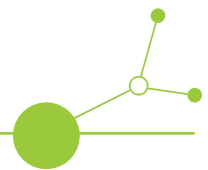


# D.3.1.1 Baseline on financing models and instruments, potentials, and policy frameworks in partner countries



Version 1  
05/2023





## Contents

<b>A. INTRODUCTION</b> .....	2
<b>B. COUNTRY OVERVIEW</b> .....	3
<b>1. Croatia</b> .....	3
1.1. General overview of the financial sector .....	3
1.2. Public support schemes .....	5
1.3. Fiscal policies .....	10
1.4. Green and climate bonds .....	13
1.5. Green loans .....	16
1.6. Energy service companies (ESCO) and Public-private partnership .....	17
1.7. Citizen-led initiatives .....	19
1.7.1. Energy cooperatives .....	25
1.7.2. Energy communities .....	26
<b>C. CONCLUSION</b>	29
<b>LIST OF LITERATURE</b>	30
<b>LIST OF FIGURES</b>	32
<b>LES LIST OF TABLES</b>	32



## A. Introduction

The central Europe region faces a very uneven energy transition due unbalanced economic development, distribution of technology and finance flows. Buildings, both public and private, account for 43% of the final energy consumption in EU and have been singled out in the European Green Deal as key drivers of energy transition. Energy efficiency investments must more than double to achieve the EU's new climate and energy targets, and this is increasingly urgent to deliver anticipated progress by 2030. The financing of the transition towards climate neutral buildings remains a key challenge for which the EU is expecting that member states involve private investors to a much bigger extent than before. Therefore, the purpose of this document is to assess the overall state of policies and financial markets in five central European countries for the building sector. A stronger emphasis in this baseline assessment has been placed on the innovative financing models which involve private investors and citizens. The results of this study will be presented to key stakeholders during roundtable sessions as part of the development of the market gap analysis for introduction of innovative financing models.



## B. Country overview

### 1. Croatia

#### 1.1. General overview of the financial sector

Croatia's financial sector has traditionally been characterized as a bank-centered market, with banks playing a pivotal role in the country's economic landscape. The financial sector in Croatia is overseen and regulated by the Croatian National Bank (Hereinafter: CNB), which acts as the central bank and financial regulator. The Ministry of Finance and the Croatian Financial Services Supervisory Agency (hereinafter: HANFA) oversee financial regulation and supervision. The dominant position in the financial system of the Republic of Croatia is occupied by credit institutions whose work is regulated and supervised by the CNB. Currently, 19<sup>1</sup> credit institutions are operational, 15<sup>2</sup> leasing companies, 3<sup>3</sup> factoring companies, 14 Insurance companies and reinsurance companies<sup>4</sup>, and 12<sup>5</sup> mandatory pension companies. It is important to mention that 64% of assets are accounted to only 3 banks: Zagrebačka banka, Privredna banka and Erste&Steiermärkische Bank d.d while more than 90% of total banking sector assets are foreign-owned: French, German, Italian and Austrian companies.

In addition to credit institutions, also present in the Croatian market are the Croatian Bank for Reconstruction and Development (Hereinafter: HBOR), and credit institutions from other EU countries (247<sup>6</sup> institutions). Along with credit institutions, major financial intermediaries, measured by the share of total financial sector assets held, are mandatory and voluntary pension funds, while other financial intermediaries include insurance corporations, investment and money market funds and leasing and factoring companies. The operation of all types of non-banking financial intermediaries is regulated and supervised by the HANFA<sup>7</sup>.

Before the introduction of grant support, commercial banks had a large number of green loan programmes and their role in financing sustainable energy projects has expectedly diminished to some extent. Several banks have established cooperation with HBOR and the EIB through risk-sharing models which made them more willing to finance projects as they do not assume the entire loan risk.

The most relevant existing financial barriers for deep renovation of public buildings are long investment payback periods, building owners limited financial sources and access to capital.

Lack of tax incentives for innovative energy efficiency technologies is the most relevant existing financial barrier for the private homeowners, while for the private sector the most relevant

<sup>1</sup> <https://www.hnb.hr/temeljne-funkcije/supervizija/popis-kreditnih-institucija>

<sup>2</sup> Croatian Financial Services Supervisory Agency (Hanfa), <https://www.hanfa.hr/registri/leasing/leasing-drustva/>

<sup>3</sup> Croatian Financial Services Supervisory Agency (Hanfa), <https://www.hanfa.hr/registri/factoring/factoring-drustva/>

<sup>4</sup> Croatian Financial Services Supervisory Agency (Hanfa), <https://www.hanfa.hr/registri/trziste-osiguranja/drustva-za-osiguranje-i-reosiguranje/>

<sup>5</sup> Croatian Financial Services Supervisory Agency (Hanfa), <https://www.hanfa.hr/registri/mirovinski-fondovi-i-isplata-mirovina/obvezni-mirovinski-fondovi/>

<sup>6</sup> <https://www.hnb.hr/temeljne-funkcije/supervizija/popis-kreditnih-institucija>

<sup>7</sup> <https://www.hnb.hr/en/core-functions/financial-stability/roles-and-cooperation/financial-system-of-the-republic-of-croatia>



existing financial barriers are very high the minimum value of the investments, tax, and statistical treatment of energy performance contracts as well as underdeveloped ESCO market.

In the period 2014-2020, expected refurbishment rates were not achieved and according to the Long-term renovation strategy of the national building stock by 2050, the refurbishment rate should increase to 3% in 2030, 3,5% in the period from 2031-2040 and finally, it should reach 4% in the period from 2041 to 2050. Currently, the average yearly rate is at 0.7% across all building segments. Considering the surface area of renovated buildings, the goal is to renovate 30.84 mil. m<sup>2</sup> of buildings by 2030, 41.06 mil. m<sup>2</sup> by 2040 and 32.10 mil. m<sup>2</sup> by 2050 year.

Energy renovation projects in the buildings sector in general are challenging investments whose successful implementation largely depends on funding sources. According to the Long-term renovation strategy of the national building stock by 2050 total Investment cost of renovation and replacement of demolished stock it will be around 44 billion €<sup>8</sup>. Existing institutions and related sources of financing in Croatia currently do not have sufficient financial resources or strength in order to present the entire investment.<sup>9</sup>

Available financial instruments and models for energy renovation projects for building sector in general in Croatia are as follows: credits, public support schemes, tax instruments, Green and climate bonds, loans, ESCO and PPP model and Citizen-led initiatives all of which can use different funding sources. For most of the deep renovation projects that are implemented, public funding sources play a crucial role, meaning that they are an important driver behind renovation decisions<sup>10</sup>, see below, Results of the Programme of Energy Renovation in the period from 2014 until 2019 are given below, Table 2, Figure 1.

Table 2, Figure 1.

<sup>8</sup> Long-term renovation strategy of the national building stock by 2050, [https://mpgi.gov.hr/UserDocImages/dokumenti/EnergetskaUcinkovitost/Long\\_Term\\_Renovation\\_Strategy\\_EN.pdf](https://mpgi.gov.hr/UserDocImages/dokumenti/EnergetskaUcinkovitost/Long_Term_Renovation_Strategy_EN.pdf)

<sup>9</sup> Long-term renovation strategy of the national building stock by 2050, [https://mpgi.gov.hr/UserDocImages/dokumenti/EnergetskaUcinkovitost/Long\\_Term\\_Renovation\\_Strategy\\_EN.pdf](https://mpgi.gov.hr/UserDocImages/dokumenti/EnergetskaUcinkovitost/Long_Term_Renovation_Strategy_EN.pdf)

<sup>10</sup> Long-term renovation strategy of the national building stock by 2050, [https://mpgi.gov.hr/UserDocImages/dokumenti/EnergetskaUcinkovitost/Long\\_Term\\_Renovation\\_Strategy\\_EN.pdf](https://mpgi.gov.hr/UserDocImages/dokumenti/EnergetskaUcinkovitost/Long_Term_Renovation_Strategy_EN.pdf)



## 1.2. Public support schemes

Croatia has a wide range of different public support schemes in the buildings sector. The role of the state in building sector it is essential to the implementation energy renovation project. Schemes can be divided based on the sources of funding or by the institution responsible for the distribution of funds.

Sources of Funding:

- Operational Programme “Competitiveness and Cohesion”2014-2020 (hereinafter: OPCC) allocated for energy renovation of private and public sector buildings and funded through the European Regional Development Fund (Hereinafter: ERDF). The Ministry of Physical Planning, Construction and State Assets (Hereinafter: MPPCSA) is an Intermediate body level 1, while the Energy Efficiency Fund (Hereinafter: EPEEF) is an Intermediate body level 2. They are responsible for the specific goals: reduction of energy consumption of the public and residential buildings. The OPCC consists of 10 Priority Axes - one of them being Priority Axis 4 Promoting energy efficiency and renewable energy sources. The priority axis 4 contains the investment priority 4c - Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings and in the households. Specific goals under the competence of the Ministry are presented below:
  - 4c1 - Reduction of energy consumption of the public sector buildings - allocation: 211.810.805 €
  - 4c2 - Reduction of energy consumption of the residential buildings (multi apartment buildings and family houses) - allocation: 100.000.000 €

MPPCSA has drafted energy renovation programmes for four identified building uses (public, private, multi-apartment, and family houses) for the period until 2020. In cooperation with the MPPCSA the Government of the Republic of Croatia adopted these programmes.

**Table 1** Energy renovation programmes - their impact/results so far

Programme of Energy Renovation of Public Sector Buildings for the period 2014-2015 (OG 22/2017)	ESCO models EPEEF - grants	More than 253,4 million € were allocated for energy renovation of the public buildings. At the same time originally planned allocation according to OPCC for this specific goal was € 211 million, so these data clearly show the needs and interest of the public sector in the energy renovation of buildings.
Programme of Energy Renovation of Public Sector Buildings for the period between 2016 and 2020 (OG 22/2017)	ESIF (ERDF) - grants ESIF (ERDF) - specialized credit Funds from the Co-Financing Fund for the Implementation of EU Projects of the Ministry of Regional Development and EU Funds for the cofinancing of	



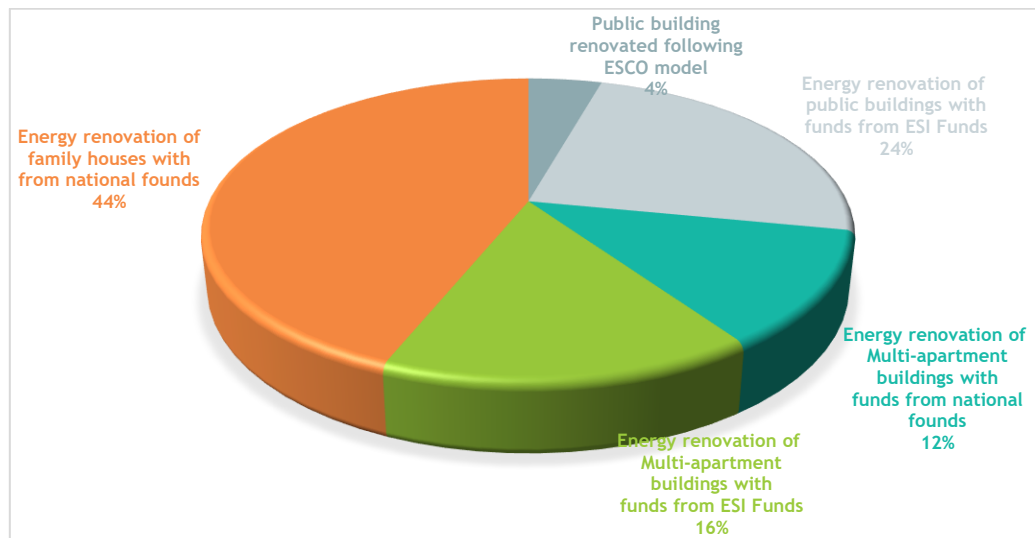
	implementation of EU projects on the regional and local level	
Programme of Energy Renovation of Family Houses for the period until 2020 (OG 43/14, 36/15, 57/20, 83/21, 99/22)	EPEE Fund - grants ESIF (ERDF) - grants	More than 200 million € were allocated for energy renovation of family houses. At the same time originally planned allocation according to OPCC for this specific goal was only € 30 million, so these data clearly show the needs and interest of the private building's owners in the energy renovation.
Programme of Energy Renovation of Multi-apartment Buildings for the period between 2014 and 2020 (OG 78/14)	ESIF (ERDF) - grants EPEE Fund - grants	<p>From 2014 -2016 the EPEE as the implementing authority provided € 38 million grant funding for this programme, of which € 27 million was approved for the energy renovation of 257 buildings worth in total € 61 million. From 2016 years energy renovation programmes accompanied by the co-financing schemes of the ESIF grants. In 2016 the funding started to be withdrawn from the EU funds under the OPCC, in which € 70 million has been allocated for the renovation of the multi-apartment buildings.</p> <p>Programme of Energy Renovation of Multi-apartment Buildings achieved only 57% the goal of energy saving (achieved energy savings: 2,9120 PJ, Goal: 5,1400 PJ). The most relevant barrier to the energy renovation of the multi apartment building stock are of financial nature.</p>
Programme of Energy Renovation of Commercial Buildings for the period between 2014 and 2020 with a detailed plan for the period between 2014 and 2016 (OG 98/14)	EPEE Fund - grants ESIF (ERDF) - grants for (tourism and trade buildings).	

Results of the Programme of Energy Renovation in the period from 2014 until 2019 are given below, Table 2, Figure 1.

**Table 2** Results of the Programme of Energy Renovation in the period from 2014 until 2019 year

Programme	Period	surface area of renovated buildings (m <sup>2</sup> )
Public building renovated following ESCO model	2014.-2015.	250.000
Energy renovation of public buildings with funds from ESI Funds	2016.-2019	1.350.000
Energy renovation of multi-apartment buildings with funds from national funds	2014.-2016	700.000
Energy renovation of multi-apartment buildings with funds from ESI Funds	2016.-2019	900.000
Energy renovation of family houses from national funds	2014-2016	2.500.000
<b>Total area of renovated buildings (m<sup>2</sup>)</b>		<b>5.700.000</b>

Sources: Long-term renovation strategy of the national building stock by 2050, Table 4-3, page 46



**Figure 1** Surface area of renovated buildings (m<sup>2</sup>)

Sources: Long-term renovation strategy of the national building stock by 2050

Investors in Croatia have thus far relied predominantly on public funding sources (96%), Figure 1.

Other funding sources:

- Croatian Bank for Reconstruction and Development (Hereinafter: CBRD)
- Croatian Agency for Small Business, Innovation and Investment (Hereinafter: HAMAG-BICRO)
- European development banks (EIB Group, EBRD, European Energy Efficiency Fund, European Fund for Strategic Investments)
- EBRD's private investors support programme (Hereinafter: REENOVA+)
- EIB citizens' loan programme and EIB private sector financing programme (Hereinafter: PF4EE)
- European technical assistance programs (ELENA, JASPERS, Horizon 2020)
- Energy providers

National/regional sources of Funding:

- EU Fund for the cofinancing of implementation of EU projects on the regional and local level
- County budgets (Zagreb County, Varaždin County etc)

National Recovery and Resilience Plan 2021-2026

The Government adopted the National Recovery and Resilience Plan 2021-2026 (Hereinafter: NPOO), approved by the European Commission in July 2021. The National Plan contains project proposals in six areas totalling € 6.4 billion. The plan is structured to include five components and one initiative:

- Economy,
- Public administration, judiciary and state assets,
- Education, science and research,





- Labour market and social protection, Health care and
- Initiative: Building reconstruction.

MPPCSA is the responsible authority for Initiative: Building reconstruction. The initiative includes 6 reform measures and 4 investments with a total estimated investment value of € 786 million.

The component ensures full transformation in the buildings sector including earthquake reinforcement and energy efficiency of buildings.

MPPCSA prepared four Programmes of Energy Renovation for the period between 2021 and 2030, which are adopted by the Croatian Government and which will serve as a basis for withdrawing ESI Funds in the period from 2021 to 2027:

- Programme of Energy Renovation of Public Buildings by 2030 (OG 41/2022),
- Programme of Energy Renovation of Multi-apartment Buildings by 2030 (143/21),
- Decision on the adoption of the Programme to combat energy poverty, including the use of renewable energy sources in residential buildings in assisted areas and in areas of special state concern for the period by 2025 (Official Gazette 143/21) and
- Programme of Energy Renovation of cultural heritage by 2030 (OG 143/2021).

**Table 3** Volume of investment and sources of financing for energy renovation of buildings in the public sector over the period 2021-2030

Izvor financiranja		Ukupno (mil. kn)
<b>NPOO</b>	Investicija C6.1. R1-I1: Energetska obnova zgrada	700,00
	Investicija C6.1. R1-I2: Obnova zgrada oštećenih u potresu	4.200,00
<b>Sredstva iz drugih raspoloživih izvora</b>	Energetska, sveobuhvatna i kružna obnova zgrada javnog sektora	805,60
	Sveobuhvatna obnova zgrada javnog sektora oštećenih u potresu	600,40
<b>Ukupno raspoloživo</b>		<b>6.306,00</b>
<b>Ukupno potrebno</b>		<b>9.066,57</b>
<b>Razlika potrebnih i raspoloživih sredstava</b>		<b>2.760,57</b>

Sources: Program for energy refurbishment of public sector for the period until 2030, Table 8-4

From the table above it is clear that the crowding-in of private investments further to grants and subsidies is necessary to improve the energy efficiency in the building sector and achieve achievement of the 2030 energy efficiency targets.

Overview of other funding sources for energy efficiency improvement in Croatia it is given in the table below, Table 4



**Table 4** Overview of other funding sources for energy efficiency improvement in Croatia

<b>Development banks, funds, and credit lines</b>	
CBRD	Preferential loans and guarantees are offered as part of a number of energy efficiency improvement programmes for public and private investors.
HAMAG-BICRO	Financial instruments provide support for investments through loans, guarantees, with the option of combining with interest rate subsidies, and for energy renovation of business facilities
European development banks	Direct and indirect preferential loans and guarantees are offered to investors from the public and private sector for large energy renovation projects
REENOVA+	EBRD loan programme for citizens and entrepreneurs
PF4EE	The EIB loan program is intended for entrepreneurs
<b>Technical assistance programmes</b>	
European technical assistance programs	Co-financing and technical support programs for the preparation of major public sector projects
<b>Energy efficiency commitment system</b>	
Energy providers	As of 2019, the Energy Efficiency Act requires energy suppliers in Croatia to achieve energy savings at final customers through their own investment, purchase of savings, or payment of a fee to the EPEEF Fund

Sources: REGEA, 2017, EIHP 2019,

**Table 5** National/Regional EE funds - their impacts/results so far

EU Fund for the cofinancing of implementation of EU projects on the regional and local level	EU Fund for the cofinancing of implementation of EU projects on the regional and local level is managed by the Ministry of Regional Development and EU (From 2015).  Ministry through EU Fund for the cofinancing of implementation of EU projects on the regional and local level gives grants for Local and regional public authorities, Companies owned by local government and Local Government Funding Institutions. Depending on the location of the users, in most cases public investors can expect funding levels of up to 80%.
EU Fund for the cofinancing of implementation of EU projects on the regional and local level	Some Countries gives also grants for the cofinancing of implementation of EU projects for Local public authorities, Companies owned by local government and Local Government Funding Institutions (for example Zagreb County). Depending on the location of the building, in most cases public investors can expect funding levels of 20.000 to 60.000 €.

A one-stop shop has been established by the EPEEF Fund and has been set up to support the preparatory phase of refurbishment projects in public and private residential buildings - to boost renovations in Croatia.



### 1.3. Fiscal policies

Croatia has a three-tier government structure, including the central government, counties, and local government levels (towns, cities, and municipalities). The Law on Local and Regional Self-Government Units governs the division of competencies between government levels, and the Law on Local and Regional Self-Government Financing regulates the local government finance system. Sub-national government authorities in Croatia finance their operations through their own resources, shared taxes, state budget grants, equalization grants, shared revenues, and borrowing. Own resources encompass property income and local taxes, while shared taxes are centrally determined by the state government. Full autonomy is granted only in setting the tax rate for the use of public spaces.

The Croatia public governance system regarding taxation is quite centralized<sup>11</sup>. The Tax Administration is responsible for the implementation of tax regulations and regulations concerning the payment of obligatory contributions. The Tax Administration is the administrative organization within the Ministry of Finance.

Croatia faces challenges in its fiscal decentralization system, including a fragmented territorial-administrative structure, insufficient fiscal autonomy for subnational governments, inconsistent public service standards, unbalanced revenue sources, and doubts about introducing real estate taxes. The COVID-19 pandemic has exacerbated these issues, and it presents an opportunity for overdue reforms to improve fiscal decentralization.

Reforms suggested by World Bank include addressing local government fragmentation, clarifying functional responsibilities, improving fiscal equalization, and introducing a property tax. Key characteristics of the tax system in Croatia and proposed reforms by World Bank include:

- Vertical Structure of Government:
  - Current fragmentation of local governments negatively affects service delivery.
  - Suggested reforms include incentivizing or mandating local government mergers, defining a medium-term period for institutional and rule fixes, and developing capacity support programs.
- Expenditure Responsibilities:
  - Lack of clear frameworks for provision, standard setting, and funding of public services.
  - Proposed reforms involve clarifying functions between government levels, promoting horizontal cooperation, setting minimum public service standards, and enhancing transparency in financial standards.
- Taxation and Revenue Autonomy:
  - Subnational governments lack tax revenue autonomy.

<sup>11</sup> <https://documents1.worldbank.org/curated/en/582501644400447803/pdf/Fiscal-Decentralization-in-Croatia.pdf>



- Suggested reforms include providing more revenue autonomy to regional governments, introducing an annual real estate property tax, and improving tax administration capacity.
- Intergovernmental Transfers:
  - Issues with the stability of revenue sharing and equalization grants, lack of clarity in fiscal accounts, and ineffective use of EU funds.
  - Proposed reforms include analyzing disparities in expenditure needs, reforming equalization grants, enhancing transparency in grant allocation, and introducing performance-based grants.
- Borrowing and Debt:
  - Incomplete reporting on borrowing activities, restrictive borrowing rules, weak administrative capacities, and limited use of marketable local government debt.
  - Suggested reforms include eliminating central government guarantees, improving borrowing procedures, increasing individual entity borrowing limits, and encouraging the issuance of revenue bonds.
- Asset Management:
  - LRGUs (Local and Regional Government Unit) have a dominant ownership of shares in public sector companies and manage real estate inefficiently.

Proposed reforms involve publishing financial data of LRGUs' enterprises, conducting financial and performance analysis, requiring consolidated financial reporting, creating an inventory of assets, and gradually divesting from non-essential assets and holdings.

These reform options aim to address the challenges and improve the effectiveness of fiscal decentralization in Croatia, providing more stable and transparent financial management across government levels.

Overview of Croatian tax system it is given below, Table 6.

**Table 6** The Croatian Tax System<sup>12</sup>

1. NATIONAL TAXES	1.1 Value added tax
	1.2 Profit tax
	1.3 Special taxes and excises duties
2. COUNTY TAXES	2.1 Inheritance and gift tax
	2.2 The tax on road motor vehicles
	2.3 The tax on Vessels
	2.4 The tax on coin operated machines for games for amusement
3. CITY OR MUNICIPAL TAXES	3.1 Surtax on income tax
	3.2 The consumption tax

<sup>12</sup> Republic of Croatia, Ministry of Finance, Tax Administration; [https://www.porezna-uprava.hr/HR\\_porezni\\_sustav/Stranice/porez\\_na\\_dohodak.aspx](https://www.porezna-uprava.hr/HR_porezni_sustav/Stranice/porez_na_dohodak.aspx)



	3.3 Tax on holiday houses
	3.4 Tax on the use of public land
	3.5 Corporate Tax Rate
4. JOINT TAXES	4.1 Income tax
	4.2 Real estate transfer tax
5. TAXES ON WINNINGS FROM GAMES OF CHANCE AND FEE FOR ORGANISING GAMES OF CHANCE	5.1 Lottery games
	5.2 Casino games
	5.3 Betting games
	5.4 Fee for organizing slot machine games
	5.5 Fee for organizing occasional one-time games of chance
6. FEE FOR ORGANISING AWARD GAMES	6.1 Fee for organizing award games

Local Taxes are listed in Table 7

**Table 7** Local Taxes in Croatia<sup>13</sup>

Surtax on income tax	Tax base; Municipality up to 10%, City with less than 30,000 residents up to 12% City with more than 30,000 residents up to 15% and City of Zagreb up to 18%
Consumption tax;	Tax base: Sales price of beverages sold in hospitality facilities. Consumption tax is paid on consumption of alcoholic beverages, natural wine, special wine, beer and non-alcoholic beverages in hospitality facilities, excluding the value added tax. Rate: up to 3%
Tax on holiday houses;	Tax base: m <sup>2</sup> of usable area. Representative body of a Local Authorities, by virtue of own decision, proscribes the amount of vacation houses tax. RATE: from 0,66 to 1,99 €/m <sup>2</sup>
Tax on the use of public land and	Representative body of a regional self-government proscribes the amount, manner and conditions.

Croatian governance system is quite centralised on the fiscal side and there is not a lot of space to promote renewable energy sources from local level. In the practice the only realistic local fiscal instruments for promoting renewable energy sources in Croatia could be the communal infrastructure and communal (and water) contribution fee and Tax on the use of the public land.

Communal contribution fee it is regulated in articles 76-90 of the Law on Communal Economy, (OG 68/2018, 32/2020).

The communal contribution fee is a onetime charge, which is paid for the construction of the facilities. It is calculated on newly developed cubic metres before the start of construction.

The representative body of the local self-government unit decides independently the unit value (€/m<sup>3</sup> or m<sup>2</sup>), method and deadlines for payment of contributions and the general conditions

<sup>13</sup> Republic of Croatia, Ministry of Finance, Tax Administration; [https://www.porezna-uprava.hr/HR\\_porezni\\_sustav/Stranice/porez\\_na\\_dohodak.aspx](https://www.porezna-uprava.hr/HR_porezni_sustav/Stranice/porez_na_dohodak.aspx)



for exemption from payment. The communal contribution see usually represents up to 5% of total local budget. The amount of Communal contribution fee depends on the on the volume of the building and its location.

The contribution is limited to 10% of the cost of the building making it a powerful instrument for supporting new (nZEB or passive) buildings.

Local Public Authorities can reduce or terminated the communal contribution fee for those types of buildings.

In Croatia, almost all Local Public Authorities have adopted this fiscal instrument through the Sustainable Energy and Climate Action Plan (SECAP). Some of them have adopted this fiscal instrument in practice (For example City of Jastrebarsko).

Problem in practice with this local fiscal instrument in Croatia it is uneven practices of the Local Public authorities in Croatia. So it happens in Practice that some Local Public Authorities include photovoltaic modules in the volume of the building, while some other Local Public Authorities do not include. Other different issues are that Local Public Authorities often don't see their benefits from implementations this kind of instrument in practice.

On the other side lack of the staff capacity and limited financial sources are also very big problem for implementation this instrument in practice (City or Municipal budget).

Private building owners are not enough informed about this fiscal instrument.

## 1.4. Green and climate bonds

Capital markets summary: The Croatian capital market is rather developed at the regional level but remains small comparatively to other EU countries. Local companies still lack financial literacy and tend to resort to traditional banking solutions to meet their capital needs. Both the stock and corporate bond markets are underdeveloped and underutilised as a financing option, and initial public offerings (IPOs) are very rare. Largest institutional investors are Pension funds (Mandatory and Voluntary pension funds) but their investment amounts are limited by law.

Key Policy Makers: The Zagreb Stock Exchange is national stock exchange in the country. The Zagreb Stock Exchange operates Regulated Market (with three segments: Prime, Regular and Official markets) and from 2019 ZSE operates Progress market (multilateral trading facility for financing small and medium companies). Capital markets are regulated and supervised by the Ministry of Finance and the HANFA.

Securities depository and clearance (hereinafter SKDD) is Central Depository and clearing company Inc. SKDD is a company that operates as a central depository of securities, i.e. a register of dematerialized securities, where information about issuers, securities, securities accounts and holders of securities, as well as other information provided for by law, is kept in the form of electronic records.

EU key policy Makers: EU financial markets are primarily supervised at national level, while European Securities and Market Authority (Hereinafter: ESMA) supervises some key financial market entities with EU-wide activities. ESMA and NCAs share supervisory responsibilities. ESMA supervises all EU CRAs, TRs and SRs, certain DRSPs, certain benchmark administrators and Tier 2 third-country CCPs. NCAs supervise all other market actors.



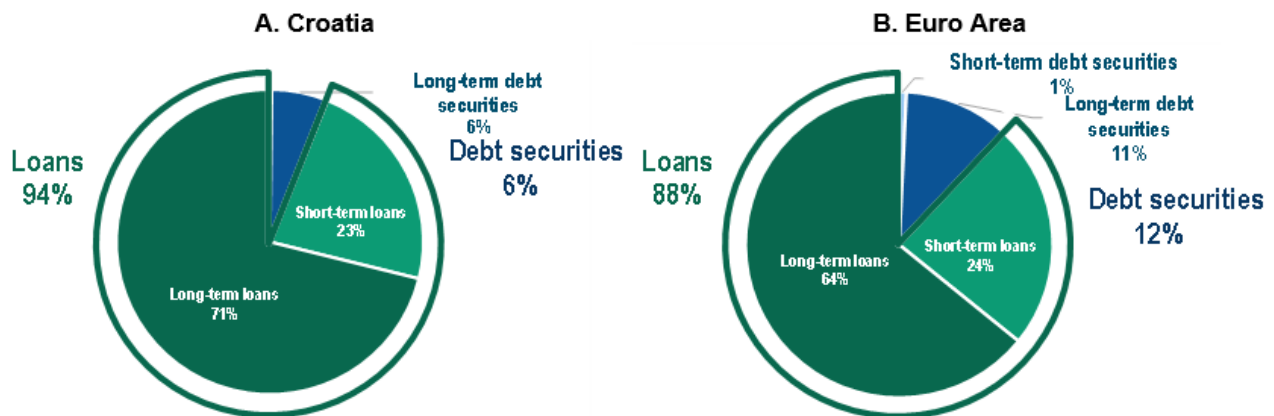
Regulation: EU Regulations have binding legal force throughout every Member State and enter into force on a set date in all the Member States. EU Directives lay down certain results that must be achieved but each Member State is free to decide how to transpose directives into national laws. Croatia complies with EU regulations and standards in the capital markets.

- Regulations with binding force: on financial instruments MiFIR, on market abuse - MAR, Prospectus regulation
- Directives implemented in national laws: on financial instruments - MiFIDII,
- National laws: Capital Market Act (OG 17/20, 83/21, 151/2022)

Bonds-capital-markets summary:

Companies in the euro area rely heavily on loans for debt financing instead of corporate bonds and other debt securities. Within the CEE region, Croatia and Hungary have the highest share of bank lending in their debt financing structures. While the share of debt securities in the capital structure is only 2% in Croatia, the euro area average is 4%

Figure 13. Sources of debt financing for non-financial companies, as of end 2019



Source: The ECB Statistical Data Warehouse Euro Area Accounts/National Tables

Figure 2 OECD Capital Market Review of Croatia 2021

Sources:

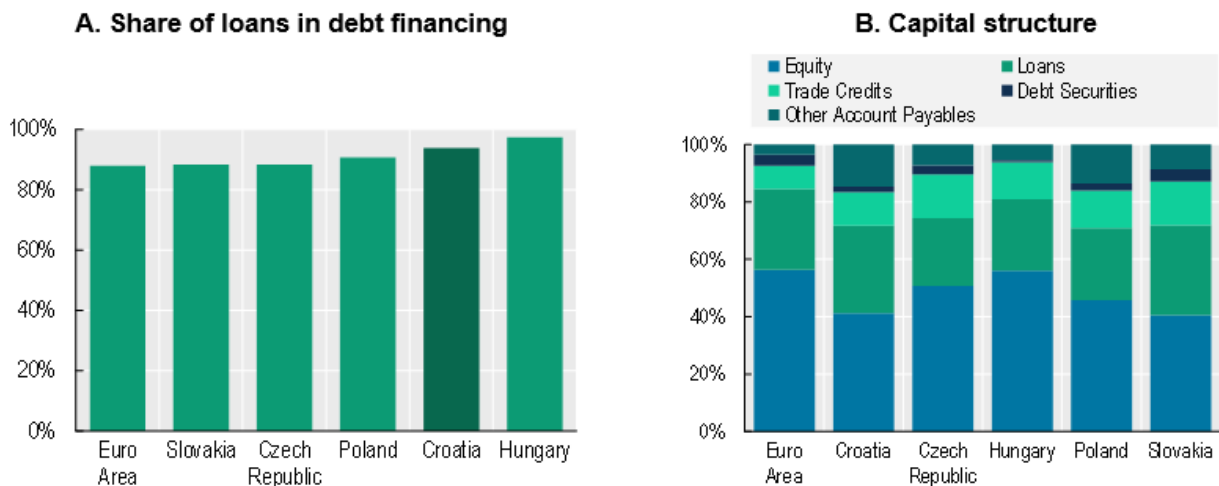






Figure 3 Composition of liabilities of non - financial corporations, as of end 2019

Sources: The ECB Statistical Data Warehouse Euro Area Accounts/National Tables

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. Croatian eurobonds are also traded in the domestic market. Government bonds dominate Croatian bond market. The bond market is moving slowly towards a more balanced mix of public sector, quasi-government and private sector bonds. The main debt issuers in Croatia are the state itself, the state funds and agencies, and since 2002 for the first time - corporations.

While corporate bonds have become a significant source of corporate financing globally since the 2008 financial crisis, their use in Croatia has been minimal with only a couple of large companies issuing a few bonds during the last two decades.

Importantly, one-third of the total value of corporate bonds issued between 2000 and 2019 was related to state-owned enterprises (SOE). They were also responsible for four out of the top ten largest bond issuances in the same period. The most frequent corporate bond issuers have been the non financial SOEs - the Croatian national energy company HEP and the Croatian postal agency HP Hrvatska Posta. The only financial issuer has been the HBOR. However, **no Croatian SOE has raised capital through corporate bonds since 2015 and the largest amounts raised were by HEP on the Luxembourg Stock Exchange in 2012 and 2015**

Sustainability regulation, reporting, finance and standards: CSRD, Green bond standard, SFRD

Taxation system: According to Income Tax Act for individual investors, both capital gains and dividends are subject to a withholding tax of 10%. Capital gains tax is applicable for holding periods under 2 years only.

However, **income from interest earned by retail investing in bonds, regardless of the issuer and type of bonds, are not considered interest and are not taxed at the same time**. Therefore, the tax treatment of interest income earned by investing in bonds is certainly another advantage of investing in the so-called green bonds.

Tax allowances and incentives: Interest expenses on loans between related companies is also deductible, up to the amount prescribed by the Ministry of Finance as calculated and published by the CNB (2.4% for 2023) and if compliant with thin capitalisation rules (4:1 ratio)

Challenges: Capital markets in Croatia are suffering from poor liquidity and corporate bond pipeline. Issuance of co-called “government bond” has shown that retail investors are willing to invest in bonds.

Future incentives: OECD<sup>14</sup> recommended tax incentives and exemptions for retail investors to improve liquidity in the market and to provide households with better saving opportunities.

Climate Bonds Initiative: Green Bond Principles & Climate Bonds Standard

The Climate Bonds Initiative is a global program that aims to promote and facilitate investment in projects and assets that contribute to climate change mitigation and environmental sustainability. It focuses on the issuance of green bonds, which are financial instruments specifically designed to fund climate-related and environmentally friendly projects.

<sup>14</sup> <https://www.oecd.org/corporate/OECD-Capital-Market-Review-Croatia-2021.pdf>





In the context of construction, the Climate Bonds Initiative plays a crucial role in certifying and verifying green building projects. Green building involves constructing or renovating structures using sustainable and environmentally friendly practices and materials. These projects aim to reduce their environmental footprint by minimizing energy consumption, using renewable energy sources, managing water resources efficiently, and addressing other sustainability aspects.

The Climate Bonds Initiative certifies green building projects by ensuring that they meet specific environmental standards and criteria. This certification process helps investors and stakeholders identify and support construction projects that align with climate change mitigation and environmental sustainability goals. In summary, the Climate Bonds Initiative focuses on promoting climate-responsible investments, including those in the construction sector, by certifying and verifying green building projects and facilitating the issuance of green bonds to fund environmentally friendly initiatives.

## 1.5. Green loans

Green loans present one of the major financing instruments for investments in renewable energy sources, green buildings, green transportation, waste management, water management, as well as other ESG purposes. They are used either as a main or complementary source of funding, usually in combination with investors' equity or external public grant funding. Green loans are provided by both commercial banks the National Croatian Bank for Reconstruction and Development (HBOR) and the EBRD. HBOR was the first bank to introduce green loans back in 2010 and is still the leading provider of green financing in Croatia, either in the form of ESIF financial instruments or standard loans. The cooperation with the European Investment Bank has ensured very favorable financing conditions which the EIB is providing under its Climate Bank Roadmap policy. Currently, HBOR has several loan programmes which can be used for deep renovation of buildings:

- Loan programme for the energy renovation of buildings
- Public Sector Investment programme
- Private sector investment programme

Commercial banks are providing several kinds of green loan financing:

- Investment Loans - loans are offered to companies that plan long-term investments with a green or social purpose that meets the predefined criteria (energy efficiency improvements in manufacturing processes, green transport, green energy, etc).
- Project Finance - project finance is based on realization of your project with a measurable environmental impact. Loan repayment relates to the financed assets, the expected project cash flow, and the insurance value of project assets that have been invested for ESG purposes.
- ESG Loans for Construction, Purchase or Adaptation of Real Estate - loans are intended for your investments in housing or public buildings in keeping with the local regulations and EU Taxonomy. The aim is to increase energy efficiency and energy saving, be it by construction of new buildings, reconstruction of existing buildings or purchase of buildings.



## 1.6. Energy service companies (ESCO) and Public-private partnership

The basic framework and goals of public-private partnerships (PPPs) are set out in the Strategic Framework for the Development of Public-Private Partnerships in the Republic of Croatia. The Strategic Framework includes clear guidelines concerning the scope, principles and goals in the application of the PPP models in the Republic of Croatia and concerning issues relevant for their implementation. The Strategic Framework also promotes respecting the positive role of social partnership and dialogue with all interested parties concerning issues relevant for the successful implementation of PPPs in the Republic of Croatia. The Strategic Framework notes that the application of various forms of PPPs should be conditional on:

- better value for money
- long-term budgetary sustainability and acceptable fiscal risks
- readiness of the private sector to participate in a PPP (i.e. fiscal profitability of the investment).

Public-private partnership in the Republic of Croatia is regulated by the Public Private Partnership Act (OG 78/12, OG 152/14 and OG 114/18) and the accompanying bylaws, Concessions Act (OG 69/17 and 107/20) and the Public Procurement Act (OG 120/16 and 114/22) relating to the procedures for awarding the public procurement contracts and concessions contracts. The PPP Act regulates:

- Definition of the PPP
- Forms of PPP Contracts
- Procedures for the preparation, nomination and acceptance of PPP projects
- Rights and obligations of PPP
- Establishment and competencies of the PPP Agency

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.

Five public institutions have a central role in the implementation of the PPP framework:

- Ministry of the Economy and Sustainable Development
- The Ministry of Finance
- Ministry of Regional Development and EU Funds
- The State Commission for the Control of Public Procurement Procedures and
- The Central Finance and Contracting Agency.

Ministry of the Economy and Sustainable Development is in charge of the overall development, approval, implementation and monitoring of the PPP projects, maintaining the Register of PPP Contracts, while also transferring knowledge and applying best international practices in the field of PPPs.



Ministry of Finance provides preliminary consent to PPP project proposals regarding their compliance with budget projections and plans, and fiscal risks and restrictions stipulated by special regulations.

In Croatia, the EES market is considered embryonic, but providing signs of growth. Small ESCOs conform the main category of EES providers, however, other sort of providers such as utilities, engineering firms, technology providers, vendors and facility managers are present in the market. In the last five years only 2 PPP projects were contracted<sup>15</sup>:

- Design, construction, reconstruction, finance, manage and maintenance of the street lighting system in Kraljevica.
- Design, construction, reconstruction, finance, manage, maintenance and providing of public service in Novi Vinodolski.

Total value of contracted PPP it is 1.108.805 €. Expected duration of contract it is 16 years.

CNB provides the loans for energy renovations, followed by commercial banks. Grants and subsidies are the main source of financing (and loans come after). Access to financing is moderately difficult. There are not refinancing instruments operating in Croatia currently.

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<sup>15</sup> <https://investcroatia.gov.hr/en/ppp/registry/>



## 1.7. Citizen-led initiatives

Crowdfunding is a way of funding a project or venture by raising money from a large number of people who each contribute a relatively small amount, typically via the internet<sup>16</sup>. It usually includes a project owner, the internet platform that acts as a sort of intermediary through which the third participant (project owner), individuals from the crowd, give their money in order to finance a specific project developed by the project owner.

Legislation relevant to the regulation of crowdfunding service providers is listed below:

- Regulation (EU) 2020/1503 of the European Parliament and of the Council of 7 October 2020 on European crowdfunding service providers for business and amending Regulation (EU) 2017/1129 and Directive (EU) 2019/1937 (hereinafter: ECSP Regulation)
  - The regulation harmonises rules across the EU for the provision of equity-based and peer-to-peer lending crowdfunding services related to business financing.
  - It includes provisions to offer crowdfunding services from any EU Home State into all other EU markets without the need to apply for a so called passport, based on a single set of rules, which makes it easier to offer crowdfunding services across the EU with a single authorisation.
- Croatian legislation as a Law on the implementation of Regulation (EU) 2020/1503 on European crowdfunding service providers, as published in the Croatian Official Gazette (144/2021, 83/23) on December 27 with the goal to harmonize with the EU Directive
- Guidelines on marketing communications relating to crowdfunding services

Hanfa is responsible for the implementation of Regulation (EU) 2020/1503 on European crowdfunding service providers (Article 4, OG 144/2021, 83/23).

Crowdfunding<sup>17</sup>:

- Crowdfunding is increasingly an established form of alternative finance for start-ups and small and medium-sized enterprises (SMEs), typically relying on small investments. Crowdfunding represents an increasingly important type of intermediation where a crowdfunding service provider, without taking on own risk, operates a digital platform open to the public in order to match or facilitate the matching of prospective investors or lenders with businesses that seek funding. Such funding could take the form of loans or the acquisition of transferable securities or of other admitted instruments for crowdfunding purposes.
- The provision of crowdfunding services generally involves three types of actors: the project owner that proposes the project to be funded, investors who fund the proposed project, and an intermediating organisation in the form of a crowdfunding service provider that brings together project owners and investors through an online platform.
- Crowdfunding can contribute to providing access to finance for SMEs and completing the Capital Markets Union. Crowdfunding has emerged and become an established practice of funding business activities of natural and legal persons. Such funding takes place through

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<sup>16</sup> Oxford Dictionaries, 2016

<sup>17</sup> Regulation (EU) 2020/1503 of the European Parliament and of the Council of 7 October 2020 on European crowdfunding service providers for business, and amending Regulation (EU) 2017/1129 and Directive (EU) 2019/1937, available: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32020R1503>



online platforms; the business activities are typically funded by a large number of people or organisations; and the businesses, including business start-ups, raise relatively small amounts of money.

Types of Crowdfunding are presented in the figure below, Figure 4.

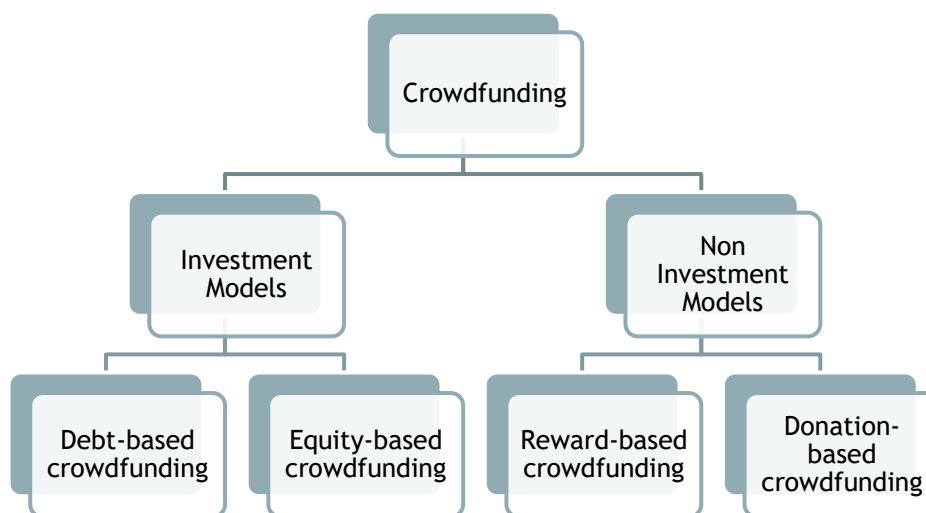


Figure 4 Types of Crowdfunding

Sources: Schmidt, J. (2019.), Crowdfunding Explained: The Ultimate Guide to Crowdfunding

- Crowdlending (crowdlending/peer-to-peer lending) - 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 (OG 35/2005, OG 41/2008, OG 78/2015, OG 29/2018, OG 126/2021, OG 114/2022, OG 156/2022). 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 CNB according to article 56 of the Credit Institutions Act (OG 159/13., 19/15., 102/15. 15/18., 70/19., 47/20. i 146/20, 151/2022). 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.
- Donation-based crowdfunding - Legal qualification of this type of crowdfunding is rather easy since donation and gift are synonyms<sup>18</sup> and donation can be therefore qualified as a gift contract that is regulated in the Croatian Law on Obligations (OG 35/05, 41/08, 125/11, 78/15, 29/18, 126/21, 114/2022). 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.

<sup>18</sup> Friganović, M., 2011. Oporezivanje darovanja u Republici Hrvatskoj. Računovodstvo i porezi, (6), pp. 82-99.



This regulation does not apply if Croatian citizens collect funds through foreign crowdfunding platforms.

According to Croatian Income Tax Act (15/16., 106/18., 121/19., 32/20., 138/20. i 151/22, 114/2023) 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.

- Crowdfunding - If a reward is of symbolic and not significant financial value it is treated as a gift and crowd-donating 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 (OG 5/05, 41/08, 125/11, 78/15, 29/18, 126/21, 114/2022).
- Crowdfunding (crowdfunding ili equity-based crowdfunding) - 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.

The best crowdfunding platforms in Croatia are presented in the Table below, Table 8

**Table 8** Active Crowdfunding Platforms in Croatia

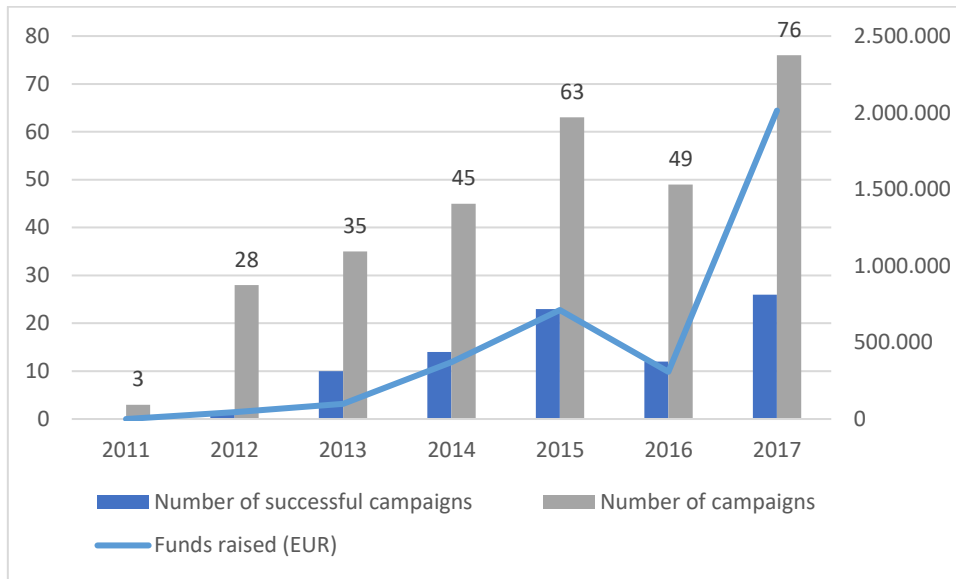
Platform	Types of Crowdfunding	web
Croenergy	Donation and Reward-based crowdfunding	<a href="https://croenergy.eu/">https://croenergy.eu/</a>
Čini pravu stvar	Donation-based crowdfunding	<a href="https://www.cinipravustvar.hr/">https://www.cinipravustvar.hr/</a>
Croinvest	Reward-based crowdfunding	<a href="https://croinvest.eu/">https://croinvest.eu/</a>

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.

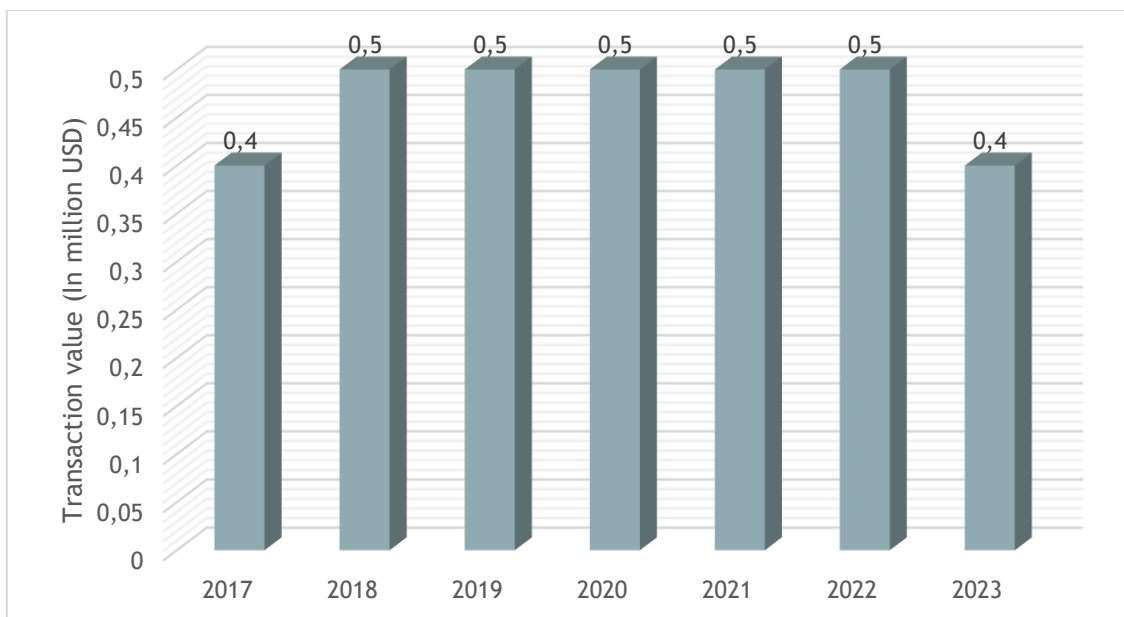
However, in late 2016 a joint-venture between Funderbeam platform and the Zagreb Stock Exchange marked a very positive change for the overall crowdfunding community in Croatia which was also noticed in the overall investment volume tracker, Figure 5.

The COVID-19 pandemic and Russia-Ukraine war has influenced was affected by stagnation and a decrease in interest in this form of investment, Figure 6, Figure 7.

The Croatian alternative capital market as a whole remains underdeveloped and is primarily driven by enthusiasts. Over the past five years, the trend of crowdfunding has seen a steady decline, largely attributed to the lack of regulatory framework. Despite this, some organizations remain actively engaged in experimenting with crowdfunding solutions and sustaining the pioneering platforms in this sector.

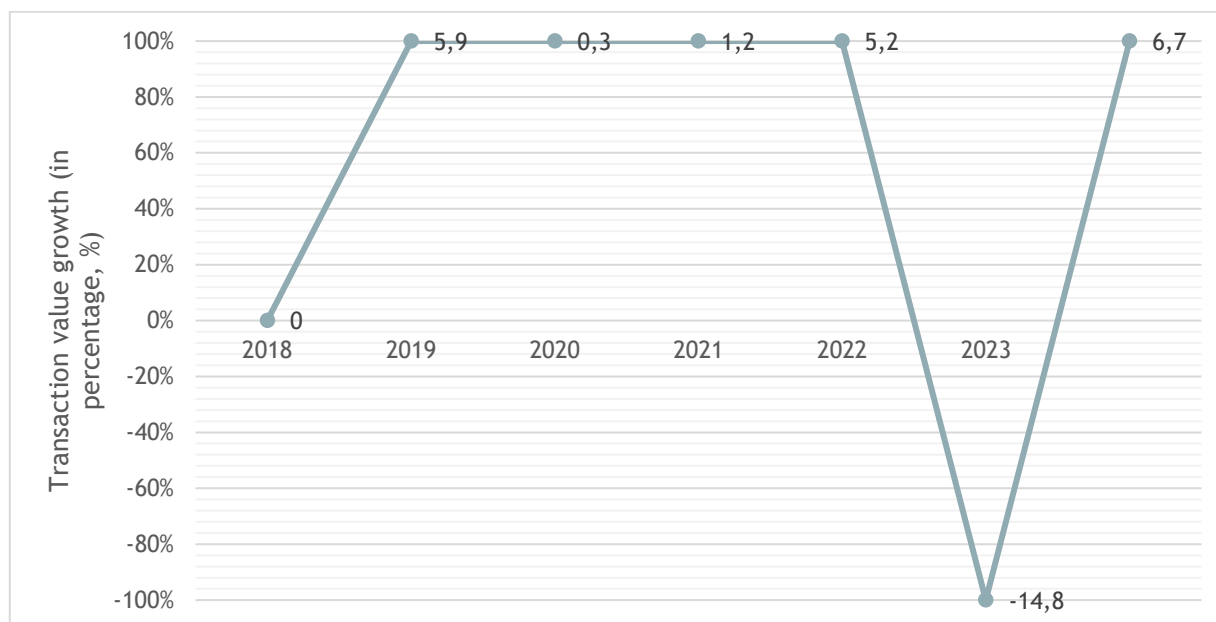


**Figure 5** Investment volume of Croatian crowdfunding campaigns  
Source: REGEA



**Figure 6** Transaction value of crowdfunding campaigns  
Source: Statista Market Insights





**Figure 7** Investment volume of Croatian crowdfunding campaigns  
Source: Statista Market Insights

Reward and donation-based models are the only models that have been used for sustainable energy campaigns on three domestic platforms (Croinvest, Čini pravu stvar 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 and Climate Agency) and A1 Telekom.

Croinvest and Croenergy and - 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 2023, eleven donation and reward-based campaigns which raised EUR 180,000 have been successfully completed on the Croenergy platform (energy renovation of a kindergartens, schools, sports hall and installation of energy efficient equipment), while on platform the čini pravu stvar 174 donation and reward-based campaigns which raised EUR 340.919 have been successfully completed.

Connection of crowdfunding and energy matters in Croatia:

NECP<sup>19</sup> (in the NECP the crowdfunding is recognised as funding option under C1.1.1. R5 In the National Energy and Climate Plan (NECP), crowdfunding is acknowledged as a financing option under the goal of "Diversifying the Capital Market and Improving Access to Alternative Financing."

Key points to develop in following years are:

- Developing a regulatory framework for crowdfunding service providers, ensuring operational and financial transparency, financial control, and the security of information and payments.

<sup>19</sup>[https://commission.europa.eu/system/files/2021-07/recovery\\_and\\_resilience\\_plan\\_for\\_croatia\\_hr.pdf](https://commission.europa.eu/system/files/2021-07/recovery_and_resilience_plan_for_croatia_hr.pdf)





- Auditing other national laws that could potentially hinder the use of crowdfunding as an alternative financing channel for businesses.
- Transposing the EU Regulation on European Crowdfunding Service Providers (ECSP) into national law, which establishes uniform EU rules for investment-based and loan-based crowdfunding linked to business financing.
- Enabling platforms to apply for an EU passport based on a unified set of rules, facilitating service provision across the EU with a single operating license.
- Implementing clear rules on information disclosure for project owners and crowdfunding platforms, risk management, and robust supervisory powers for national authorities overseeing crowdfunding platforms.
- Beyond transposing the Crowdfunding Regulation, reform will involve reviewing other segments of national law that may make crowdfunding more difficult, restrictive, or expensive for SMEs.
- Integrating provisions of the EU Directive 2019/1160 and Regulation 2019/1156 related to cross-border distribution of collective investment entities, including amendments to the Act on Alternative Investment Funds, paving the way for regulatory relief in the sector of alternative investment funds.
- Covenant of mayors (many SECAPS and SEAPS) state that crowdfunding is viable funding option for reaching energy targets on municipal level

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 small population as well as small number of Internet users, low IT literacy, poor development and distrust towards electronic commerce, expensive postal services towards abroad and the financial impoverishment of citizens. has hindered the development of the crowdfunding scene in Croatia.

Crowdfunding models which could be used for deep (nZEB) renovations of public buildings include donation and reward models, while lending model could be implemented indirectly through energy cooperatives.

The crowdfunding landscape in Croatia is currently in a developmental phase, with no established methods for evaluating crowdfunding projects. Projects are primarily assessed based on the effectiveness of campaign elements and the credibility of the team involved. The evaluation is largely influenced by emotional responses elicited through storytelling, detailed descriptions, and engaging videos. This emotional connection is often how project founders gauge the potential success of their projects. Additionally, regular and meaningful interaction with founders is crucial for promoting the project, particularly in the case of large-scale initiatives.

Training sessions on crowdfunding are increasingly common in Croatia, yet remain limited due to the recent introduction of relevant regulations and a traditional lack of familiarity with funding projects through this method. These training programs, along with mentorship and capacity-building workshops, are predominantly financed by public funds. A significant portion of these funds originates from EU programs, ranging from solidarity initiatives to development projects, aimed at exploring this financial mechanism. Additionally, national bodies contribute by providing



support for development projects and entrepreneurship through development agencies, ministries, and municipalities. Given the relatively modest scale of the crowdfunding scene in SE Europe, most workshops are designed to serve countries in the region that speak a common language. The Crowdfunding Academy<sup>20</sup> is a notable example of this strategy, focusing specifically on Southeast Europe. There are two notable providers of expert services: Brodoto & ACT Group, and many companies that test crowdfunding as ZEZ & Brlog brewery.

### 1.7.1. Energy cooperatives

The operation of energy cooperatives in Croatia is governed by the Croatian Law on Cooperatives<sup>21</sup> and is under the supervision of the Ministry of Economy and Sustainable Development. The ministry responsible for entrepreneurship and crafts performs various tasks under this law to regulate cooperatives. These tasks include monitoring the state and functioning of cooperatives, gathering and analyzing data, and proposing measures for improvement. The ministry maintains a central registry of cooperatives and cooperative alliances as per the relevant regulations.

Energy cooperatives in Croatia are facing challenges in the competitive renewable energy sources (RES) and energy efficiency (EE) project development market. Most cooperatives are still in the early stages of development and have not yet been established as significant players in the energy sector. The number of energy cooperatives has decreased due to the lack of national policies supporting their integration into the energy market. However, recent changes in energy regulation, particularly concerning energy communities, are expected to bolster the growth of energy cooperatives. In the past three years, the number of initiatives has remained stable, following a significant decline in energy cooperatives previously. As energy communities, these cooperatives are poised to play a crucial role in the energy transition. They are well-placed to promote energy savings, renewable energy production, refurbishment, and to disseminate knowledge, building trust in new methodologies and technologies. Over time, it is anticipated that energy cooperatives or energy communities will become essential one-stop-shops in the energy transition, engaging with citizens and, in particular, cooperative members.

In Croatia, cooperatives are eligible for a singular annual incentive through the "Program for the Development of Cooperative Entrepreneurship." The Ministry of Economy and Sustainable Development has issued a Public Call for this program for the year 2023. The objective of the program is to distribute grants that enhance the competitive edge, visibility, efficiency, and innovative capacity of cooperative products and services. Key areas of focus include the integration of new technologies and innovations, improving the market presence of cooperatives for superior business performance, and fostering job creation and sustainability within these cooperatives. Grant amounts range from 3,000 to 15,000 EUR. Additionally, municipalities have recognized the crucial role of energy communities and cooperatives in driving the local energy transition. Several municipalities have formed partnerships with these groups to launch initial renewable energy projects and support initiatives tackling energy poverty and efficiency.

<sup>20</sup> <https://www.brodoto.com/collections/pariatur-veniam>

<sup>21</sup> <https://www.zakon.hr/z/458/Zakon-o-zadrugama>



### 1.7.2. Energy communities

The primary focus of energy communities is on energy production, with Citizen Energy Communities (CECs) specifically concentrating on electricity. The national definitions of CECs and Renewable Energy Communities (RECs) align with EU directives concerning renewable energy and electricity market design transposed to the Law on the electricity market and Renewable energy law. Similar to energy cooperatives, they are strong proponents of refurbishment, healthy living environments, and energy efficiency measures.

Energy communities are open and voluntary, and they combine non-commercial aims with environmental and social community objectives. There are different forms and definitions of energy communities. Regarding their basic goal and mode of operation and according to European law framework they can be divided into two basic groups: citizens energy communities (EZG) and communities of renewable energy sources (ZOIE)<sup>22</sup>. They both (EZG and ZOIE) offer the possibility of joint investment for citizens, entrepreneurs and public sector in various energy projects.

The aim of energy communities and renewable energy communities is basically the same- to ensure that the citizens and other partners become active participants in energy transition and to give them access to direct benefits such as reducing their energy costs, enhancing energy efficiency and using renewable energy sources. This approach also involves vulnerable groups and directly contributes to the alleviation of energy poverty, which is one of the biggest problems today. Energy communities anticipate the involvement of a wide spectrum of participants - local and regional government, private citizens as well as micro, small and medium-sized companies. They all get involved in various energy projects which will directly benefit the local community.

- **EU solar energy strategy**<sup>23</sup> anticipates that the EU member countries will cooperate in:
  - establishing at least one energy community based on renewable energy sources per each local public authority with more than 10.000 inhabitants by 2025
  - ensuring that energy poor and vulnerable consumers have access to solar energy (for example - through installations in state-provided accommodation, energy communities or financial support for individual installations)
- **Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity defines the citizens energy community (EZG) as a legal subject that:**<sup>24</sup>
  - has for its primary purpose to provide environmental, economic or social community benefits to its members or shareholders or to the local areas where it operates rather than to generate financial profits;
  - may engage in generation, including from renewable sources, distribution, supply, consumption, aggregation, energy storage, energy efficiency services or

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<sup>22</sup> In Croatia these two forms of civil energy are defined by the Law on electrical energy market (OG 111/21, 83/2023) and the Law on renewable energy sources and highly efficient cogeneration (OG 138/21, 83/2023)

<sup>23</sup> [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13338-EU-solar-energy-strategy\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13338-EU-solar-energy-strategy_en)

<sup>24</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019L0944>



- charging services for electric vehicles or provide other energy services to its members or shareholders;
- is based on voluntary and open participation and is effectively controlled by members or shareholders that are natural persons, local authorities, including municipalities, or small enterprises.
- The Directive (EU) 2018/2001 of the European Parliament and of the Council on the promotion of the use of energy from renewable sources defines the communities of renewable energy (ZOIE) also as a legal entity that:<sup>25</sup>
    - has for its primary purpose to provide environmental, economic or social community benefits to its members or shareholders or to the local areas where it operates rather than to generate financial profits. The community of renewable energy (ZOIE) sources is established in accordance with applicable national law and it is based on open and voluntary participation. It is independent and actually supervised by the shareholders or members located in the vicinity of renewable energy projects owned or developed by the legal entity in question. Its shareholders or members are natural persons, small or medium-sized companies or local government bodies.
  - In Croatian legislature these two forms of civil energy are defined by the Electricity Market Act (OG 111/2021, 83/2023)
    - which regulates the field of citizens power communities (EZG) as well as
  - The law on renewable energy sources and highly efficient cogeneration (OG 138/21, 83/2023)
    - which defines the communities of renewable energy sources (ZOIE)
  - Regulation on the general conditions for electricity supply (OG 100/2022)
  - Rulebook on Lincas on the carrying out energy activities and certification (OG 44/2022)
  - The decision regarding the compensation for the performance of energy activities regulation (OG, 38/22)
  - The law on financial operations and accountancy of non-profit organizations (OG 121/2014, 114/22)
  - The law on associations (OG 74/14, 70/17, 98/19)
  - The law on cooperatives (OG 34/11, 125/13, 76/14, 114/18, 98/19).

In the Republic of Croatia no entities have been formally registered as Renewable Energy Communities (RECs) or Citizen Energy Communities (CECs) and there were no implemented projects until September 2023<sup>26</sup>. Amendments to the existing energy legislation and its associated regulatory frameworks are currently in progress. Currently, there is a notable interest from more than ten energy initiatives in initiating their respective energy projects, and over one hundred

<sup>25</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L2001>

<sup>26</sup> [https://www.hera.hr/hr/html/registar\\_dozvola.html](https://www.hera.hr/hr/html/registar_dozvola.html)



multi-apartment buildings are actively exploring the establishment of their individual solar photovoltaic (PV) systems and exploiting energy sharing and collective self-consumption schemes.

At the moment several projects are in the process of initiation:

- The setting up of the DVD Špičkovina energy community is part of the European project SHARES, implemented by the North-West Croatia Regional Energy and Climate Agency (REGEA).
- My energy community (Implemented by: Grid ONE d.o.o and SYNTIO d.o.o through the project supported by the means of Norwegian financial mechanism (2014-2021) within the program Business Development and Innovation Croatia).

At present, there are no specific government-backed support programs dedicated to energy communities. The advancement and strengthening of these communities, particularly in terms of access to information and advisory services, are mainly driven by projects funded by the European Union and various international funding sources. There are ongoing, informal talks about setting up financial mechanisms for community energy and establishing comprehensive national support centres. Some of these discussions are leaning towards the idea of implementing national quotas. Local municipalities are engaged in research and development projects focused on renewable energy sources (RES), which could form the basis for energy efficiency (EE) projects linked with energy communities. Additionally, the revenue generated from RES projects could potentially be allocated for EE initiatives benefiting the community members.



## C. Conclusion

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 pandemic which, together with slow progress of economic reforms, resulted in one full year of recession and a record-breaking decline in GDP. The financial market today can be considered as stable 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.

The fiscal policies, although centralized, can also be used at the local level, for supporting the construction of buildings at a higher than mandatory standard (e.g., passive building standard) but have so far seldomly been used as an incentive for private investors.

Innovative third-party financing and investment models are still not frequently used in Croatia for energy renovation of buildings. EPC is the central concept in most EE/RES schemes but needs to be uplifted through the 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 to combine 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 were unfortunately not in line with the new Eurostat's guidelines for EPC projects. 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 to obtain financial resources for sustainable energy projects, although there are no legal barriers to their emission. The low cost of capital 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 pandemic crisis hit the stock market hard.

Crowdfunding, although still at the very early stages, shows great promise for smaller RES projects. The donation model has been the most used even though P2P lending model has recently gained some traction with pilot solar projects initiated by the ZEZ. The slow development of domestic 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 wider implementation of the market-based instruments as the EU sets even more ambitious energy savings and renewable energy production targets.





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## List of figures

Figure 1 Surface area of renovated buildings (m <sup>2</sup> ) .....	7
<b>Figure 2</b> OECD Capital Market Review of Croatia 2021 .....	14
Figure 3 Composition of liabilities of non - financial corporations, as of end 2019 .....	15
<b>Figure 4</b> Types of Crowdfunding .....	20
Figure 5 Investment volume of Croatian crowdfunding campaigns.....	22
<b>Figure 6</b> Transaction value of crowdfunding campaigns.....	22
<b>Figure 7</b> Investment volume of Croatian crowdfunding campaigns .....	23

## les List of Tables

<b>Table 1</b> Energy renovation programmes - their impact/results so far .....	5
Table 1 Results of the Programme of Energy Renovation in the period from 2014 until 2019 year.....	6
<b>Table 2</b> Volume of investment and sources of financing for energy renovation of buildings in the public sector over the period 2021-2030 .....	8
<b>Table 4</b> Overview of other funding sources for energy efficiency improvement in Croatia .....	9
<b>Table 5</b> National/Regional EE funds - their impacts/results so far .....	9
<b>Table 5</b> The Croatian Tax System.....	11
<b>Table 6</b> Local Taxes in Croatia .....	12
<b>Table 6</b> Active Crowdfunding Platforms in Croatia.....	21