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# EXPRESS Project partner meeting

## **Energy sufficiency of Međimurje County**

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# Međimurje County

- The northernmost part of Croatia
- The smallest Croatian county by size – it measures only 730km<sup>2</sup>
- High population density - 152 inh/km<sup>2</sup>
- Strategic location between Slovenia and Hungary
- 3 cities and 22 municipalities



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# Quality of life

- A pleasant, exciting and motivating living environment
- Excellent health care institutions (public and private)
- Support for local production and local food consumption
- High quality child care and educational institutions
- Natural landscapes



# Energy sector of Međimurje county

## Fun fact!

REDEA founded the first energy agency in Međimurje - MENE Ltd., which completed 15 years of work this year and is one of the most successful energy agencies in Croatia.

- Gas system capacities and networks – the most important part of natural gas production is related to the gas fields Duboka Podravina and Međimurje
- There are two major hydroelectric power plants along the southern border of the county, on the Drava River (HE Čakovec – 77,4MW; HE Dubrava – 79,8 MW)
- Geothermal region - specifically within the Pannonian basin (geothermal gradient is 0,049° C/km = 60% higher than the EU average)
- High increase of usage of RES measures including public buildings, private companies and farmers (Međimurje county: small grants for RES measures on households)



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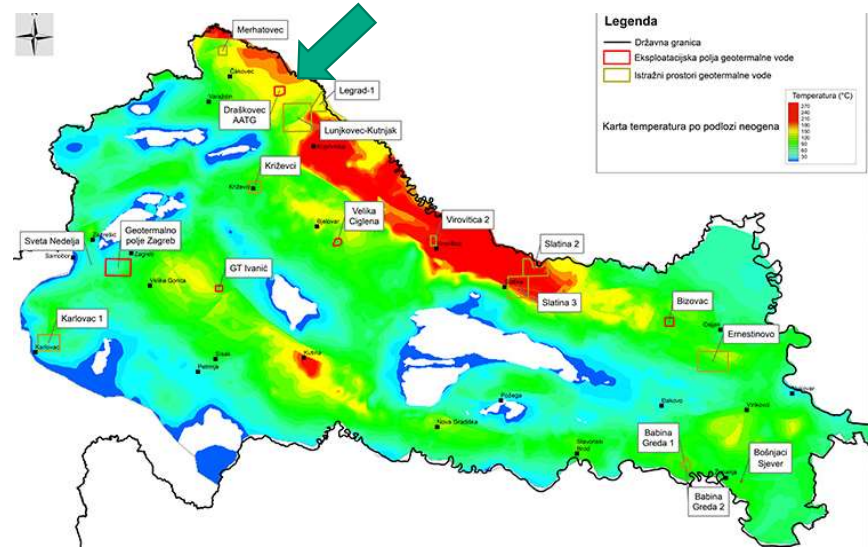


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Hydroelectric power plant Čakovec - 77,4MW



Map of geothermal exploitation fields within the Pannonian Basin



Solar power plant - 3 administrative buildings -20kW













Energy efficient renovation - Eprim decrease of 56,43%, CO2 56,98%

# REDEA's activities so far

- We held and participated at multiple internal and project partner meetings
- Started working on development of the regional context assesment analisys
- Mapped and identified the most compatible stakeholders for the EXPRESS project
- We participate as regional stakeholders in similiar project initiatives near us (project LEEWAY)
- Organized first stakeholder meeting in Čakovec and workshop on energy sufficiency



# First stakeholder meeting

Sectoral agencies	Research Institutes	Local and regional government	Private sector and civil society organization	Public sector
Međimurje Energy Agency Ltd. 	Energy Institute Hrvoje Požar 	Međimurje County 	Society for Sustainable Development Design (DOOR) 	HEP Group – national energy company 
Regional Energy North 		Town Prelog 	AAT Geothermae Ltd. 	Croatian Chamber of Economy 
				The Environmental Protection and Energy Efficiency Fund 

## • First stakeholder meeting

- Held on June 1st 2023 in Čakovec
- Presentation of the EXPRESS project and workshop on energy sufficiency of the North region of Croatia
- Active discussion







# Workshop - SWOT analysis

## STRENGTHS

- Energy strategy and strategic framework
- Solar energy potential
- Geothermal potential
- Options for co-financing
- Innovative solutions in SMEs
- RDI sector
- Hydroelectric power plants
- Biogas plants
- Regional energy agency
- Experts (multidisciplinary, experienced.)
- Good practices examples: EACC project, OSATINA group, Nexe (hydrogen valley)

## OPPORTUNITIES

- Capacity, knowledge and expertise increase
- Increasing public interest in the topic of energy
- Decentralization and expansion of competences of local self-government units
- Technological potential of hydrogen
- Geothermal potential
- The potential of secondary biomass
- Connecting with energy associations/communities
- NZEB (nearly zero-energy building)
- Bio-economy in tourism, agriculture

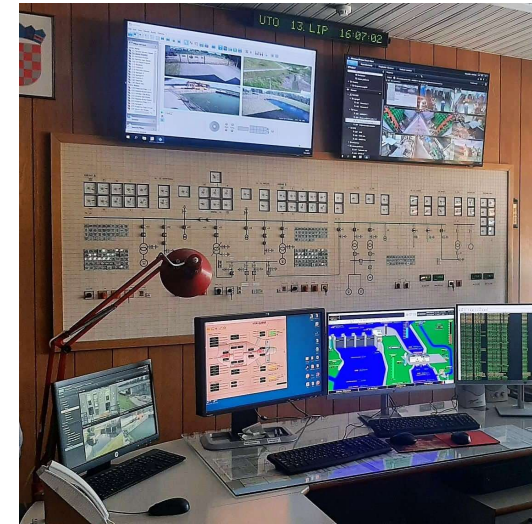
## WEAKNESSES

- Lack of inter-sectoral cooperation and poor coordination between institutions
- Inconsistent legislative framework
- Inconsistent legislative framework
- Legal and administrative obstacles
- Lack of public interest
- Aging of the population and attitude in regards to climate changes
- General understanding the concept of energy sufficiency
- Financial mechanisms
- Brain drain, outdated curriculum and lack of experts
- Underutilized potential of renewable energy sources
- Outdated electricity network

## THREATS

- Price volatility
- High research costs
- Frequent change of policies at the EU level
- Lack of energy storage technology
- Barriers for energy sharing

# Project LEEWAY



- PI REDEA participate as a regional stakeholder
- Interreg Europe project
- Twoday workshop on energy communities in Town Prelog. Study visit: Geothermal plant Draškovec, hydroelectric power plant Dubrava and solar plant Donja Dubrava

# Pilot investment proposal

- **The main emphasis were on:**

- 1. Energy communities

- Underdeveloped topic in Croatia (only 6 initiatives in Croatia)
- Serious step towards renewable energy !
- Direct involvement of citizens – civic energy – „self-dependency“
- Međimurje county as a pilot region (investment in future energy projects; infrastructure for energy production, storage and sharing; building a foundations for 1st E-community in Međimurje)

- 2. Small scale pilot investment

- Kinetic energy tiles ?

- 3. We are open for your suggestion and collaboration



# Thank you for your attention!

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