

DELIVERABLE D.T 1.1.2

**INDIVIDUAL REGIONAL BASELINE REPORT
ON LOW CARBON INVESTMENTS FUNDING**

SOUTHERN GREAT PLAIN REGION

Preface

Present Individual Regional Baseline Report (“Report”) on Low Carbon Investments Funding is a strategic document to be delivered for seven Partner Regions under the Project entitled “PRoMoting regional Sustainable Policies on Energy and Climate change mitigation Towards 2030” funded by the Interreg CENTRAL EUROPE Programme. The Report is prepared as a deliverable under the Work Package “T1 Assessment of availability and use of public funds supporting climate change mitigation” of the Project.

Partner Region: Southern Great Plain Region

- Programme priority: 2. Cooperating on low-carbon strategies in CENTRAL EUROPE
- Specific objective: 2.2 To improve territorial based low-carbon energy planning strategies and policies supporting climate change mitigation
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Table of contents

Table of contents	3
1. Background	4
2. Presentation of the target region	4
2.1. General presentation of the target region.....	4
2.2. Potentials for low-carbon sector development	5
Energy efficiency.....	5
Renewables.....	5
2.3. Regional low-carbon policies, institutional framework and policy.....	6
National level.....	6
Regional /County level.....	7
3. Decentralised funds made available from the ESI Funds through the Partnership Agreements... 8	
3.1. National horizontal (sectoral) operational programmes	8
In general, on the national operational programmes	8
3.2. Development and Innovation Operational Programme (GINOP)	11
3.3. Environment and Energy Efficiency Operational Programme (KEHOP).....	13
KEHOP Priority axis 1: Adaptation to climate change	14
KEHOP Priority axis 5: Adaptation to climate change	14
3.4. Territorial and Settlement Development Operative Programme (TOP).....	19
TOP Priority axis 3: Low carbon transition with special attention to urban areas.....	20
TOP Priority axis 5: Sustainable urban development in cities with county rights.....	21
4. Other EU low-carbon initiatives	22
4.1. EU initiatives managed by the European Commission	22
Horizon 2020.....	22
LIFE Programme.....	22
INTERREG and other EU initiatives	22
Urbact II	23
Espon 2020	23
4.2. Joint initiatives of the EU with International Financial Institutions.....	23
European Fund for Strategic Investments (EFSI)	23
European Local Energy Assistance (ELENA).....	23
Joint European Support for Sustainable Investment in City Areas (JESSICA)	23
Sustainable Energy Finance Facility (SELF) of EBRD	23
Other low-carbon financing schemes identified	23
5. Evaluation	23
6. Conclusions and recommendations	23

1. Background

This Individual Regional Baseline Report on Low Carbon Investment Funding ("Report") aims to assess the availability and use of public funds in the Southern Great Plain (SGP) Region within the 2014-20 that are dedicated to climate change mitigation and adaptation period with particular focus on development of RES. The report is a deliverable under Work Package "T1 Assessment of availability and use of public funds supporting climate change mitigation" The overall objective of T1 is to deliver policy recommendations targeting mainly the macro-regional strategies (EUSDR, EUSAIR, EUSBSR, EUSALP) developed in CE.

The starting point of the implementation of T1 is a baseline assessment of the use of available funding for low-carbon investments in the participating regions from 2014 onwards. The funding schemes to oversee include the followings in particular:

- Decentralised funds made available from the ESI Funds through the Partnership Agreements (national, sectoral or regional operative programmes);
- EU low-carbon initiatives (H2020, LIFE, EFSI, ELENA, Jessica, SEFF schemes);
- National/federal funding schemes (grants, subsidized loans, feed in tariffs, building integrated RES schemes); and
- Cooperation with private stakeholders (EPC, ESCO schemes, crowdfunding, venture capital, etc.).

The analysis, carried out by all Project Partners (PP) in the coordination of PP8, assesses the appropriateness of funding policies, administrative procedures, planning and implementation structures, dedicated resources and impacts in environmental and economic terms. Where relevant, the environmental impacts will address the whole lifecycle of the supported RES projects. The economic analysis should particularly focus on the cost-effectiveness of the use grants and exploring best practices concerning innovative low-carbon financing solution leveraging to maximum extent private financial resources.

2. Presentation of the target region

2.1. General presentation of the target region

The Southern Great Plain (SGP) is one of the planning and statistical (NUTS2 level) regions in Hungary situated in the south – south-eastern part of Hungary (Figure 1). It is part of the so-called Hungarian Great Plain and includes three counties (NUTS3 level): Bács-Kiskun, Békés and Csongrád. With its total area of 18,337 m², the SGP region the largest among the seven NUTS2 statistical regions in Hungary. The Southern Great Plain region is bordered by Romania and Serbia to the east and south, respectively.

The population of the region based on the latest estimate was 1,244,000 people in 2016, which is approximately 12% of the total population of Hungary. The SGP is the 3rd largest Hungarian region regarding the population. The administrative centre of the SGP is the city of Szeged, which is also the seat town of Csongrád County. Respectively, the county seat towns of Békés and Bács-Kiskun, are Békéscsaba and Kecskemét. While Hungary has a total number of municipalities of 3,155, SGP includes 254 (8% of the total) municipalities.

The share of the regional economy in the national GDP was 9.1 % in 2017. In the Southern Great Plain region agriculture with its 12% share of the total regional GVA plays an important role in economics.

The regional share to the total number of employees in national level is 8.9%.

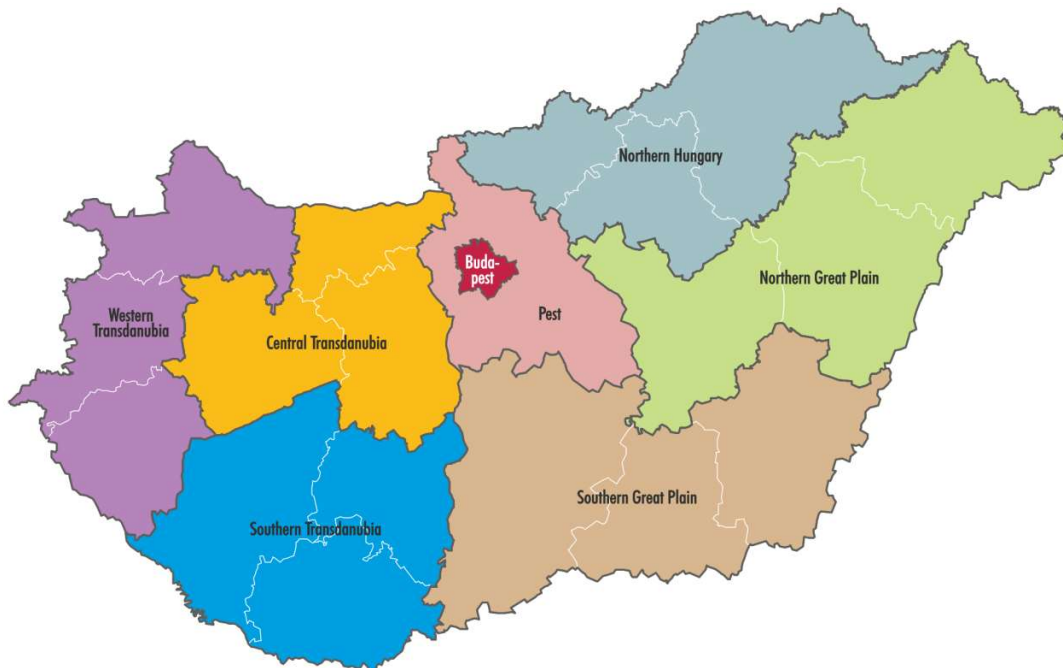


Figure 2.1. Geographical situation of Southern Great Plain (SGP) region

2.2. Potentials for low-carbon sector development

Energy efficiency

The share of the residential sector in the regional final energy consumption is higher (42%) than that on national level (35%). Based on countrywide estimates the energy consumption of the current building stock is high in Hungary, and it could be reduced by appropriate energy efficiency measures by 40-50%. Moreover, the public and industrial/commercial buildings are also generally outdated in the Region representing a high energy saving potential exists in these two other building segments, as well. Therefore, the building sector in the SGP Region accounts for the highest greenhouse gas reduction potential.

Regarding the energy efficiency potential of the Southern Great Plain, the following possible development paths were identified:

- Deep renovation of residential buildings and promotion of their conversion near zero energy buildings (NZEB); particular attention is to be given the housing estates built between 1960 and 1989 made of prefabricated concrete panels;
- Deep renovation of public building;
- Energy refurbishments of buildings in the enterprise sector;
- Intensification of electromobility, especially in public transport; and
- Implementation of individually controllable heating systems for properties provided with district heating (public and residential buildings).

Renewables

The key renewable sources of the SGP Region include solar, geothermal, solid biofuel and agricultural residues-based biomass and biogas.

Solar: According to the climatic and topographical conditions of the region, the solar potential is high. Thanks to the swift spreading of solar technologies the rate of the photovoltaic in the regional electricity production mix is notable. In addition, there is a significant growth in building integrated solar solutions.

Biomass and biogas: Despite to the relatively high importance of the agriculture in the Southern Great Plain, the biomass potential is rather unexploited regarding the electricity and district heat generation.

Geothermal energy: In the Southern Great Plain region the geothermic potential is not yet exploited. Currently the geothermic capacity is only used for heat generation. In 2016 geothermal based district heat was available in five towns, and a large-scale geothermal district heat project is under development in the city of Szeged currently.

2.3. Regional low-carbon policies, institutional framework and policy

Major strategies related to the objects of the PROSPECT 2030:

National level

1. National Energy and Climate Plan of Hungary

According to the so-called 'Energy Winter' or 'Clean Energy' Package published by the European Commission Hungary drawn up the National Energy and Climate Plan (NECP) based on the uniform content and methodology. The integrated plan involves the dimension of decarbonisation, energy efficiency, internal energy market, competitiveness, energy security, research and innovation. During the planning stage current national plans and policies were also taken into account.

2. National Energy Strategy 2030 (NES)

The National Energy Strategy was approved in 2011 and provide guidance in resolving the actual energy challenges. In accordance with the EU's principals, the main scopes of the strategy are the following: guaranteeing the security of energy supply; enhancing of competitiveness; transition to sustainability. The detailed scopes and planned measures are declared in the National Energy Efficiency Action Plan and Renewable Energy Action Plan of Hungary.

3. (Second) National Climate Change Strategy for the 2018-2030 period with projection up to 2050

The Second National Climate Change Strategy was elaborated according to the Act LX of 2007 on the implementation framework of the UN Framework Convention on Climate Change and the Kyoto Protocol and was approved by Parliament in 2018

The Strategy determines the following three pillars:

- National Decarbonisation Road Map – (present the possible tracks of GHG-reduction);
- National Adaptation Strategy of Hungary (NAS);
- Awareness Raising Plan "Climate Partnership";

The First Climate Change Action Plan is under preparation

4. Hungary's National Energy Efficiency Action Plan of until 2020 (NEHCst)

This action plan is prepared according to the Mandatory reporting under Article 24(2) of Directive 2012/27/EU of the European Parliament and the Council on energy efficiency. The action plan determines concrete scopes for the energy efficiency of Hungary and schemes the required policy measures.

5. National Building Energy Performance Strategy

The main, comprehensive scopes are:

- Harmonisation with the energy and environmental objectives of the EU;
- modernisation of buildings as a means to reduce the utility costs of the population;
- abatement the budgetary expenses;
- reducing energy poverty;
- creating new jobs;
- mitigating greenhouse gas emissions.

6. Renewable Energy Action Plan of Hungary 2010-2020 (NCsT)

The action plan declares, in accordance with the national intents, the achievement of a target of 14.65% share of renewable energy in gross final energy consumption by 2020, and evaluates the potentials and limitations of the different types of renewable sources, specifying the ones with most perspective in Hungary: solar, geothermic, heat pumps, biomass and biogas.

7. 4th National Environmental Programme (2015-2020)

However, the Programme focuses on a broad area of environmental issue, as part of the resource protection the increment of energy efficiency, increasing share of renewable energy and climate change mitigation and adaptation are notable tasks of the programme.

Additional action plans at national level, related to low-carbon policy:

1. Power Plant Development Action Plan
2. District Heat Development Action Plan 2030
3. Energy- and Climate Awareness-Raising Action Plan of Hungary

Regional /County level

There are no formalized low-carbon policies available for the Southern-Great Plain Region (NUTS 2). However, the county municipalities of Bács-Kiskun and Békés Counties have prepared and adopted a Climate Strategy at county level (NUTS 3 level)

Although local municipalities have no obligation to draw up low-carbon policies, some cities do have elaborated local climate strategies. The following county and local municipalities have decided to join the Covenant of Mayors and/or prepared SEAP/SECAP documentations:

Municipality	Population	Commitments
Bács-Kiskun County	513,690	2030, Adapt
Bátya	2,105	2030, Adapt
Békéscsaba	61,325	2030, Adapt
Kunadacs	1,510	2030, Adapt
Szarvas	16,950	2020
Szeged	161,140	2030, Adapt
Szentkirály	1,940	2030, Adapt
Kecskemét	110,813	2030, Adapt –only political decision jet

3. Decentralised funds made available from the ESI Funds through the Partnership Agreements

3.1. National horizontal (sectoral) operational programmes

In general, on the national operational programmes

Regulation (EU) N°1303/2013 laid down common provisions applicable to the European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund (CF), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF). In the 2014-2020 programming period a budget of EUR 25.01 billion from the European Structural and Investment Funds and EUR 4.63 billion of national contribution has been allocated to be invested according to the eleven Thematic Objectives (TO) defined by the European Commission.

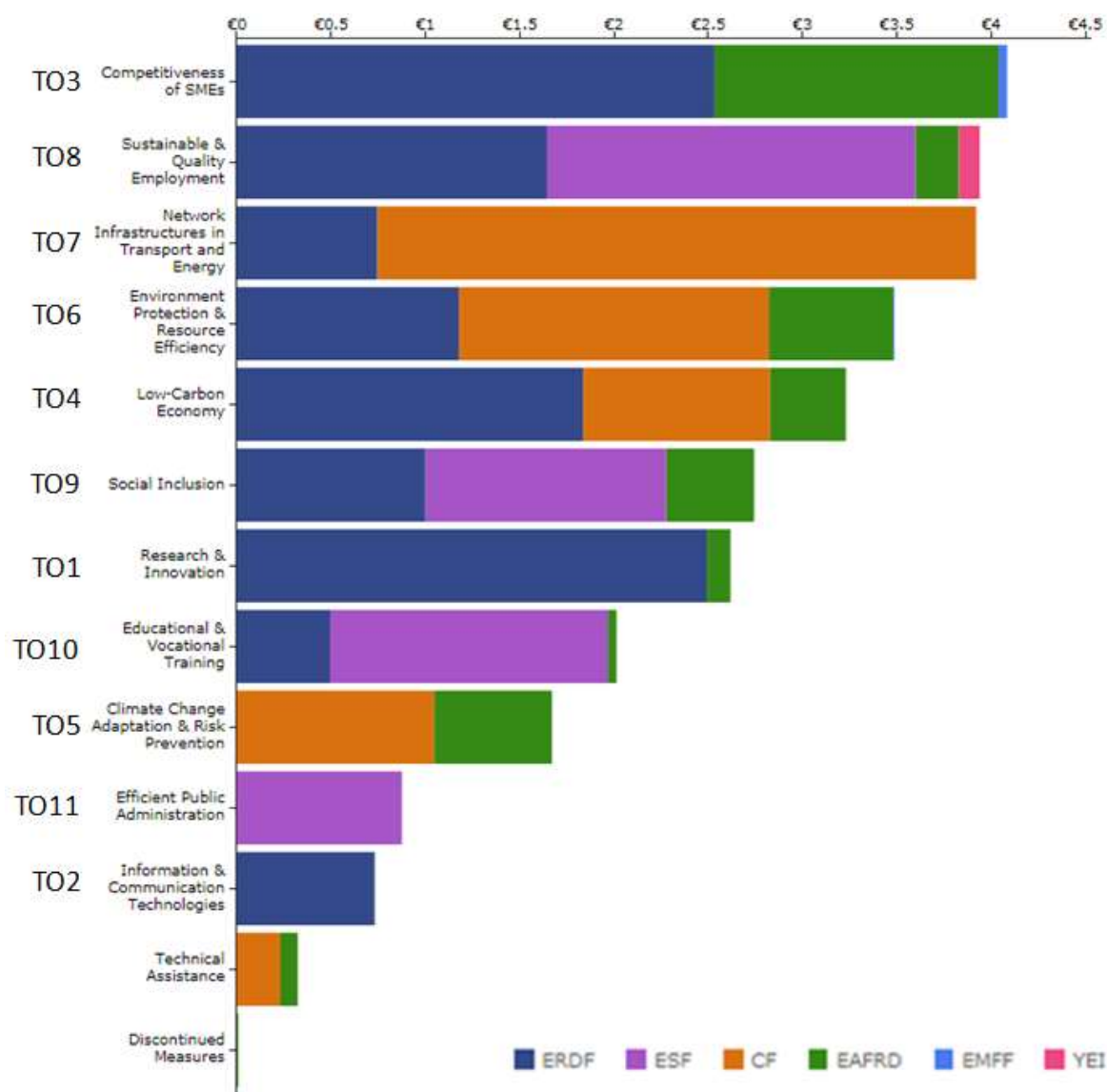


Figure 1: Distribution of the Total Budget by Theme; EUR Billion (*situation on December 2019*; <https://cohesiondata.ec.europa.eu/countries/HU>)

Based on the Thematic Objectives of the Programming Period 2014-2020 the Hungarian Government has elaborated and adopted nine Operational Programmes as shown by Table 2 (The Operational Programmes highlighted with blue address Thematic Objective 4).

Table 2: Operational Programmes in Hungary for the Programming Period 2014-2020				
Abbreviation	Name of the OP	ESI Fund	ESI fund	Total
			million EUR	
GINOP	Economic Development and Innovation OP	ERDF, ESF, YEI	7 684	8 813
VP	Rural Development Programme	EAFRD	3 455	4 147
TOP	Territorial and Settlement Development OP	ERDF, ESF	3 389	3 971
IKOP	Integrated Transport OP	ERDF, CF	3 332	3 920
KEHOP	Environmental and Energy Efficiency OP	ERDF, CF	3 217	3 785
EFOP	Human Resources Development OP	ERDF, CF	2 613	3 070
KÖFOP	Public Administration and Civil Service Development OP	ESF, CF	795	935
VEKOP	Competitive Central–Hungary OP	ERDF ESF	464	928
MAHOP	Hungarian Fisheries OP	EMFF	39	51
In TOTAL			24 988	29 643

The budget breakdown by Operational Programmes is illustrated in Figure 2 below.

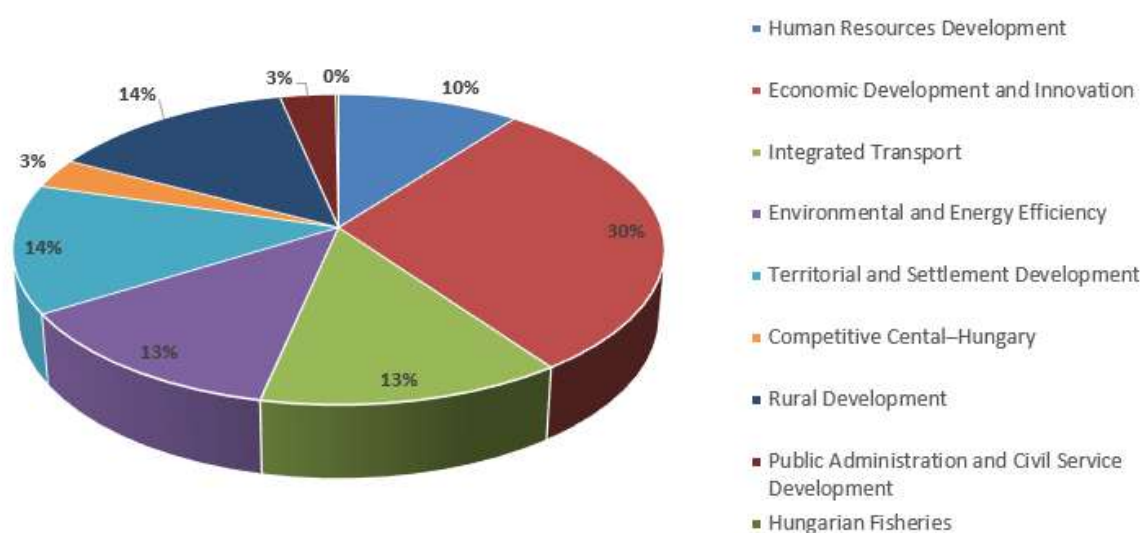


Figure 2: Budget distribution by Operational Programmes

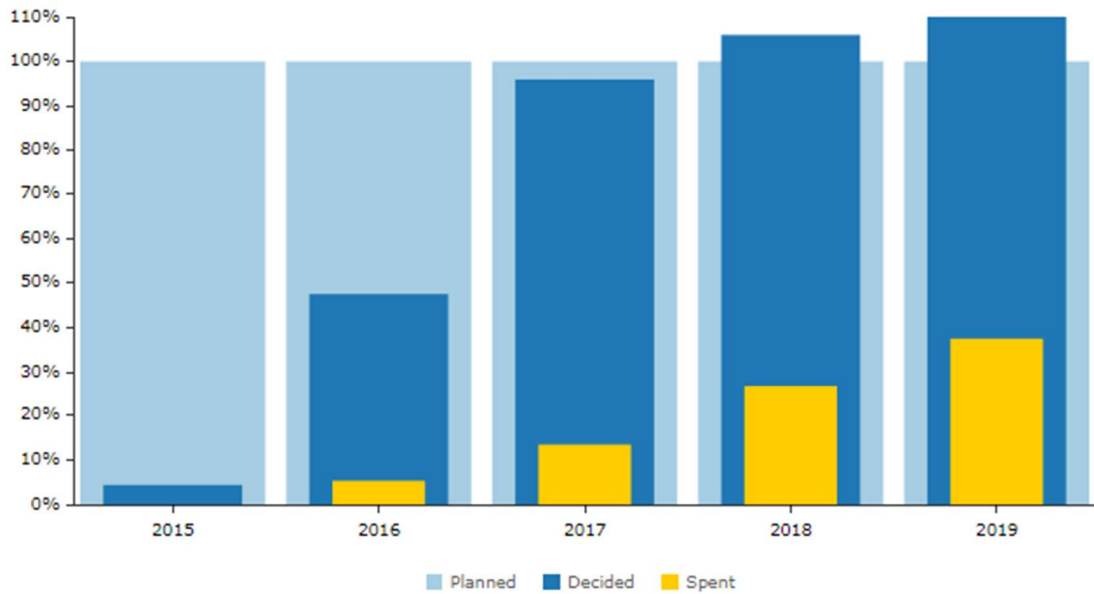


Figure 3: Implementation Progress (total cost) for Hungary (*situation in December 2019*; <https://cohesiondata.ec.europa.eu/countries/HU>)

Figure 3 illustrates the overall implementation status of the 2014-2020 budget committed through the Partnership Agreement in December 2019. As shown by the Figure, 38% of the total planned amount of the Partnership Agreement was disbursed, whilst the total amount of financial resources was committed by the December 2019.

Funds related to low-carbon economy are projected under the Economic Development and Innovation (GINOP), the Environment and Energy Efficiency (KEHOP); and the Territorial and Settlement Development Operational Programmes (OPs).

In the following sections these OPs, priority axes and calls are discussed.

3.2. Development and Innovation Operational Programme (GINOP)

Title of OP		Economic Development and Innovation (GINOP)	
Priority axes:	<ul style="list-style-type: none"> ▪ Priority axis 1: Increasing the competitiveness and productivity of SMEs ▪ Priority axis 2: Research, technological development and innovation ▪ Priority axis 3: Info-communication developments ▪ Priority axis 4: Energy ▪ Priority axis 5: Employment ▪ Priority axis 6: Competitive labour force ▪ Priority axis 7: Tourism ▪ Priority axis 8: Financial instruments 		
Available budget:	Total budget:	€ 8 813 195 511	
	EU funding:	€ 7 733 969 530	
	Ratio of national contribution:	12%	
Priority axis relevant to energy/low-carbon sector			
Priority axis 4: Energy			
Specific objectives:	<ul style="list-style-type: none"> ▪ Strengthening the competitiveness of the business sector through decreasing the direct energy costs by energy efficiency and renewable investments 		
Final beneficiaries:	<ul style="list-style-type: none"> ▪ SMEs in convergence (less developed) regions 		
Available budget:	Total budget:	€ 296 079 775	
	EU funding:	€ 191 721 929	
	Ratio of national contribution:	15%	
Other key information:	<p>Overall budget breakdown:</p> <ul style="list-style-type: none"> - solar energy (20.1% of the total budget) - biomass (10.1% of the total budget) - other renewables such as geothermal, small hydropower, heat pumps and utilisation of waste heat (3.3% of the total budget) - energy efficiency and renewable investments in the economic/production processes of SMEs (66.5% of the total budget) <p>Expected number of enterprises receiving support: 1,400</p> <p>Form of assistance: (non-repayable grant)</p>		
Information sources:	<p>Government Decision No. 1006/2016. (I. 18.) stipulates the fund allocation plan of Economic Development and Innovation Operation Programme for 2016. Available at http://njt.hu/cgi_bin/njt_doc.cgi?docid=193689.318192</p>		

The Priority axis 4 (Energy) of the Economic Development and Innovation Operational Programme (abbreviated in Hungarian as GINOP) has been committed via four open Calls with a total budget of € 296 million which will be detailed below.

The overall impact indicators of Priority axis 4 include:

- Development of a total of 239,95 MW renewable energy production capacity;
- Reduction of the greenhouse gas emission by 342 543,1 tonnes CO₂/year;

- Decrease of the primary energy consumption of buildings in the enterprise sector by 8,424 MWh/year;
- Decrease of primary energy consumption due to energy efficiency renovations by 2,23 PJ/year; and
- Production of renewable energies worth 2,10 PJ/year.

Call GINOP GINOP-4.1.1-8-4-4-16: Combined grant loan instrument supporting building energy refurbishment using renewable solutions

Beneficiaries of the Call are micro, small and medium enterprises (independently from the company form). The total budget of the Call is € 43.3 million of which the budget of the grant component is € 21.7 million. The maximum grant funding level is 45% of the total eligible costs, and the loan component cannot be lower than 50% of the grant amount. Both the grant and the loan components can be in the range of HUF 1.5 to HUF 50.

Until December 2019, some 52% of the grant component was committed. A total of 38 enterprises with an aggregated grant funding of € 2.4 million (21.5% of the total grant funding awarded, so far).

Call GINOP-4.1.2-18: Grant support for building energy refurbishment using renewable solutions

Beneficiaries of the Call are micro, small and medium enterprises (independently from the company form). The total budget of the Call is € 162.5 million. The grant funding may range between HUF 1.5 and HUF 100 and it cannot exceed 50% of the total eligible costs ranging between HUF 1.5 and HUF 100.

Until December 2019, approximately 12.7% of the total available funding was committed via 240 projects. In the SGP Region a total amount of € 4.95 million was allocated to 51 projects (23.9% of the committed funding).

Call GINOP-4.1.3-19: Support to the installation of solar photovoltaic systems

The project aims to support the installation of small-scale (less than 15 kWp nominal capacity) photovoltaic system. Beneficiaries: micro, small and medium enterprises (independently from the company form). Total budget: € 46 million.

Until December 2019, some 17,5% of the available funding was awarded to 1,039 projects of which a total of 178 projects are to be implemented in the SGP Region with a total funding of € 1.37 million (17.0% of the committed funds).

Call GINOP 4.1.4-19: Energy renovation of buildings by increasing energy efficiency and the share of renewables.

Micro, small and medium enterprises (independently from the company form) are eligible (total budget: € 65.9 million). The Call provides grant funding between HUF 3-100 million covering up to 55% of the total eligible costs.

The Call was launched on November 11, 2019. There are two deadlines of submission of applications, namely January 15, 2020 and April 30, 2020. No information is available concerning the awards.

For the individual beneficiaries of the above Call (with the exception of GINOP 4.1.4-19) refer to **Appendix 1_T1.1.2_SGP_GINOP applications.**

3.3. Environment and Energy Efficiency Operational Programme (KEHOP)

The highest funding for low-carbon projects are provided through the Environmental and Energy Efficiency Operational Programme (KEHOP), a KEHOP 1 és KEHOP 5 priority axes.

Title of OP		Environment and Energy Efficiency (KEHOP)	
Priority axes:	<ul style="list-style-type: none"> ▪ Priority axis 1: Adaptation to climate change impacts ▪ Priority axis 2: Development of water supply, wastewater disposal and treatment, development wastewater management ▪ Priority axis 3: Waste management and environmental remediation related developments ▪ Priority axis 4: Nature protection and wildlife protection related developments ▪ Priority axis 5: Promoting energy efficiency and the use of renewable energies ▪ Priority axis 6: Technical assistance 		
Available budget:	Total budget:	€ 3 784 832 361	
	EU funding:	€ 3 217 105 883	
	Ratio of national contribution:	15%	
Priority axes relevant to energy/low-carbon sector			
Priority axis 1: Adaptation to climate change			
Specific objectives:	<ul style="list-style-type: none"> ▪ Strengthening the knowledge base of water management and the impact of climate change, efficient adaption to the climate change. ▪ Sustainable management of water resources and flood prevention. ▪ More efficient water management and water retention in hilly areas. 		
Final beneficiaries			
Available budget:	Total budget:	€ 1 044 936 936	
	EU funding:	€ 888 196 395	
	Ratio of national contribution:	15%	
Priority axis 5: Promoting energy efficiency and the use of renewable energies			
Specific objectives:	<ul style="list-style-type: none"> ▪ Non-building related, on-grid green electricity production based on renewable resources ▪ Energy efficiency refurbishment of buildings combining with renewables ▪ Development district heating supply and distribution systems and their conversion to renewable fuel ▪ Public awareness raising activities 		
Final beneficiaries:	<ol style="list-style-type: none"> 1. Business organisations 2. Private individuals, state and semi-statal institutions and companies, churches, municipalities (in developed regions) 3. District heating suppliers and distribution companies 4. NGOs, churches, municipalities, training institutions, state organisations 		
Available budget:	Total budget:	€ 994 820 180	
	EU funding:	€ 845 597 152	
	Ratio of national contribution:	15%	
Other key information:	Non-building related, on-grid green electricity production includes: use of biomass, biogas production, geothermal and energy, hydropower and energy storage and other grid elements supporting the grid control.		

	<p>Energy efficiency refurbishment of buildings combining with renewables: the targets are residential buildings and public buildings.</p> <p>Development district heating supply and distribution systems and their conversion to renewable fuel: the component targets the primary side of district heating systems (heat generation installations and distribution networks).</p> <p>Regional distribution of EU funding:</p> <ul style="list-style-type: none"> ▪ less developed regions: € 718 757 579 ▪ more developed regions € 126 839 573
Information sources:	<p>Government Decision No. 1084/2016. (II. 29.) sets out the fund allocation plan of Environment and Energy Efficiency Operation Programme for 2016. Available at http://njt.hu/cgi_bin/njt_doc.cgi?docid=194301.319350.</p>

The expected overall impacts of the climate components of KEHOP by 2023 (upon the completion of the programme) comprise:

- Reduction of greenhouse gas emission by 546 kilo tonnes CO₂ eq/per annum;
- Increase in renewable energy production capacity by 200,31 MW; and
- Increase in renewable energy production by: 3,390 000 GJ/annum.

The highest funding for low-carbon projects are provided through the Priority axes 1 and 5 of the Environmental and Energy Efficiency Operational Programme.

KEHOP Priority axis 1: Adaptation to climate change

The priority axis addresses the strengthening the knowledge base of water management and the impact of climate change, efficient adaption to the climate change as well as the sustainable management of water resources and more efficient protection against the damages caused by floods.

Under this priority axis two calls addressing the climate change issues. The common goal of these two calls is two reach out at least 120,000 citizens and to support municipalities with at least a total population of 3,000,000 to formulate their own climate strategy.

Call: KEHOP-1.2.0-15: Methodology development, capacity development and awareness raising connected with elaboration of climate strategies

The amount allocated for the Call supported a total of 21 applications of which two county municipalities in the Southern Great Plain Region (Bács-Kiskun and Csongrád County municipalities were awarded a total grant of approx. € 190,000 to elaborate their climate strategy. The total funding awarded to the SPG represents 4.6% of the total available funding.

Call: KEHOP-1.2.1-18 Development of local climate strategies and strengthening the climate awareness

The beneficiaries of this Call were local municipalities, municipal associations and their NGO partners. Until December 2019 a total of 113 applications were supported by committing 54.2% of the available funding. In the SGP, in total 13 applications were selected in a total value of € 660,000 representing 12.4% of the total commitment until December 2019.

KEHOP Priority axis 5: Adaptation to climate change

Priority axis 5 is broken into the following four investment priorities:

- KEHOP 5.1 - Non-building related, on-grid green electricity production;
- KEHOP 5.2 - Energy efficiency refurbishment of buildings combined with renewables,
- KEHOP 5.3 - Development district heating supply and distribution systems and their conversion to renewable fuel;
- KEHOP 5.4 – Public awareness raising

The impact indicators of KEHOP Priority axis 5 include:

- Increase in renewable energy production capacities by 449.11 MW
- Increase in renewable energy production of 3,52 PJ per annum;
- Number of house hold with better energy performance classification: 51 745 households;
- Drop of primary energy consumption of residential buildings by 112.6 GWh per annum;
- Drop of the final energy production of public buildings by 29.8 GWh/year;
- Drop of primary energy consumption due to energy efficiency investments: 3,59 PJ/year; and
- Reduction of greenhouse gas emission by 511 kilo tonnes CO2 eq/per annum.

KEHOP 5.1 - Non-building related, on-grid green electricity production

Call: KEHOP-5.1.1-17: Green power production units with a nominal power capacity exceeding 4 MW

The Call aims to support the establishment of one or modular on-grid power generation units with a total nominal power capacity ranging between 16 MW and 24 MW (no individual unit a capacity of 4 MW is eligible). The green power sources may include: solid biomass, biogas, landfill gas, solar energy, hydropower or geothermal energy. The aggregated target is 200 MW capacity. The grant support ranges between 10% and 45% of the total eligible costs (total budget: € 20 689 210). Beneficiaries were economic entities with legal personality.

No project was awarded in the SGP region.

Call: KEHOP-5.1.2-17: Green power production units with a nominal power capacity of less than 0.5 MW

The Call supports the installation of one or modular on-grid green power or heat/power generation units with a nominal power capacity ranging between 8 MW and 20 MW (the capacity the individual modules should range between 0.3 Mw and 0.5 MW). The green power sources may include: solid biomass, biogas, landfill gas, solar energy, hydropower or geothermal energy. The grant support ranges between 10% and 45% of the total eligible costs (total budget: € 20.7 million). Beneficiaries were economic entities with legal personality. The grant intensity ranges between 10% and 45%.

This Call supported 5 projects among other on project within the SGP Region (grant € 6.1 million). The project beneficiary is DÉMÁSZ Hálózati Kft. which installs photovoltaic power units in several places on the Region with a total electricity production of 44 thousand GJ/year (representing in average greenhouse gas emission of 11.9 kilo tonnes CO2/eq per annum).

Call: KEHOP-5.1.3-17: Installation of green power production units prepared by the support of KEOP-7.9.0 Call

Those investments are supported which were prepared by the support of KEOP-7.9.0 Call launched within the 2007-2013 programming period. Eligible investments include on-grid power generation in the areas of:

- Renewable-fuelled power/heat co-generation units;
- Biogas production and heat and power utilization; and
- Photovoltaic energy production.

Eligible beneficiaries included economic entities with legal personality. The budget of the Call was € 4.72 million.

No project was awarded in the SGP region.

KEHOP 5.2 - Energy efficiency refurbishment of buildings combined with renewables

Call KEHOP-5.2.1-15: Energy refurbishment of hospital buildings operated by churches or by the Hungarian Defence Forces Health Centre

The energy refurbishment of hospital buildings aims complex (deep) renovation combined with building integrated renewables. The total budget was € 12.6 million covering 100% of the eligible costs. Five projects were supported.

No project was awarded in the SGP region.

Call KEHOP-5.2.2-16: Energy refurbishment of public building (demonstration projects)

The energy refurbishment of public buildings aims complex (deep) renovation combined with building integrated renewables. The total budget was € 495 million covering 100% of the eligible costs. Five projects were supported. The impact indicators of the Call:

- Increase in renewable energy production capacities by 193.03 MW
- Renewable energy production of 1.54 PJ per annum;
- Drop of primary energy consumption of public buildings by 429.4 GWh per annum;
- Drop of primary energy consumption due to energy efficiency investments: 1.54 PJ/year; and
- Reduction of greenhouse gas emission by 220 kilo tonnes CO₂ eq per annum.

In total 129 projects were funded. In the SGP Region 18 project were awarded with a total budget of € 67 million (13.7% of the total available funding).

Call KEHOP-5.2.3-16: Energy refurbishment of church buildings

The purpose of the Call is the energy upgrade of church buildings (buildings used for practice of religions or those with public function /kindergartens, schools, dormitories) operated by the churches) combining energy efficiency measures with building integrated renewables (total budget: € 42.8 million; level of funding: 100% of the eligible costs).

Under this Call a total of 70 projects were awarded. In the SGP Region 9 projects were selected. These projects represent a total budget € 5.7 million (13.3% of the total available budget) with an estimated emission reduction is 950 tonnes CO₂eg/year.

Call KEHOP-5.2.4-15: Energy refurbishment of selected central budgetary institutions (budget € 49.8 million)

Not applicable to the SGP Region.

Call KEHOP-5.2.5-16: Development of nearly zero emission buildings (demonstration projects)

The purpose of the call is to initiate pilot projects for the conversion of existing public buildings to NZEB. The eligible measures are the upgrading of the building envelope and technical services renewables (total budget: € 20 million; level of funding: 100% of the eligible costs).

Until December 2019, a proportion of 67.1% was committed by funding six pilot projects. No project in the SGP received funding.

Call KEHOP-5.2.6-16: Energy refurbishment of swimming pools and sport facilities

The total funding under the Call was € 6.4 million.

In the SGP two projects were supported with a total funding of € 420 thousand.

Call KEHOP-5.2.8-17: Support to building energy renovation based on the state aid rules

Grant is provided to sport facilities and multi-functional leisure centres (budget: 5.2 million). Total grant intensity 80%:

- for energy efficiency measures: 30% of the eligible costs; and
- for renewable measures: 45% of the eligible costs.

Until December 2019, the commitment rate was 74.5% (ten selected projects). No project was funded in the SGP Region.

Call KEHOP-5.2.9-16: Building energy refurbishment by municipalities in the Central Hungarian Region (budget: € 68.6 million)

Not applicable to the SGP Region.

Call KEHOP-5.2.10-16: Building energy refurbishment by state institutions

The project support state health care and primary and secondary educational institutions, and institutions of the Ministry of Interior and Ministry of Defence (total budget: € 50.8 million; level of funding: 100% of the eligible costs).

Under this Call, a total of 130 projects were funded. In the SGP Region 25 projects (hospitals, schools, dormitories) with a total budget of € 9.7 million (19.2%) received funding.

Call KEHOP-5.2.11-16: Installation of photovoltaic systems at the central budgetary institutions

The Call addresses the installation of on-grid photovoltaic system with a capacity below 500 kVA for central budgetary institutions in all parts of Hungary (budget: € 78.7 million).

In total 147 applications received funding, In the SGP Region 18 projects with a total funding of € 8.3 million were supported (10.6%).

Call KEHOP-5.2.12-17: Development of the energy efficiency of state-owned sport facilities

The total budget of the call was € 15.5 million. 52% of the total budget was committed until December 2019.

In the SGP Region one project, the Kayak-canoe and Rowing Centre in Szeged was supported with an amount of € 702 thousand.

KEHOP 5.3 - Development district heating supply and distribution systems and their conversion to renewable fuel

The overall impact indicators identified for the upgrading of the district heating sector include:

- Reduction of greenhouse gas emission by 527 kilo tonnes CO2 eq per annum;
- Drop of primary energy consumption by 4 PJ per annum;
- Increase of renewable energy production capacity by 290.7 MW;
- Renewable energy production of 4 PJ per annum.

Call KEHOP-5.3.1-17: Energy renovation of the district heating sector

The overall budget of the Call is € 80 million. 10% to 50% of the eligible costs are funded.

Until December 2019, 70.9% of the total funding was committed through 31 projects. In the SGP Region two projects with a total of € 3.7 million (6.4%) was funded in the cities of Kecskemét and Makó.

Call KEHOP-5.3.2-17: Covering local heat and cooling needs with renewables

Beneficiaries include for-profit and non-profit organizations with legal entity (budget € 63.2 million). Eligible investments are:

- Installation of renewable-based district heating/cooling and heat generation facilities; or
- Capacity increase of existing systems using renewables.

Based on the available data a total of 17 projects were funded with a total amount of € 70.7 million (which exceeds the available budget with some 12%). The majority of the funding (70,6%) was committed in the SGP region for 12 projects of which nine aimed at the upgrading of the district heating loops of the City of Szeged.

KEHOP 5.4 – Public awareness raising

Call KEHOP-5.4.1-16: Public awareness raising programs

The beneficiaries of the action are municipalities, primary or secondary schools and NGOs. The grant support (budget: € 3,1 million) covers 100% of the eligible costs.

Until December 2019, approximately 86.2% of the total funding was allocated to 187 projects. In the SGP Region 14 project were funded (total grant € 210 thousand).

For the individual beneficiaries of the above KEHOP Call refer to **Appendix 2_T1.1.2_SGP_KEHOP applications**.

3.4. Territorial and Settlement Development Operative Programme (TOP)

Title of OP		Territorial and Settlement Development OP (TOP)	
Priority axes:	<ul style="list-style-type: none"> ▪ Priority axis 1: Development of regional economic environment and fostering employment ▪ Priority axis 2: Entrepreneurial, population retaining settlement development ▪ Priority axis 3: Low carbon transition with special attention to urban areas ▪ Priority axis 4: Development of local public services and social cooperation ▪ Priority axis 5: Human resources development at local and county levels, fostering employment and social cooperation ▪ Priority axis 6: Sustainable urban development in cities with county rights ▪ Priority axis 7: Community led local urban development 		
Available budget:	Total budget:	€ 3 970 875 052	
	EU funding:	€ 3 389 963 001	
	Ratio of national contribution:	14.6%	
Priority axes relevant to energy/low carbon sector			
Priority axis 3: Low carbon transition with special attention to urban areas			
Specific objectives:	<ul style="list-style-type: none"> ▪ Sustainable urban mobility ▪ Support to municipalities for energy efficiency improvements and renewable energy development 		
Final beneficiaries:	<ul style="list-style-type: none"> ▪ Local municipalities and their companies and institutions 		
Available budget:	Total budget:	€ 648 132 024	
	EU funding:	€ 550 912 221	
	Ratio of national contribution:	15%	
Priority axis 6: Sustainable urban development in the cities with county right			
Specific objectives:	<p>The Priority Axis addresses the complex development of the cities with county right (employment, enterprise promotion, life quality, public services, etc.). The specific objectives include among others:</p> <ul style="list-style-type: none"> ▪ sustainable urban mobility ▪ support to energy efficiency improvements and renewable energy development. <p>The below financial data only concerns these two items, only.</p>		
Final beneficiaries:	<ul style="list-style-type: none"> ▪ Local population using the public services 		
Available budget:	Total budget:	€ 308 694 697	
	EU funding:	€ 262 390 492	
	Ratio of national contribution:	15%	

Other key information:	Implementation targets - energy efficiency and renewables <ul style="list-style-type: none"> - 329.86 MW additional renewable energy production capacity - 376 318.77 tons of CO₂ saving
Information sources:	Government Decision No. 1005/2016. (I. 18.) stipulates the fund allocation plan of the Territorial and Settlement Development Operation Programme for 2016. Available at http://njt.hu/cgi_bin/njt_doc.cgi?docid=193688.319865

A Territorial and Settlement Development Operative Programme (TOP) concerns all regions in Hungary except the Central Hungarian Region which as a conversion region is addressed by a separate operational program (VEKOP). Low carbon issues are addressed by the following two Priority axes of TOP:

- Priority axis 3: Low carbon transition with special attention to urban areas; and
- Priority axis 6: Sustainable urban development in cities with county rights.

TOP Priority axis 3: Low carbon transition with special attention to urban areas

Calls TOP 3.2.1-15 and TOP 3.2.1-16: Energy refurbishment of municipal buildings

A TOP 3.2.1-15 és TOP 3.2.1-16 Calls aims to support the energy refurbishment of municipal buildings at county level (excluding the cities with county right which are addressed by different Calls as discussed later). Both two calls (one launched in 2015 and the other in 2016) have the same priorities:

- Energy efficiency upgrade of the building envelope of municipal buildings;
- Upgrading/replacement of heating equipment using fossil fuels and/or modernization of the associated heat distribution networks and domestic hot water system;
- Installation of solar panels and associated service infrastructure;
- Small capacity photovoltaic on-grid power generation unit (below 50 kW);
- Heat pump systems and associated service infrastructure;
- Local district heating centres using conventional and/or renewable fuel or waste heat recovery;
- Development of SEAPs/SECAPs coordinated by the respective county municipalities.

The total funding allocated to the six beneficiary regions is € 229.9 million and € 187.3 million in 2015 and 2016, respectively. The funds allocation per counties is as follows:

- **TOP 3.2.1-15:**
 - TOP 3.2.1-15-BK1 (Bács-Kiskun County): € 13 254 025,
 - TOP 3.2.1-15-BS1 (Békés County): € 11 863 970;
 - TOP 3.2.1-15-CS1 (Csongrád County): € 6 465 380.
- **TOP 3.2.1-16:**
 - TOP 3.2.1-16-BK1 (Bács-Kiskun County): € 18 924 160;
 - TOP 3.2.1-16-BS1 (Békés County): € 1 131 440;
 - TOP 3.2.1-16-CS1 (Csongrád County): € 5 967 545.

The SGP Region was provided 16.8% and 23.9% of the total available funding in 2015 and 2016, respectively.

Call TOP-3.2.2-15: Exploitation of renewable sources coordinated by municipalities

The Call supports biomass-based and geothermic energy based public heat and cooling supply. Total funding € 50.6 million (grant intensity 100%) of which the counties of the SGP Region share as follows:

- TOP 3.2.2-15 BK1 (Bács-Kiskun County): €3 232 690;
- TOP 3.2.2-15 BS1 (Békés County): € 2 909 420;
- TOP 3.2.2-15 CS1 (Csongrád County): 1 616 345.

TOP Priority axis 5: Sustainable urban development in cities with county rights

Calls TOP 6.5.1-15 and TOP 6.5.1-16: Energy refurbishment of municipal buildings

A TOP 6.5.1-15 és TOP 6.5.1-16 Calls aims to support the energy refurbishment of municipal buildings of cities with county right. In the SGP Region these cities include the three county capital cities (Békés, Kecskemét and Szeged) as well as Hódmezővásárhely. Both two calls (one launched in 2015 and the other in 2016) have the same priorities:

- Energy efficiency upgrade of the building envelope of municipal buildings;
- Upgrading/replacement of heating equipment using fossil fuels and/or modernization of the associated heat distribution networks and domestic hot water system;
- Installation of solar panels and associated service infrastructure;
- Small capacity photovoltaic on-grid power generation unit (below 50 kW);
- Heat pump systems and associated service infrastructure;
- Local district heating centres using conventional and/or renewable fuel or waste heat recovery;
- Development of SEAPs/SECAPs.

The total funding allocated to the six beneficiary regions is € 86.4 million and € 107.4 million in 2015 and 2016, respectively. A dedicated funding is allocated to each beneficiary city. In the SGP Region to following funding is provided by the Call:

- **TOP 6.5.1-15:**
 - TOP 6.5.1-15- BC1 (Békéscsaba): € 3 798 410;
 - TOP 6.5.1-15- HM1 (Hódmezővásárhely): € 5 036 530;
 - TOP 6.5.1-15- KE1 (Kecskemét): € 8 592 490;
 - TOP 6.5.1-15- SG1 (Szeged): € 10 667 875;
- **TOP 6.5.1-16:**
 - TOP 6.5.1-16- BC1 (Békéscsaba): € 7 735 825;
 - TOP 6.5.1-16- HM1 (Hódmezővásárhely): € 1 609 880;
 - TOP 6.5.1-16- KE1 (Kecskemét): € 3 323 690;
 - TOP 6.5.1-16- SG1 (Szeged): € 12 484 645.

The SGP Region was provided 33.2% and 25.4% of the total available funding in 2015 and 2016, respectively.

For the individual beneficiaries of the above KEHOP Call refer to **Appendix 3_T1.1.2_SGP_TOP applications**.

4. Other EU low-carbon initiatives

4.1. EU initiatives managed by the European Commission

Horizon 2020

A total of eight Horizon 2020 projects that concern the SGP Region was identified from public sources (Table 3). The total funding these projects have received is € 803 thousand.

Table 3: HORIZON 2020 projects in the SGP Region

Project title	Acronym	Theme	H2020 contribution	Link
Combined Heat, Power and Metal extraction from ultra-deep ore bodies	CHPM2030	Secure, clean and efficient energy	€ 203,750	https://www.chpm2030.eu/
Electrification of public transport in cities	ELIPTIC	Smart, green and integrated transport	€ 171,313	https://www.elipticc-project.eu/
Nature Based Solution for re-naturing cities: knowledge diffusion and decision support platform through new collaborative models	Nature4Cities	Climate action, environment, resource efficiency	€147,552	https://www.nature4cities.eu/
Community-based development schemes for geothermal energy	CROWD THERMAL	Secure, clean and efficient energy	€112,500	http://www.crowdthermalproject.eu/about-crowdthermal/
TSO-DSO-Consumer INTERFACE architecture to provide innovative grid services for an efficient power system	INTERFACE	Secure, clean and efficient energy	€79,275	https://cordis.europa.eu/project/rcn/221497/factsheet/en
MiniMo-Logistics application	MiniMo-Logistics	Smart, green and integrated transport	€50,000	http://minimo-logistics.com/
Prosperity through innovation and promotion of Sustainable Urban Mobility Plans	Prosperity	Smart, green and integrated transport	€24,872	https://cordis.europa.eu/project/id/690636
Demonstration synergies in combined natural and engineered processes for water treatment systems	Aquands'	Climate action, environment, resource efficiency	€13,912	http://www.aquandes-h2020.eu/Default.aspx?t=1593

LIFE Programme

No relevant project was identified.

INTERREG and other EU initiatives

INTERREG -A – Cross-border Programme

The SGP Region is eligible for two cross-border programmes: Interreg V-A Romania-Hungary and INTERREG-IPA CBC Hungary-Serbia. No relevant project was identified.

INTERREG-B – Transnational Programme

The SGP Region is eligible to participate in INTERREG Central Europe and in INTERREG Danube Area.

INTERREG Central Europe

Szegedi Közlekedési Kft. (the Public transport Company of Szeged) is project partner in the 'LOW CARB' Project.

INTERREG Danube Region

Two projects concern the SGP Region which however have no project partner from the Region:

- DARLINGe: <http://www.interreg-danube.eu/approved-projects/darlinge>
- Energy Barge : <http://www.interreg-danube.eu/approved-projects/energy-barge>

Interreg Europe

No relevant project was identified.

Urbact II

No relevant project was identified.

Espon 2020

No relevant project was identified.

4.2. Joint initiatives of the EU with International Financial Institutions

European Fund for Strategic Investments (EFSI)

No relevant project was identified.

European Local Energy Assistance (ELENA)

No relevant project was identified.

Joint European Support for Sustainable Investment in City Areas (JESSICA)

No relevant project was identified.

Sustainable Energy Finance Facility (SELF) of EBRD

No relevant project was identified.

Other low-carbon financing schemes identified

No relevant project was identified.

5. Evaluation

6. Conclusions and recommendations