ENERGY EFFICIENCY/RENEWABLE ENERGY FINANCE ACTIVITIES

Financial sector that offers services and products for energy efficiency and renewable energy projects has undergone significant changes during the years. Accession to the European Union in 2013 boosted national policy makers' credibility and led to improvement of investors' perception. The increased presence of the European Investment Bank and the European Bank for Reconstruction and Development coupled with the funding from the European Structural and Investment Funds lowered the cost of capital and opened up new investment opportunities for public and private sector project developers. Liberalization of the electricity market also affected the producers of energy from renewable sources with the new market premium incentive model which replaced the feed-in tariff model.

#### 3.1. INTERNATIONAL AND LOCAL FINANCE INSTITUTIONS WORKING IN EE SECTOR

International Financial Institutions (IFIs) and other multilateral and national development banks are critical development partners to address the sustainable development goals set by the Croatian government's strategic framework. A number of IFIs have been present in Croatia since 1992 and their role has only increased during the years.

**The European Bank for Reconstruction and Development (EBRD)** is one of the largest investors in Croatia with realized investments of over EUR 3.6 billion in 198 projects from 1994-2018. The Bank mostly targets private sector investments although public sector projects can also be financed if they provide benefits for the wider community. EBRD financing of projects in Croatia ranges from EUR 5 million to EUR 250 million, in the form of loans (senior, subordinated, mezzanine or convertible debt) or equity and quasi-equity instruments. Equity finance is available from EBRD-supported private equity funds, donor-supported equity funds and directly from the EBRD. Equity funds support all kinds of investments including business start-ups, expansion and acquisitions. The average EBRD investment is EUR 25 million and is based on current market interest rates. Smaller projects are financed through financial intermediaries or through special programmes (e.g. energy efficiency/renewable energy sources).

EUR 28 million of bank's current financial portfolio is currently dedicated to energy sector investments. The Bank is currently operating in Croatia on the basis of a Country Strategy approved in 2017. Mitigating the impact of the crisis and restoring sustainable growth has been the main driver of the Bank's engagement in Croatia before 2017. The new strategy puts focus on several priorities such as deepening financial markets to broaden access to finance for SMEs and larger domestic corporations and continuation of the Green Economy Transition approach across all relevant sectors.

The Bank constantly assists public and private sector to achieve greater benefits from accession to the European Union. By leveraging EU grants under the Western Balkan Sustainable Energy Financing Facility II (WeBSEFF II), the Bank supported a regional approach to sustainable use and conservation of energy as part of its Green Energy Transition approach. Of the EUR 92 million financed under WeBSEFF II, EUR 45 million were provided to three commercial banks in Croatia (EUR 10 million to Erste&Steiermärkische Bank, EUR 15 million to Privredna banka Zagreb and EUR 20 million Zagrebacka banka) for on-lending to private companies and municipal borrowers for investments in energy efficiency (EE) and renewable energy. EBRD investments in energy efficiency represented 26 per cent of the Bank's business volume for

2013-2015 with benefits for private companies' competitiveness as well as for the environment. In line with EU objectives, the Bank provided EUR 10 million financing for the rehabilitation of the district heating network, construction of new heat generation facilities and the implementation of the first municipal integrated energy management system in Rijeka, with the total population benefitting from improved district heating estimated at 45,213 households. In 2016, as a part of the Sustainable Energy Financing Facilities (SEFF) the Bank launched a EUR 60 million facility called REENOVA+ for financing energy efficiency improvements in Croatian homes and households. REENOVA+ provides loans and free-of-charge assistance and tools, which assist investors' decision regarding the most suitable energy efficient technology choices for their needs.

On the back of these investments, the Bank has provided technical and regulatory advice to:

- Develop the ESCO market, draft the template for the street lighting contract and support the preparation of five tenders - two of which are under implementation;
- Design and implement the Energy Efficiency Obligation (EEO) scheme to ensure full compliance with the requirements under the EU Energy Efficiency Directive (EED);
- Review Croatia's regulations for the inspection of heating and air-conditioning systems to ensure full compliance with the requirements under the EU Energy Performance Buildings Directive (EPBD).

The Bank also works to enhance the role of equity financing in the economy. As an anchor investor, the Bank contributed to launching several regional equity funds targeting Croatia among other countries, also signaling the attractiveness of the region to the private equity industry. A regional fund in the Bank's portfolio with a specific focus on investing in clean energy projects (Crescent Clean Energy) made an investment in Zelengrad, Croatia's second largest wind farm, with a production set to avoid the emission of 24,000 tons of CO<sub>2</sub> and generate more than 10 per cent of the country's wind power capacity. By providing long term funding to local corporates across various sectors, the Bank supported their expansion into the regional and European markets, assisting them in the acquisition of foreign companies, as well as in expanding their business and production capacities. Long-term funding also enabled large corporates to stabilize their balance sheets for future growth.

The Bank's efforts have also been significant in supporting SMEs' access to finance, entrepreneurship and competitiveness and it contributed to mitigating the impact of the crisis on the investment climate, both through policy dialogue (strengthening, among others, the capacity of the national SME agency HAMAG BICRO) and the provision of a variety of financing instruments. Bank's policy dialogue with the Croatian Financial Services Supervisory Agency (HANFA) and the Ministry of Finance led to the introduction of the new law on factoring. On the back of these positive regulatory changes, in addition to EUR 75 million of SME credit lines via local commercial banks, the Bank provided EUR 135 million of financing to support leasing and factoring activities via 4 partner financial institutions.

**The European Investment Bank (EIB)** plays an important role within the Croatian economy. The European Investment Bank Group, consisting of the European Investment Bank and its subsidiary, the European Investment Fund (EIF), as in the other EU Member States, supports investment projects designed to reduce disparities in regional development, strengthen economic competitiveness and improve living standards and quality of life. To this end, it finances projects that focus on fostering harmonization with economic development in the EU in order to further deepen the country's integration within the Union.

EIB operations cover important sectors of Croatia's economy, ranging from environmental infrastructure to transport (rail, road, urban, air) and energy infrastructure. Another major part of the EIB's operations targets the effective financing of manufacturing and services, including support for small and medium-sized enterprises (SMEs) and midcaps in partnership with local financial institutions. The EIB thus helps to increase the local business community's access to long-term financing and supports the financing of a key pillar of the country's economic framework.

The EIB has significantly increased its operations since Croatian EU accession, mainly working through the Croatian Bank for Reconstruction and Development ("HBOR") by providing credit lines covering, among other sectors, municipal and environmental infrastructure, focusing on EU Structural and Cohesion grant co-financing in several corporate sectors as well directly with financial intermediaries.

The EIB Group's operations in Croatia account for some 1.22% of Croatia's GDP, ranking Croatia third among EU Member States in this regard, far above the EU average of 0.46%. From 2013-2015, EIB increased its activities and policy dialogue in Croatia. Among others, it provided HBOR with some EUR 900 million and committed EUR 170 million financing to local commercial banks, mostly for SMEs, which are still underfunded. EIB also granted a EUR 300 million loan to the Croatian government to co-finance EU projects. In 2017 the EIB Group provided EUR 590 million of new loans, guarantees and equity investment in Croatia. The EIB concluded six intermediated loan contracts amounting to EUR 414 million with Croatia's financing institutions in 2017 alone. These institutions are using the EIB funds to finance projects carried out by SMEs and municipalities in the fields of local infrastructure, environmental protection, energy, R&D and innovation. The four major banks taking part in the financing are: national bank HBOR (EUR 100 million) and three commercial banks: Privredna banka Zagreb (PBZ EU – EUR 60 million), Zagrebacka Banka (ZABA – EUR 40 million) and Hrvatska Postanska Banka (HPB – EUR 20 million). The EUR 40 million loan to ZABA, the largest commercial bank in Croatia, is specifically targeted at energy efficiency measures. The loan is supported by the Private Finance for Energy Efficiency (PF4EE) financial instrument, which provides European Commission portfolio-based credit risk protection, together with long-term financing from the EIB and expert support services for financial intermediaries financed by the Environment and Climate Action (LIFE) programme. The PF4EE is a joint instrument of the EIB Group and the European Commission aimed at targeting the financing of energy efficiency investments in the EU and projects related to this goal. The PF4EE transaction with ZABA provides loans for EE investments made by small businesses and corporates. The EIB also launched a new EUR 15 million cooperation with HBOR under the Natural Capital Financing Facility for supporting new investment that will improve conservation of existing biodiversity, improve green infrastructure and strengthen resilience to climate change.

The European Fund for Strategic Investments (EFSI) launched by the EIB Group and the European Commission to help overcome the current investment gap also had an important impact in Croatia in terms of mobilising private investment for projects of strategic importance that have a higher risk than the projects eligible for financing in the customary business operations. Direct financing with the EFSI support was made available exclusively for projects exceeding EUR 50 million, whereas the projects of small and medium-sized companies and mid-caps in the total amount of up to EUR 50 million are considered via HBOR through the EFSI window for small and medium-sized companies. Two major investments in the energy sector were financed through the EFSI so far: construction of a combined cycle gas turbine, heat and electricity cogeneration plant to replace obsolete, oil-fired heat-generation assets in Zagreb (Hrvatska Elektroprivreda d.d.) worth EUR 195 million and an international investment fund focusing on energy transition infrastructure projects in the EU called FONDS INFRAGREEN III.

**The World Bank Group** consisting of the International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), the International Finance Corporation (IFC), the

Multilateral Investment Guarantee Agency (MIGA) and the International Centre for Settlement of Investment Disputes (ICSID) has been present in Croatia since 1994. The World Bank's activities in Croatia are guided by the Country Partnership Strategy (CPS) launched in June 2013. The current engagement focuses specifically on promoting key reforms in support of fiscal adjustment, helping competitiveness, and maximizing the economic benefits of EU membership. The Bank has also been emphasizing institutional capacity building related to EU membership, particularly relevant to Croatia's ability to absorb EU funds. The Bank's current financial commitment focuses on the transport sector, with projects in health, social protection, innovation, and land administration. These projects incorporate significant support to public administration through building capacity and preparing the public sector for EU funds absorption. The CPS program finances the development of an EU funds project pipeline worth EUR 500 million. The focus of the advisory services program is twofold: helping to improve the business climate and the competitiveness of the economy and creating an evidence base for cross-sectoral policies and interventions to address social and regional disparities.

Current financial commitments of the IBRD in Croatia accrue to USD 1.03 billion and include 6 loans (USD 487 million), 1 GEF grant (USD 4.3 million) and 2 guarantees (USD 539.5 million). The World Bank is mainly engaged in the transport sector, focusing on the railways modernization programme. It provided financing to three state-owned railway companies, HZ Infrastructure, HZ Passenger Transport and HZ Cargo to finance immediate capex needs related to traffic safety as well as working capital and labour restructuring and continued its advisory assistance to help with of the financial restructuring and to secure the long-term sustainability of the railways sector in Croatia. Highways are the other World Bank's main activity. In particular, it is focusing on the debt side, as the latter is very short term and expensive, by trying to design a financial scheme to approach the lenders, and extend the maturity of the debt, but with guarantees from the World Bank.

The energy sector is one of the main priority areas within the second pillar of Bank's CPS which aims to promote competitiveness and private sector-led growth by financing energy efficiency and especially renewable energy projects. In cooperation with the EBRD the IFC arranged an investment worth EUR 42.5 million in construction of a wind park in Rudine near Dubrovnik. The total project cost is estimated at 53 million euro and the wind farm of 34.2 MW of total power will boost Croatia's supply of wind-generated power by 11%.

**Croatian Bank for Reconstruction and Development (HBOR)** is a state-owned bank founded in 1992 and is entirely owned by the Republic of Croatia. HBOR plays the role of a development and export bank established with the objective of financing the reconstruction and development of the Croatian economy. HBOR raises its funds by issuing debt securities on domestic and foreign markets and taking out loans, primarily from other international development banks (EIB, KfW, EBRD). The cooperation with the EIB is of great significance for HBOR because it provides access to favourable funding sources, both in terms of pricing and tenor, and because it offers the possibility of financing working capital and investment. This cooperation has an impact on the Croatian economy as it enables the development of SMEs, new products and technologies, the upgrade of infrastructure, the increase in exports, the decrease in unemployment and the strengthening of competitiveness. The cooperation between the EIB and HBOR started in 2001. So far, 18 Finance Contracts have been signed totaling EUR 2.53 billion used for the financing of more than 3.5 thousand projects.

HBOR's core business activities include:

- 25 different loan programmes (supporting SMEs, infrastructure, export and tourism and economy);
- Issuing guarantees (tender, performance, advance payment and warranty);
- Export credit insurance;

- Other activities (Economic Cooperation Funds, EFSI, Financial instruments and other mandate activities for the Republic of Croatia);

HBOR and the Ministry of Regional Development of EU Funds are slowly moving away from the grant schemes (total or partial) and switching to financial instrument (FI) which provide a more sustainable and innovative way of financing rather than the traditional dependence on grants. Financial Instruments transform EU resources under the European Structural and Investment Funds into financial products such as loans, guarantees, equity and other risk-bearing mechanisms. FIs help mobilise additional public-private co-investments and provide a variety of incentives to better project performance and HBOR is the main developer and promotor in Croatia.

The energy sector is one of the more important priorities for HBOR and at the moment HBOR is in various stages of implementation of four dedicated financial instruments for sustainable energy projects which include:

- ESIF Loans for Energy Efficiency in Public Sector Building - the funds are provided from the ESI Funds through the 2014-2020 Competitiveness and Cohesion Operational Programme, Priority Axis 4 "Promotion of Energy Efficiency and Renewable Energy Resources" – Specific Goal 4c1 "Reduction of energy consumption of the public-sector buildings". Through this financial instrument worth EUR 25 million, measures for improvement of energy efficiency that will result in a decreased consumption of energy for heating/cooling of at least 50% on annual level can be financed.
- ESIF Loans for Public Lighting - the funds are provided from the ESI Funds through the 2014-2020 Competitiveness and Cohesion Operational Programme, Priority Axis 4 "Promotion of Energy Efficiency and Renewable Energy Resources" – Specific Goal 4c4 "Increasing the efficiency of public lighting". Through this financial instrument worth EUR 20 million, loans up to EUR 2 million are available for improvement of energy efficiency in public lighting.
- ESIF Loans for Energy Efficiency in Private Sector - The purpose of loans is the financing of private sector projects co-financed from the ESI Funds under favorable conditions (1.7-1.9% interest rate p.a. with repayment up to 10 years).
- Investments Loans for Rural Development - a financial instrument intended for agriculture which will be available towards the end of 2018.

### 3.2. EPC AND ESCO MARKET

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. 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 ensured from the European Structural and Investment Funds.

However, it is important to point out that almost all of these projects are 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, a new EIB ELENA funded project NEWLIGHT which promoted the use of EPC and Public-Private-Partnership models for modernization of public lighting 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 projects is estimated at EUR 10 million with first contracts to be signed in 2018.

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 contracting partner provides products such as heat, chilling, compressed air or electricity and the subject of the contract not being the energy value but the utility value – billed in Euros per volume items of heat, steam or compressed air. Financing, engineering design, planning, constructing, operation and maintenance of energy production plants as well as management of energy distribution are often all included in the complete service package. The ESC is a service primarily used in the commercial and industrial sectors but can 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 Karlovac chamber of trades and crafts.

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. Beside HEP ESCO, main ESCOs on the market are:

- Rudan Ltd.
- Eltec Petrol Hrvatska Ltd.



- VERITAS TRADE Ltd.
- REFLEX Ltd.
- Jedinstvo Krapina Ltd.
- Kamenmont Ltd.
- Duboš gradnja Ltd.
- SENSE ESCO
- WORK-ING Ltd.
- SPACE Ltd.
- Circom Inženjering Ltd.
- Eko ESCO Ltd.
- Planetaris Ltd.
- Media Verba Ltd.

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.

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 m<sup>2</sup> of floor space. Almost two thirds (53,911) of these buildings, which form 45% (6.2 million m<sup>2</sup>) 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.

### 3.3. INVESTMENT FUNDS

The activity of investment funds and scope of activity and competence are monitored by the Croatian Financial Services Supervising Agency (HANFA) and are regulated by the Act on Open-Ended Investment Funds with Public Offering and Alternative Investment Funds Act. Private equity (PE) funds in Croatia may be formed as a collective investment scheme structured as a separate pool of assets (OIFRC) or funds structured as corporations, namely a joint-stock company or a limited liability company (ZIFRC). For taxation reasons all the currently existing PE funds are formed as OIFRCs.

According to HANFA there were 111 registered open-end investment funds in Croatia. 94 of them were working under public offering regime, 16 through private offering and 7 open-end venture capital funds, and they were managed by 19 managing companies. The total capitalization of these funds (annual median of net assets) was EUR 1.76 billion. There were also 4 closed-end investment funds with public offering and 3 funds with public offering in real estate with total value of their net assets EUR 0.19 billion. The total value of net assets of all investment funds was estimated at EUR 2 billion. After the collapse of capital markets of the year 2008 the Croatian equity market has never recovered. At the end of 2013 it represented only 43.3% of the capitalization recorded at the end of 2007, clearly illustrating the size of losses incurred by investors and the funding gap that emerged in the last 6 years. Only open-end funds investing in money market managed to raise additional funding while all other funds shrank between 56% (open-end bond funds) to 970% (open-end balanced investment funds). Closed-end investment funds include 2 fully established private PE/VC funds with net assets totaling EUR 16.2 million and 5 economic co-operation funds (ECFs) with HBOR as qualified investor.

According to the Venture Capital and Private Equity Country Attractiveness Index 2018 the Croatia is ranked as 68<sup>th</sup> most attractive destination for PE/VC. Private equity and venture capital investment funds mostly invest in shares and stocks of companies, both in early (start-up phase) and in later stages of business in cases where a company possesses high growth potential but lacks financial and/or adequate managerial resources. Energy sector has not been seen as an attractive sector for PE/VC investment funds and the majority of investments have been made in mid-size renewable energy systems. In late 2017 European Fund for Strategic Investments (EFSI) provided finance for Fonds Infragreen III investment fund which targets energy transition infrastructure projects in several EU member states (including Croatia). The fund aims to invest mainly equity in the development and construction of small to medium-sized solar, wind and biogas assets in the EU. In June 2018 the Croatian Venture Capital Initiative (CVCi FoF) was established based on the funding agreement between the EIF and the Government of Croatia. This financial instrument, a venture capital fund with an acceleration compartment is expected to contribute to the improved access to finance for SMEs by supporting the development of the entrepreneurial ecosystem in Croatia. EUR 32.55 million will be allocated from Croatian ESIF and the fund will be managed by financial intermediaries who will be selected by the EIF in the second half of 2018.

Some positive market changes for start-ups have been recorded from 2008 onwards when the Croatian Business Angels Network (CRANE) was formed. CRANE groups 15 individual investors interested in equity investment in small companies. Since 2009 they invested EUR 1,3 million in 13 undertakings. All individual investments are in the range EUR 50,000 to 200,000. CRANE promotes innovative entrepreneurship and business skills and works with institutions supporting business incubation processes. They receive approximately 300 expressions of interest a year of which 5-10% meet detailed screening criteria for small equity investments. Also, since the accession to the EU in 2013 investors have automatically started to perceive the country as being less risky, not to mention the importance of harmonization with the EU standards in the law, administrative and economic policies that are further improving investment climate in Croatia in the longer run.

### 3.4. GREEN BONDS

The Croatian debt securities market includes government bonds, bonds with government guarantee, corporate bonds and municipal bonds as long-term securities and treasury bills of the Ministry of Finance as well as commercial papers of companies as short-term securities. Development of a securities market is a complex undertaking that depends on the development degree of financial and market systems in the country. Despite the progress being made in the past two decades Croatia has not yet reach the stage of an efficient bond market which is characterized by a sophisticated market structure, low transaction costs, a robust and safe market infrastructure, and a high level of heterogeneity among market participants. In the past ten years two types of long-term government bonds have been issued in the domestic capital market:

- bonds issued in the international capital market i.e. bonds issued in the foreign markets and bonds issued in the euromarket;
- marketable bonds issued on domestic capital market;

The government bond market in Croatia is characterized by the plain-vanilla bond issues with a fixed coupon and principle repayment at the maturity. The Republic of Croatia issued bonds with the maturity of 3, 5, 7, 10 or 15 years with the range of semi-annual paid coupon rate of bonds issued in 2017 between 2.75-3% (a significant drop from 6.875% in 2001). The process of issuing government bonds has been leaning on syndication by some of the five biggest domestic banks as lead managers. A prevailing share of domestic government bonds is held by the institutional investors, particularly pension funds and banks to a

lesser extent insurance companies, foreign investors, and investment funds. Secondary government bond market is underdeveloped, even though in the past few years there have been some improvements. The market is hindered by an underdeveloped money market and non-transparent public-debt management strategy.

Municipal bonds, issued by local authorities (municipalities, cities and counties) are intended primarily to build local infrastructure but also to finance other projects characterized as public assets and/or services. As well as government bonds, the municipal bonds also carry a lower credit risk for the investor, since local government guarantees for them. There are two types of municipal bonds used in Croatia:

- general obligation bonds (GOs) whose purpose is to fill up municipal budgets.
- revenue/bonds for infrastructural development whose raised funds are mostly predetermined for a certain purpose or project.

Until 2017 only eight local government units with stable fiscal capacities issued municipal bonds, mainly for infrastructural financing and liquidating dues towards contractors. Several cities (Opatija, Koprivnica, Zadar, Rijeka, Split, Osijek and Vinkovci) have issued municipal bonds for infrastructural financing (swimming pools, schools, roads and sports halls) while Istra County issued green/eco bonds for a construction of a new waste water plant. Total worth of these issues was around EUR 90 million with nominal interest rates varying from 4.1 to 11%. Municipal bonds were quite popular among investors due to high yields and low perceived risks. The influx of low interest loans for infrastructural projects from national and EU development banks resulted in complete abandonment of this financial instrument from 2008 onwards. Demand for local government bonds is provided mainly by financial institutions (investment funds, commercial banks, social security funds and insurance companies). According to the current legislative framework, insurance companies must invest at least 50% of their assets in securities issued by the Republic of Croatia, Croatian National Bank, Croatian Bank for Reconstruction and Development, or bonds and other debt instruments issued with government guarantees (which include local government bonds)

In Croatia, corporate bonds fall into the highest risk category among all bond types, especially after the end of recession in 2015 which significantly improved government's credit rating (BB+ according to S&P in 2018). Bond issuing has been reserved for large domestic companies which have been quite often engaged into corporate debt securities offerings as an alternative to bank debt. Fixed interest rates vary from 5-12.5% with maturities from 5-15 years and in terms of volume, corporate bonds constitute around 35% of total bonds volume traded on Zagreb stock exchange. From 2004. until today, the number of bonds issued by corporations almost doubled, pointing at the growing trend of financing further development of business by bond issuance. However, until 2018. green bonds were not used in the corporate sector but companies from the energy sector have used it for financing of its infrastructure (e.g. Hrvatska Elektroprivreda – national electricity distributor)

### 3.5. CROWDFUNDING

Crowdfunding has so far been sparingly used as a funding mechanism for energy efficiency and renewable energy projects in Croatia. Lack of professional crowdfunding platforms coupled with a deficient legal framework and very low awareness levels among citizens has hindered the development of the crowdfunding scene in Croatia. 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).

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.

Funderbeam SEE is a crowdfunding platform for startups 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 groundbreaking initiative was commenced by the Green Energy Cooperative (ZEZ). A fundraising campaign for construction of a 30 kW municipal solar power plant worth EUR 27,000 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.

### **3.6. PUBLIC SUPPORT MECHANISMS**

Before Croatia's accession to the EU Environmental Protection and Energy Efficiency Fund (EPEEF), a non-budgetary institution whose financing is secured through environmental charges was the main financier of projects in the field of environmental protection, waste management and energy efficiency and use of renewable energy sources. Due to financial difficulties and change in scope of work the European

Structural and Investment Funds, made available through operational programmes, became the largest source of public funding dedicated to energy efficiency in Croatia. Through four national programmes, Croatia has been allocated EUR 10.74 billion from ESI Funds over the period 2014-2020. With a national contribution of EUR 1.9 billion, Croatia has a total budget of EUR 12.67 billion to be invested in various areas, from research and innovation to employment, education and training, social inclusion, public administration and civil society as well as infrastructure and environmental protection.

The Operational Programme Competitiveness and Cohesion 2014-2020 (OPCC) consists of 10 Priority Axes – one of them being Priority Axis 4 - Promoting energy efficiency and renewable energy sources. The goal of this priority axis is to contribute to efficient and sustainable energy use and reduction of greenhouse gas emissions, which directly contributes to energy and climate goals contained in the Europe 2020 Strategy. The priority axis 4 has a total financial allocation of EUR 531,8 million and consists of several investment priorities and specific objectives:

- 4b - Promoting energy efficiency and renewable energy use in enterprises – EUR 100 million
  - 4b1 - Increasing energy efficiency and use of RES in manufacturing industries – EUR 60 million
  - 4b2 - Increasing energy efficiency and use of RES in private service sector (tourism and trade) – EUR 60 million
- 4c - Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector – EUR 411.8 million
  - 4c1 - Reduction of energy consumption of the public-sector buildings – EUR 211.8 million
  - 4c2 - Reduction of energy consumption of the residential buildings (multi apartment buildings and family houses) – EUR 100 million
  - 4c3 - Improvement of the efficiency of the district heating system – EUR 80 million
  - 4c4 - Improvement of the efficiency of the public lighting system – EUR 20 million
- 4d - Developing and implementing smart distribution systems that operate at low and medium voltage levels – Pilot Introducing smart grids – EUR 20 million

Most of these funds are awarded as non-repayable grants through periodical calls for proposals, although financial instruments such as guarantees for loans are gaining ground. The lion's share of the funds target projects developed for the public sector but private investors (especially SMEs) can receive funding as well.

Aside from ESI Funds, small scale grants for EE and RES projects can also be obtained through county and city budgets, although their availability is subject to annual budget programming.

## 4. CONCLUSIONS

A stable and efficient financial system is vital for economic growth and creation of an investment climate which would support the energy transition towards a low-carbon community. Croatian economy was badly affected by the global financial crisis which, together with slow progress of economic reforms, resulted in six years of recession and a cumulative decline in GDP of 12,5%. Accession to the European Union and its internal market helped connect part of the economy to global value chains, trends and most importantly: to the European Structural and Investment Funds. The financial market today can be considered as stable with although not as developed as those of other EU member states. Project developers from the energy sector still overly rely on availability of traditional instruments such as loans and grants. The supply of finance by commercial banks, the EPEEF, ESIF and the HBOR is not enough to meet the expected demand for investment in RES and EE projects, thereby suggesting a funding gap. Most of the projects have been financed via grants and financial instruments (ESIF loans, equity) have only recently been introduced to the market, albeit with a great success.

Innovative third-party financing and investment models are still not frequently used in Croatia for EE and RES projects. EPC/ESC is the central concept in most EE/RES schemes but needs to be uplifted through bundling of smaller projects to reach a bankable size for third-party investors. In parallel, regulations need to be adjusted to enable third-party investment, in particular to combine it with ESIF grants and to ensure that it is not accounted as debt for the owners. Previous national programmes that support EE measures through ESCO schemes are not in line with the new Eurostat's guidelines with NEWLIGHT project being the lone example of a true EPC project. Due to the limited experience with EE investments, banks tend to consider EPCs as risky and are either not willing to provide project finance or offer it at high interest rates, limited maturity of loans, and high collateral requirements. This hampers the ESCO market development and makes it difficult to finance projects for both the municipalities and private owners due to high collateral requirements.

Green bonds have still not been used by private or public-sector investors for obtaining financial resources for sustainable energy projects, although there are no legal barriers for their emission. Low cost of capital made available through ESIF loans made bonds an unattractive source of funding. Croatia does not feature a well-developed venture capital and private equity market, although certain improvements have recently been noted after the financial crisis hit the stock market real hard.

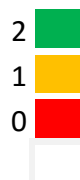
Crowdfunding, although still at very early stages, shows great promise for smaller RES projects. Donation model has been the most commonly used even though P2P lending model has recently gained some traction with pilot solar projects. The slow development of domestic crowdfunding platforms and e-commerce in general is hampering a wider application of crowdfunding models.

To realize the full potential of energy efficiency, public funds will not be sufficient and private financing, such as loans, EPC, venture capital and crowdfunding will have to be unlocked at a larger scale. In that context, Croatian energy policy is leaning towards creating more favorable investment conditions, encouraging demand for energy efficiency and helping consumers undertake energy efficiency investments more easily. These positive improvements should enable a wider implementation of the fore mentioned market-based instruments as the EU sets even more ambitious energy savings and renewable energy production targets.

## Financing activities

# Energy Project Financing Status Quo

- > common practice
- > rarely used
- > not used
- > not applicable



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

## ANNEX: BIBLIOGRAPHY

- *The European Bank for Reconstruction and Development - Strategy for Croatia*, EBRD 2017
- *National market insight report on EE/RES applications and EPC in the tertiary sector in Croatia*, EIHP 2016
- *Crowdfunding – Croatian legal perspective and comparison to other sources of financing*, Katarina Đurđenić, 2016
- *Novo pravno uređenje private equity i venture capital fondova i otvorena pitanja*, E. Čulinović-Herc, M. Braut Filipović, S. Audić Vuletić, 2017
- *Energy Efficiency Policies in Europe*, Energy Efficiency Watch, 2016
- *Local government borrowing practice in Croatia*, Anto Bajo, 2017
- *Development of government bonds market in Croatia*, Zdenko Prohaska, 2017



## ABBREVIATIONS

APN – Agency for Transaction and Mediation in Immovable Properties  
CRANE – Croatian Business Angels Network  
CVCi FoF – Croatian Venture Capital Initiative  
EBRD – European Bank for Reconstruction and Development  
ECF – Economic co-operation fund  
EE – Energy Efficiency  
EIB – European Investment Bank  
EIF – European Investment Fund  
ELENA – European Local Energy Assistance  
ENEF – Enterprise Expansion Fund  
EPC – Energy Performance Contracting  
ERDF – European Regional Development Fund  
ESC – Energy Supply Contracting  
ESCO – Energy Services Company  
ESIF – European Structural and Investment Funds  
EUR – The Euro  
FI – Financial Instrument  
HAMAG-BICRO – Croatian Agency for SMEs, Innovations and Investments  
HANFA – Croatian Financial Services Supervising Agency  
HBOR – Croatian Bank for Reconstruction and Development  
HRK – The Kuna (Croatian currency)  
IFC – International Finance Corporation  
KfW – Kreditanstalt für Wiederaufbau  
MRDEUF – Ministry of Regional Development and EU Funds  
OIFRC – Open-Ended Investment Funds with Public Offering and Alternative Investment Funds  
OPCC – Operational Programme on Competitiveness and Cohesion  
PBZ – Privredna Banka Zagreb d.d.  
PE – Private Equity  
PF4EE – Private Finance for Energy Efficiency  
PPP – Public Private Partnership  
RES – Renewable Energy Sources  
SME – Small and Medium Enterprise  
VC – Venture Capital  
WeBSEFF – Western Balkans Sustainable Energy Financing Facility  
ZABA – Zagrebačka banka d.d.  
ZEZ – Green Energy Cooperative  
ZSE – Zagreb Stock Exchange