



How an energy agency was established in Slovenia

✉ info@kssena.velenje.eu

☎ 03-8961-520

🌐 www.kssena.si

📍 Koroška 37a, SI-3320 Velenje, Slovenija

Energy agency of Savinjska, Šaleška and Koroška region (KSSENA)

Was established in 2006 within the framework of the Intelligent Energy Europe (IEE) programme, with its main founders:

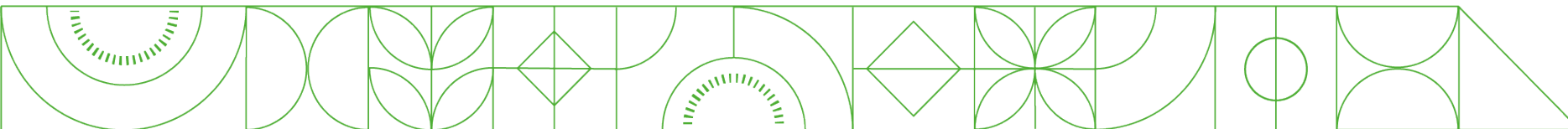
- Municipality of Velenje (MOV),
- Municipality of Celje (MOC),
- Municipality of Slovenj Gradec (MOSG),
- Public Utility Company Velenje (KPV),

for which it provides a wide range of services in the field of energy management and development of local communities.

The agency is highly experienced in the area of energy projects of public entities, and has been involved in almost all stages of the process including data acquisition, baseline development and benchmarking, design of investment measures (investment and financing, CBA analysis, GHG emission reduction, etc.) and technical support in the implementation, monitoring and evaluation phases.

It has extensive knowledge about different investment mechanisms such as Energy Service Contracting (Energy performance contracting, Energy supply contracting) and has comprehensive insight on which aspects must be considered in order to successfully implement and sustain energy saving projects.

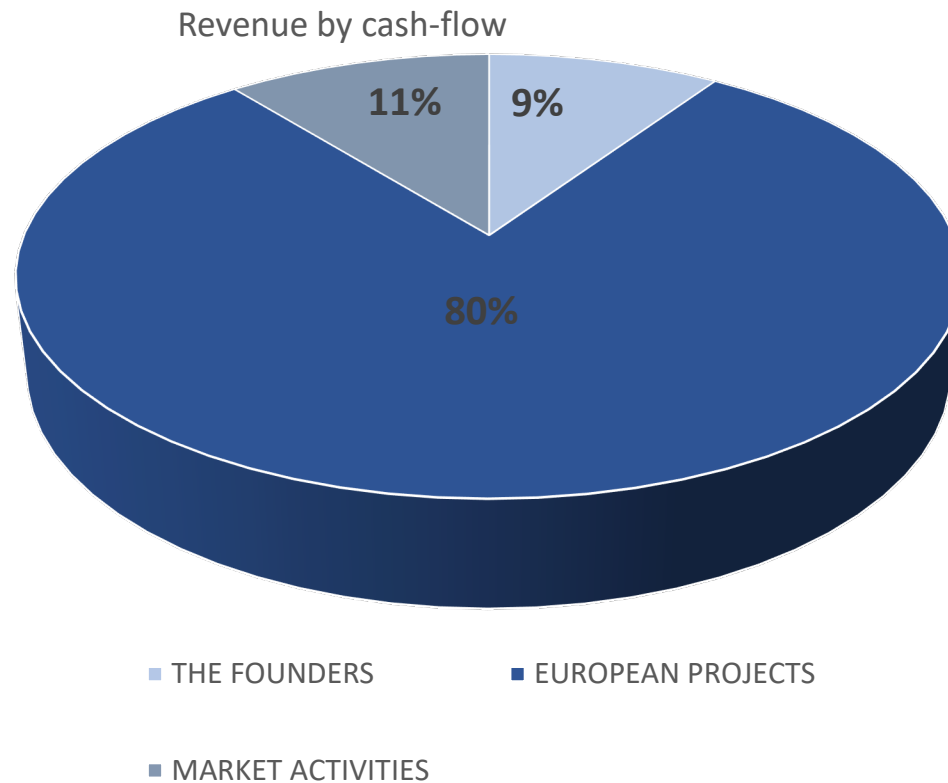
Number of employees: 15



- KSSENA is also accomplished in management and coordination of actions aimed at reducing energy consumption and costs in public buildings. This is primarily achieved by the establishment and maintenance of an EMIS (Energy Management Information System), in which most publicly owned buildings in Velenje, Celje and Slovenj Gradec. Municipalities are monitored in real time and partially refurbished, when funds are available, starting with their most critical points.
- One of our main activity is conduction of energy audits with detailed refurbishment measures.
- So far we have made more than 120 energy audits and 650 energy certificates.



Financing of KSSENA



Local energy concept

- 1st Local energy concept for Municipality of Velenje was made in 2009
- In 2010 we signed SEAP (Sustainable Energy Action Plan)
- 2nd Local energy concept was made in 2019

- We also have made Local energy concept for Municipality of Celje in and Slovenj Gradec,

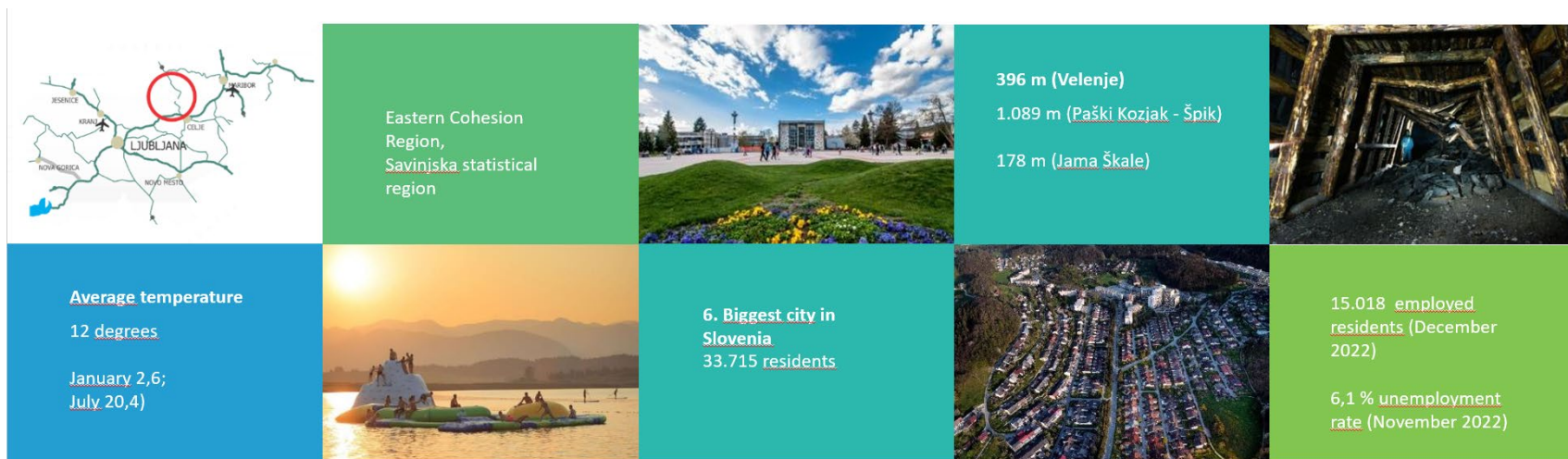


Municipality of Velenje

Velenje is the sixth largest city in Slovenia. Even though the city is known for its economy, tourism and small businesses have also been gaining ground recently.

There is an important restructuring challenge ahead of us which has been planned carefully. We believe we have a bright future ahead of us, a future full of positive energy, friendly people and successful projects.

The Municipality of Velenje was among climate-neutral and smart cities selected in the framework of the EU Mission project. Velenje was ranked among 100 European cities which will serve as experimental and innovation centers, and which will enable all cities in the EU to become climate neutral by 2050.



The key challenges



New image of the city/region



Construction of Highway through Velenje



5.000 new comparable and stable jobs



400 new apartments till 2027



Transformation of The District Heating System



Act on The Velenje Coal Mine Closure



Act on The Restructuring of Savinja-Šalek Region

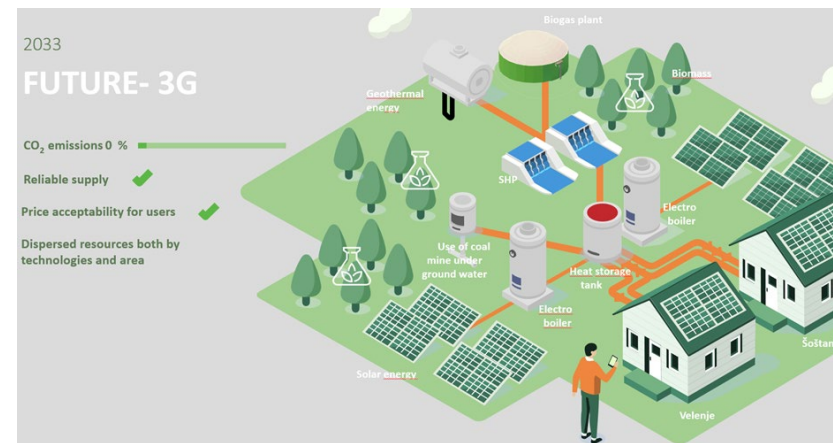
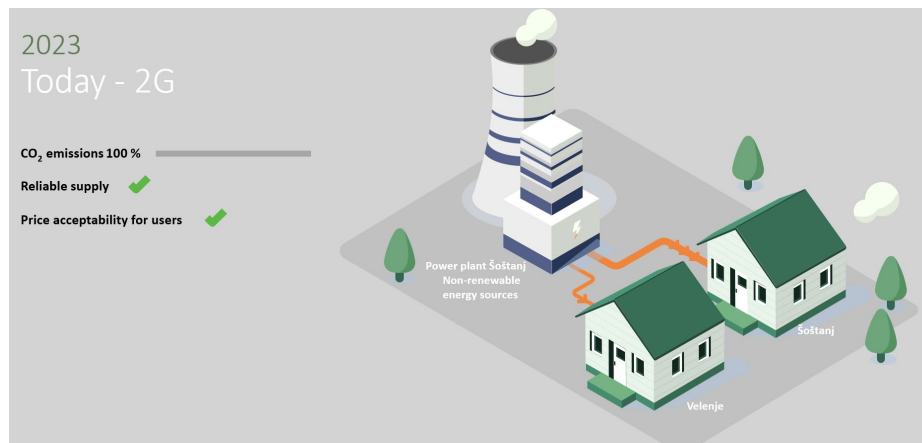


Energy efficiency of buildings



The main goals of the transformation

- Transition to a new district heating system to become more economically, environmentally, efficient, acceptable and completely independent of coal.
- Reliable heat supply from new renewable sources.
- Reduction of greenhouse gases.
- A safe, stable and independent source of energy.
- Affordable prices for electricity and heating for all residents of the Šaleška Valley and there by preventing or limiting energy poverty.



EE renovation of buildings in Velenje

Model for a 12-year payback period
15 mio € - Kohesion fund

	Building	Annual savings on heating			Investment	Indicators
		Annual savings on heating	Annual savings on electricity	Annual savings TOTAL	Investment	Easy payback period
		(€)	(€)	(€)	(€)	(years)
1	Center za vzgojo izobraževanje in usposabljanje	21.252	4.295	25.547	881.584	35
2	GS Fran Korun-Koželjski	27.320	5.634	32.954	2.789.183	85
3	Občinska stavba Velenje	17.717	7.888	25.604	2.196.048	86
4	OŠ Antona Aškerca	21.802	3.524	25.326	2.226.168	88
5	OŠ Gorica	38.222	5.727	43.949	2.289.043	52
6	OŠ Gustava Šiliha	29.896	3.663	33.559	1.712.905	51
7	OŠ Livada	31.343	1.742	33.085	2.429.083	73
8	OŠ Mihe Pintarja Toleda	35.356	3.124	38.480	2.215.812	58
9	OŠ Šalek	34.964	5.748	40.711	2.834.976	70
10	Vrtec Ciciban	9.743	454	10.197	1.063.340	104
11	Vrtec Vrtljak	14.759	3.738	18.497	1.496.874	81
	TOTAL			327.909	22.135.015	68

Energy reconstruction of Vila Bianca Velenje - before

Investment: € 2,135,493

European Regional Development Fund: € 1,213,499 (56.8%)

Own funds Velenje: € 921,994 (43.2%)



Energy reconstruction of Vila Bianca - after



PV power plant: Public Buildings in Velenje / Next steps

The Energy Agency KSENA has prepared an analysis for the Municipality of Velenje regarding the installation of solar power plants on public buildings owned by the municipality.

The findings of the study indicate that it is currently feasible to install solar power plants on 12 buildings, which are presented in the table below. The total installed capacity of these power plants amounts to 1.6 MW.

Solar power plants are already in place on five public buildings.

		MOČ SE (v kW)	Investicija (v EUR)
1	SE Gorica	132,00	165.000,00
2	OŠ Miha Pinter Toledo	44,00	55.000,00
3	OŠ ŠALEK	100,00	125.000,00
4	OŠ ANTONA ŠAKERCA	87,00	108.750,00
5	VRTEC TINKARA	99,00	123.750,00
6	ZDRAVSTVENI DOM	184,00	230.000,00
7	CVIU	44,00	55.000,00
8	GŠ Fran Korun Koželjski	84,00	105.000,00
9	GARAŽNA HIŠA GORICA	199,00	248.750,00
10	AVTOBUSNA POSTAJA VELENJE	442,00	552.500,00
11	SE Vinska Gora Šola	34,00	42.500,00
12	SE Vinska Gora Telovadnica	151,00	188.750,00
	Skupaj	1.600,00	2.000.000,00

Hydrogen future in the SAŠA region

AMBITION TO BECOME A HYDROGEN VALLEY

OBJECTIVE:

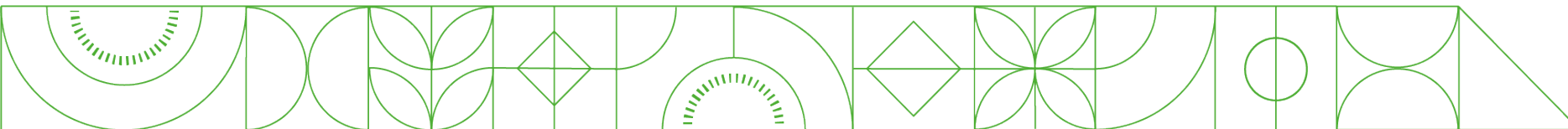
Develop and deploy a replicable, balanced and integrated hydrogen economy by facilitating investment into market-ready hydrogen technologies.

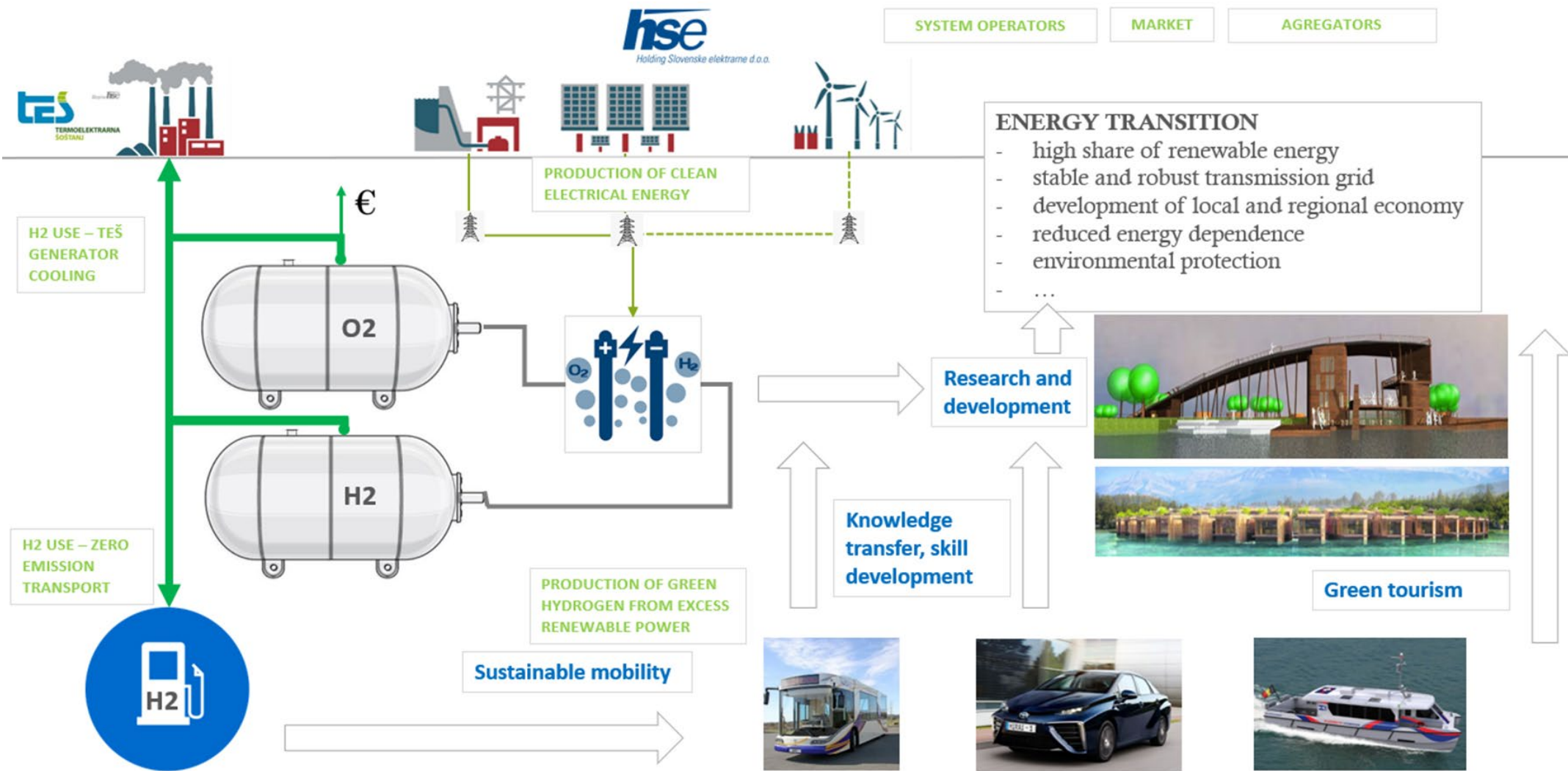
CONTEXT:

Make use of available local hydrogen sources and apply it in applications for facilitating the energy transition, starting with zero-emission public transport.

Build upon the deployment project to carry out coordination and support activities, targeted at raising awareness, work to include hydrogen technologies into the formal and informal educational curricula's (local /national elementary schools) as well as research and development programmes (local/national vocational high-schools and academia).

Establish the demonstration pilot as a development platform (transfer of knowledge) that can be used to replicate similar projects across SEE and other coal intensive regions in transition.





Main focus

The investment project is constituted from 3 key elements:

- 1.) The construction of a Hydrogen Refueling Station.
- 2.) Upgrade local hydrogen production facilities (electrolyzer, compressor units, storage, etc.).
- 3.) Modernization of the existing public transport service Lokal (currently operating EURO5 and EURO6 diesel-powered minibuses) with Fuel Cell Electric Vehicles.



Project procuRE

Pre-commercial Procurement of Breakthrough Solutions for 100% Renewable Energy Supply in Buildings

ProcuRE brings together 6 procurers from 6 countries, responsible for over 21,000 public buildings, to invest over €7 million in R&D to tackle their common challenge of achieving 100% Renewable Energy Supply (RES) in existing stock. Consortia bidding are expected to deliver a comprehensive package of tools enabling delivery across Europe and beyond of customised fullrenewable building renovation. The systemic packages comprise services from design to implementation, and day-to-day operation, and contracting/financing, ensuring that the building continues to perform as designed over the full life-cycle.

Programme: Horizon 2020

Duration: 42 months (start in December of 2020)

Project budget: 9,848,812,50 €

KSSENA's budget: 1,517,625,00 €

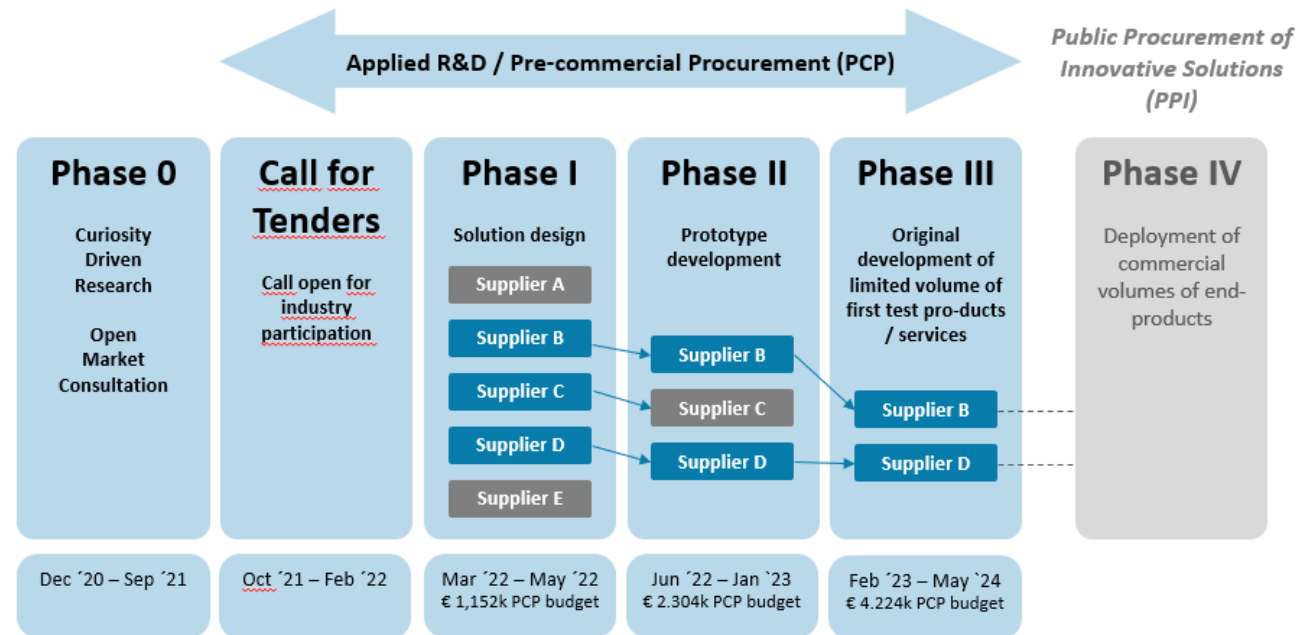


Project procuRE

Pre-commercial Procurement of Breakthrough Solutions for 100% Renewable Energy Supply in Buildings

PCPs follow a multi-staged process to select the most suitable and promising innovation; R&D services are funded at all stages.

PCP introduction – process:



Pilot facilities included in procuRE project

VELENJE, SLOVENIJA

- ▶ Primary school
- ▶ Envelope 20 years old
- ▶ Upgrades expected before Phase III ¹
- ▶ Space heating: oil + electric



BARCELONA, ŠPANIJA

- ▶ Offices + data centre
- ▶ 2010 upgrade to envelope (1850)
- ▶ Central heat pump with several splitters
- ▶ AC for data needs upgrade, monitoring installed since 2015



NUREMBERG, NEMČIJA

- ▶ Primary school + nursery
- ▶ Built 2015 to passive-house standards
- ▶ Natural gas condensing boiler (radiators)
- ▶ No RES; basic HVAC control system



ISTANBUL, TURČIJA

- ▶ Office + bakery school
- ▶ Built 2015
- ▶ Variable Refrigerant Flow system
- ▶ No RES or monitoring



VIA NOVA DE GAIA (PORTO), PORTUGALSKA

- ▶ Primary school + nursery
- ▶ Built 2014 to national standards
- ▶ Natural gas boiler, heat pump for cooling
- ▶ Small solar thermal; advanced control system for building



EILAT, IZRAEL

- ▶ Future: Office + Maker + Exhibition
- ▶ Old terminal and tower - Built 1960
- ▶ Upgrades expected before phase III ¹
- ▶ Central HVAC, local AC systems, chillers



Project procuRE

Pre-commercial Procurement of Breakthrough Solutions for 100% Renewable Energy Supply in Buildings

SELO project

We will achieve a sustainable and energy-efficient neighbourhood by:

- building highly energy-efficient residential buildings,
- creating an energy community, installing solar power plants on the roofs of the buildings, whose energy will be used by all residents, both for their own use and to charge their electric cars,
- designing a modern urban look that combines comfort, sustainability and technological advances for a better quality of life and a lower environmental impact,
- providing plenty of green spaces to provide a pleasant and intimate environment.



Project procuRE

Pre-commercial Procurement of Breakthrough Solutions for 100% Renewable Energy Supply in Buildings

Area where the amendments to the development plan will be made:



Contact point

Borzen's (Slovenian Power Market Operator) contact point for the promotion of the renewable energy guides the investor (public or private) in the procedures for obtaining the permits and other acts necessary for the construction, reconstruction, renovation or operation of a production installation and its connection to the grid, as well as in the procedures for support programmes.

In cooperation with BORZEN d.o.o. from Ljubljana, the local energy agencies grouped in the KLEAS consortium have been given the possibility to carry out the tasks of a support centre on the basis of Article 14 of the Contact Point Regulation.

Borzen will provide training to the Agency's staff to enable them to assist with such issues.

Borzen



FEDARENE



Energy agency KSSENA is a member of FEDARENE since 2018.

FEDARENE is the premier European network of regional and local organisations which implement, co-ordinate and facilitate energy and environment policies.

FEDARENE aims to empower energy agencies and regions towards a united and climate-neutral Europe. It acts as a bridge between the regional and European level, facilitating interregional cooperation, and adapting to the local particularities to ensure a just transition.

NALAS



Energy agency KSSENA is also a member of NALAS since 2008.

NALAS is a network of 14 associations that roughly represent 9,000 local authorities in South-East Europe, directly elected by the 80 million citizens of the region.

It was created in 2001 following the first Forum of Cities and Regions of South-East Europe, organised in November 2000 in Skopje.



National Consortium of Energy Agencies (LEAS Consortium)

With the support of the Intelligent Energy Europe (IEE) programme, local authorities and the Ministry of Environment and Spatial Planning, 7 Local Energy Agencies have been established.

In order to establish cooperation between the individual agencies, to place them in national and international frameworks, and to develop and implement common objectives in the local environment, in 2007 the agencies signed a contract establishing the National Consortium of Energy Agencies (LEAS Consortium).

The Consortium aims to implement the priorities set out, based on three programme pillars: energy management, energy database and information, promotion and dissemination of results.



Study tour in Velenje 2021 / Ukrainian delegation

- *Promotion of Energy Efficiency and Implementation of the EU Energy Efficiency Directive in Ukraine*
- *Support for structural change in Ukrainian Coal Regions*

An international conference entitled "Welcome, Future – with Green Deal to Life Quality" took place in Velenje on the 21st and 22nd of September 2021 to present examples of good practices of European cities and regions on the road out of coal.

Two of the participants of the delegation participated on the conference as speakers, presenting Ukrainian view on the future without coal as well as green reforms and actions that are and will be implemented by Ukrainian government (EE fund, Energy strategy, NEEAP ect.)



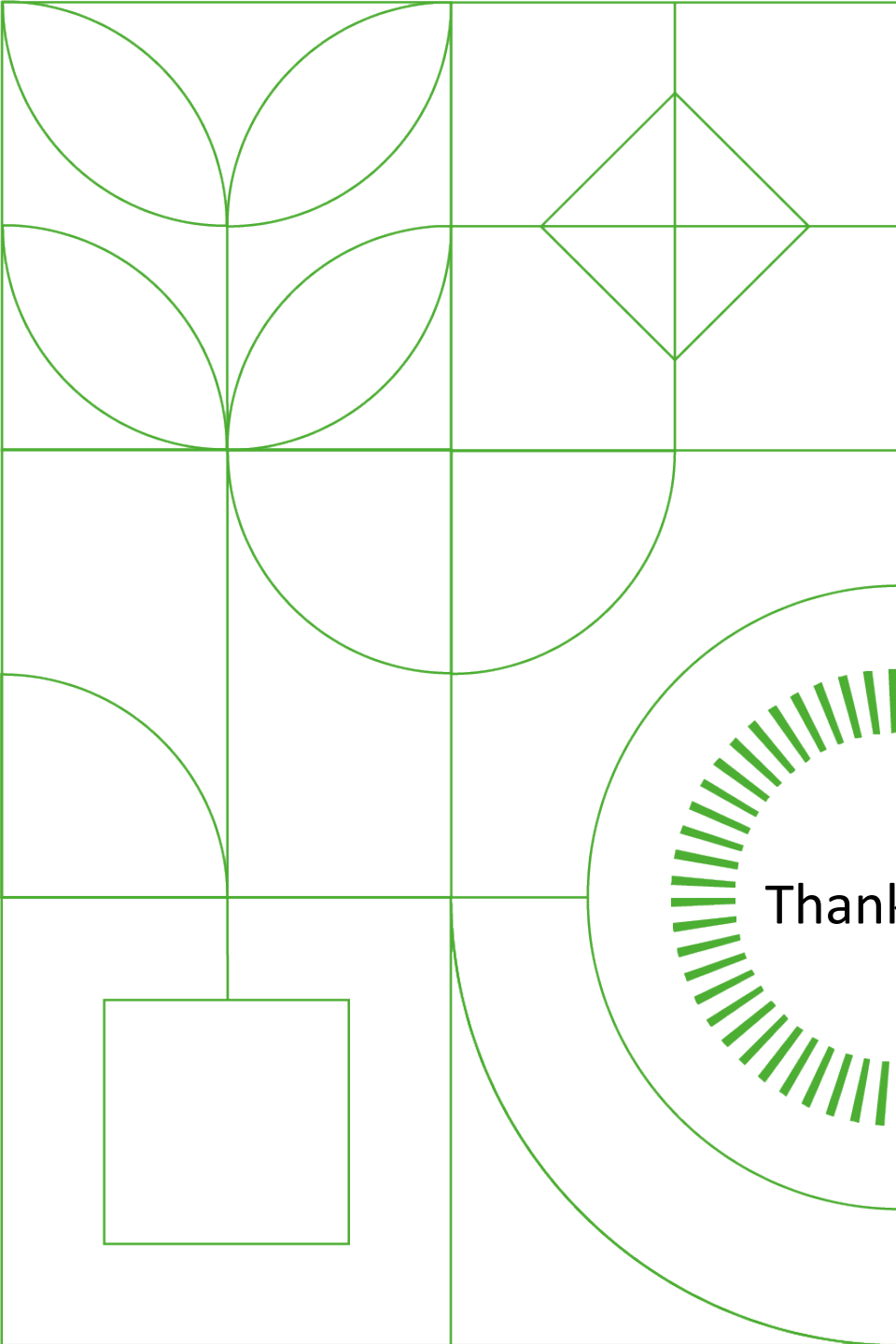
Study tour in Velenje 2021 / Ukrainian delegation

- *Promotion of Energy Efficiency and Implementation of the EU Energy Efficiency Directive in Ukraine*
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The delegation visited:

- Municipality of Hrastnik
- Tevel company
- Event 15 years of KSSENA
- Kindergarten and Primary School Trnovo Ljubljana
- Town hall of the capital city of Ljubljana





Thank you!



KSSENA

bostjan.krajnc@kssena.velenje.eu