

Energy Roadmapping

Creating plans for low-carbon transition in
South-East Europe communities

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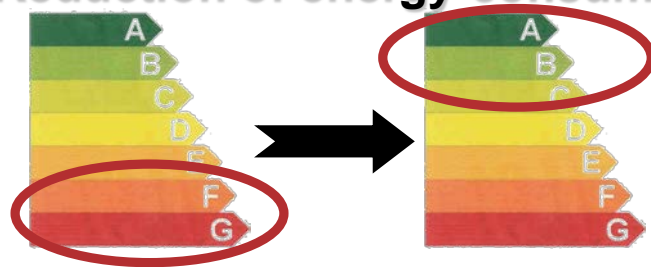


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Why develop an energy roadmap?

- *A Roadmap is a strategic plan that lays out the steps a community/municipality/region will take to achieve specific outcomes and goals.*
- **Lots of opportunities and benefits expected** (from different angles)

Reduction of energy consumption



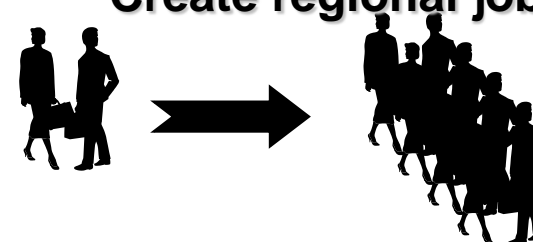
Reduction of GHG-emissions



Use local resources



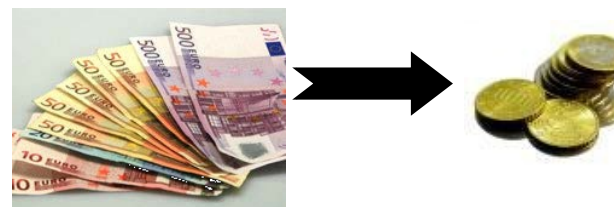
Create regional jobs



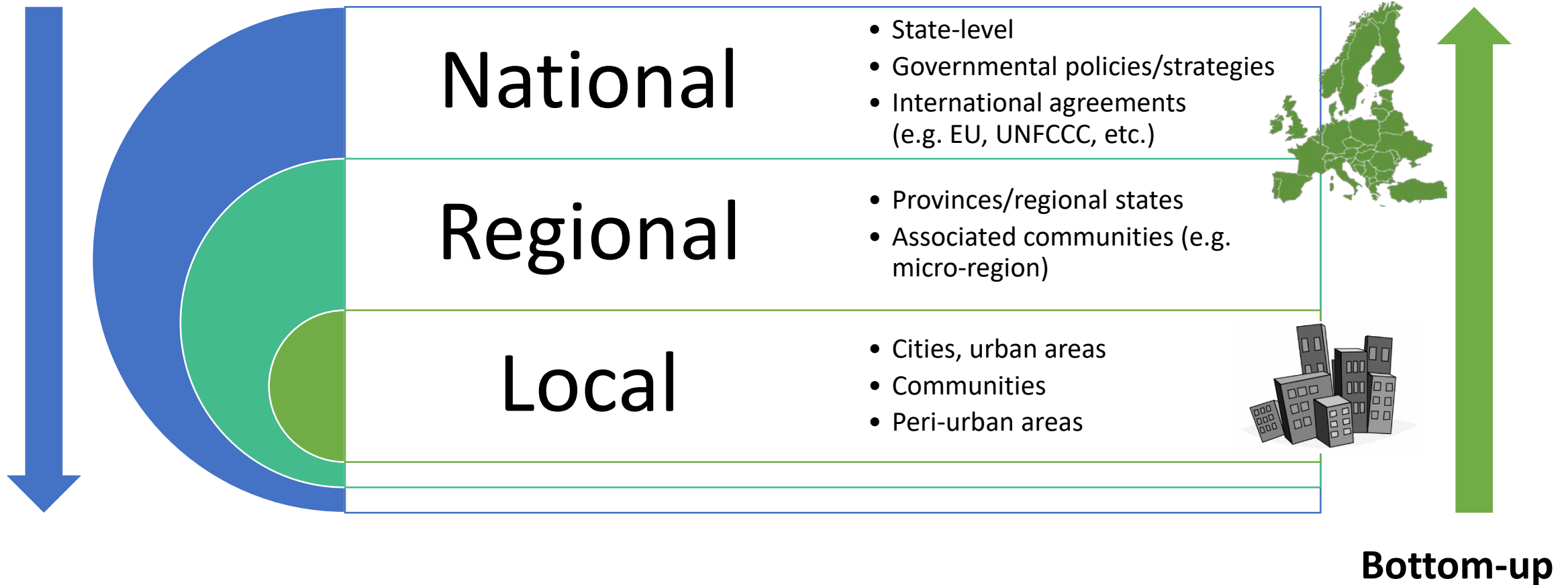
Energy autarky and security



Reduction of energy costs



Top-down



Bottom-up

Baseline

- Analysis of present energy status (energy and emission balances for different sectors)
- Identification of potentials, challenges and barriers

Vision

- Stating the development goal of the region / municipality / organisation
- Aim at development scenarios beyond business as usual

Roadmap

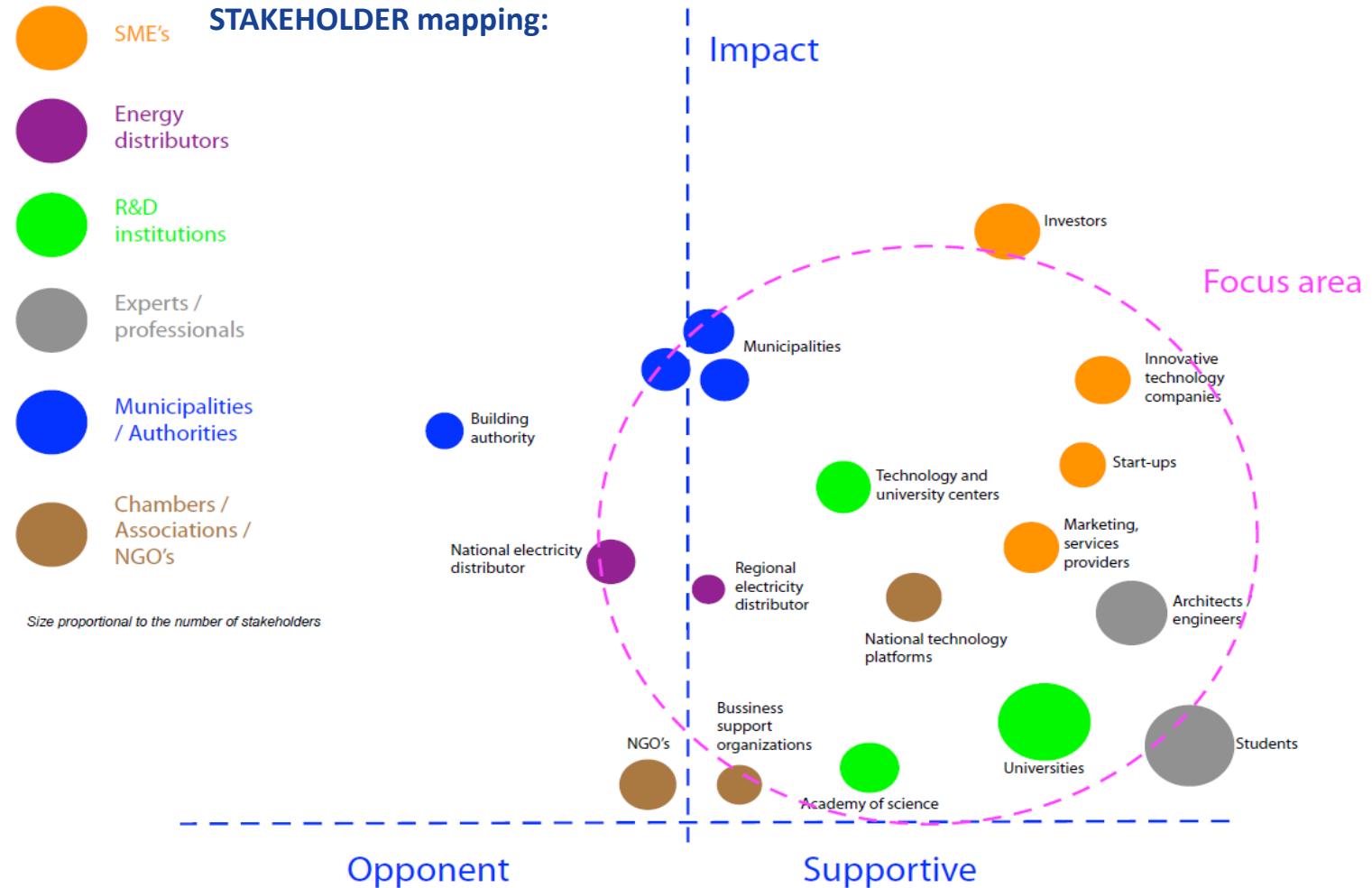
- Identify priority areas for reaching the vision
- Plot development scenarios and identify leverage points and required actions

Action Plans

- Concrete measures
- Answering what, who, how and when

Who are the stakeholders?

- How much do they support the Energy Roadmap process?
- Are they supportive? Who are the opponents?
- How can we make sure to have „everybody relevant“ on board?

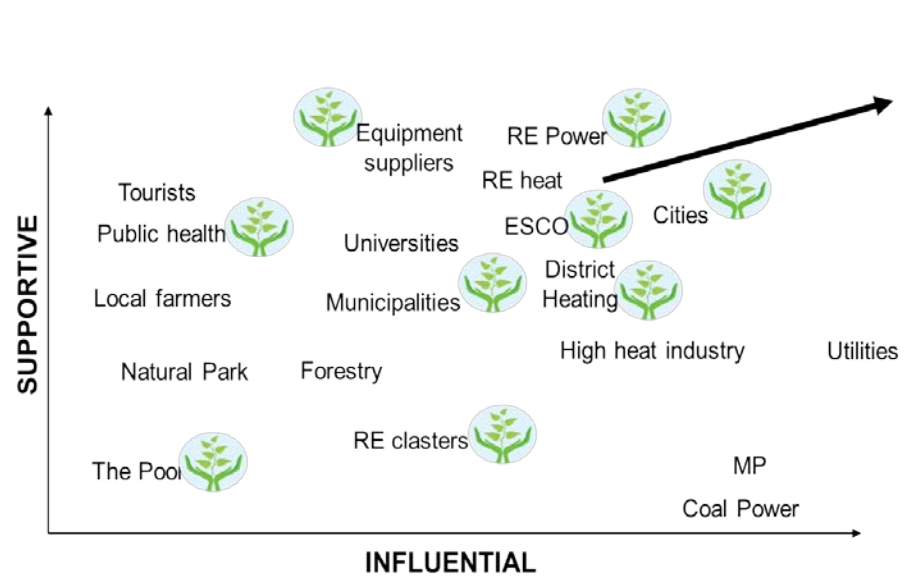


- Success story
Energy transition in „Coal County”
Borsod-Abauj-Zemplen and Heves – Hungary (HU)
- PANEL2050 has built new partnership based on shared interest

Stakeholder analysis
Power mapping

Engagement

Partnership
Pilot measures



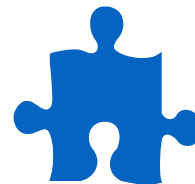
Insulation
material producers

Boiler
producers

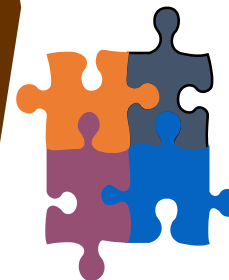


District heating
companies

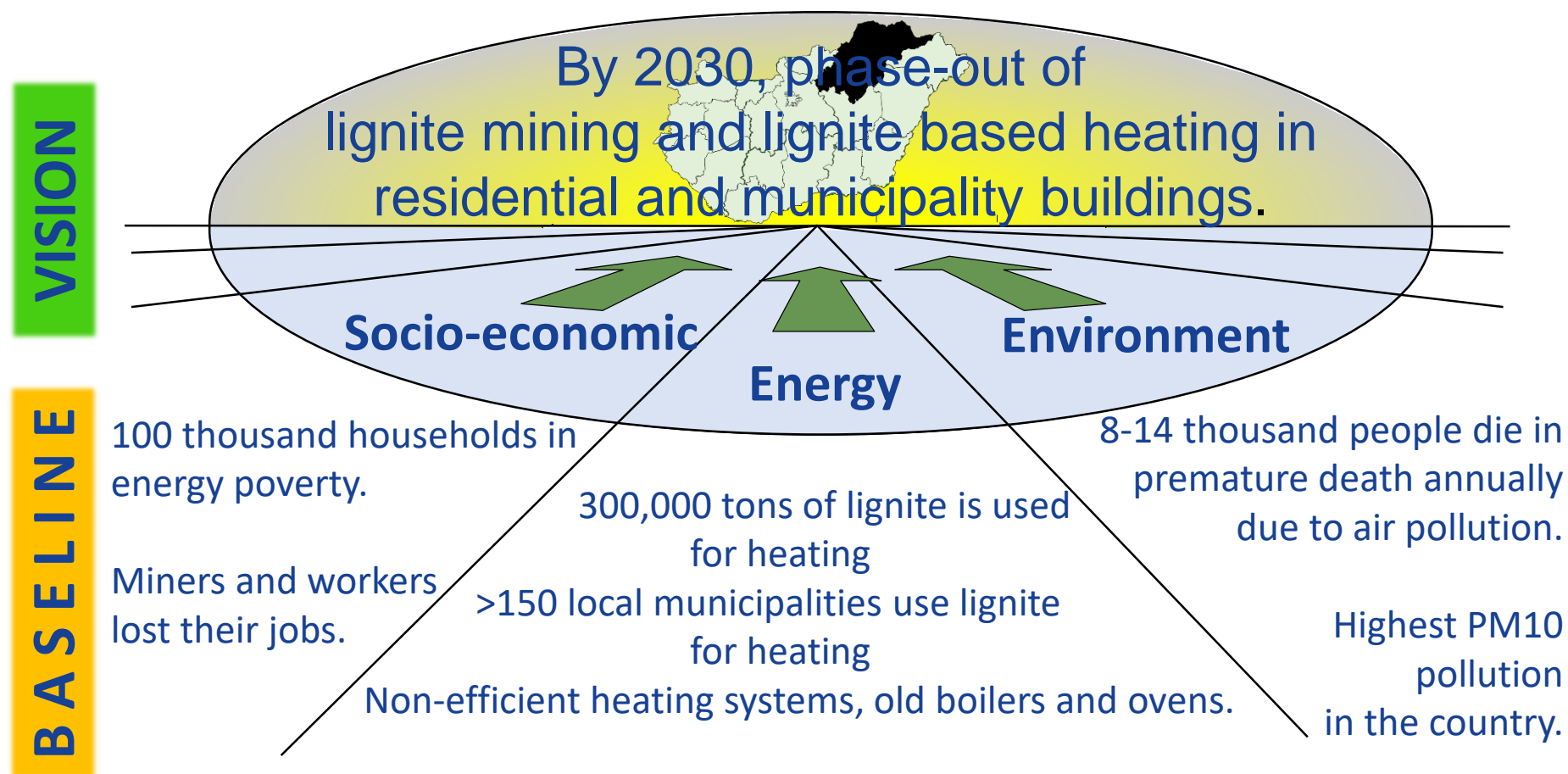
Local
municipalities

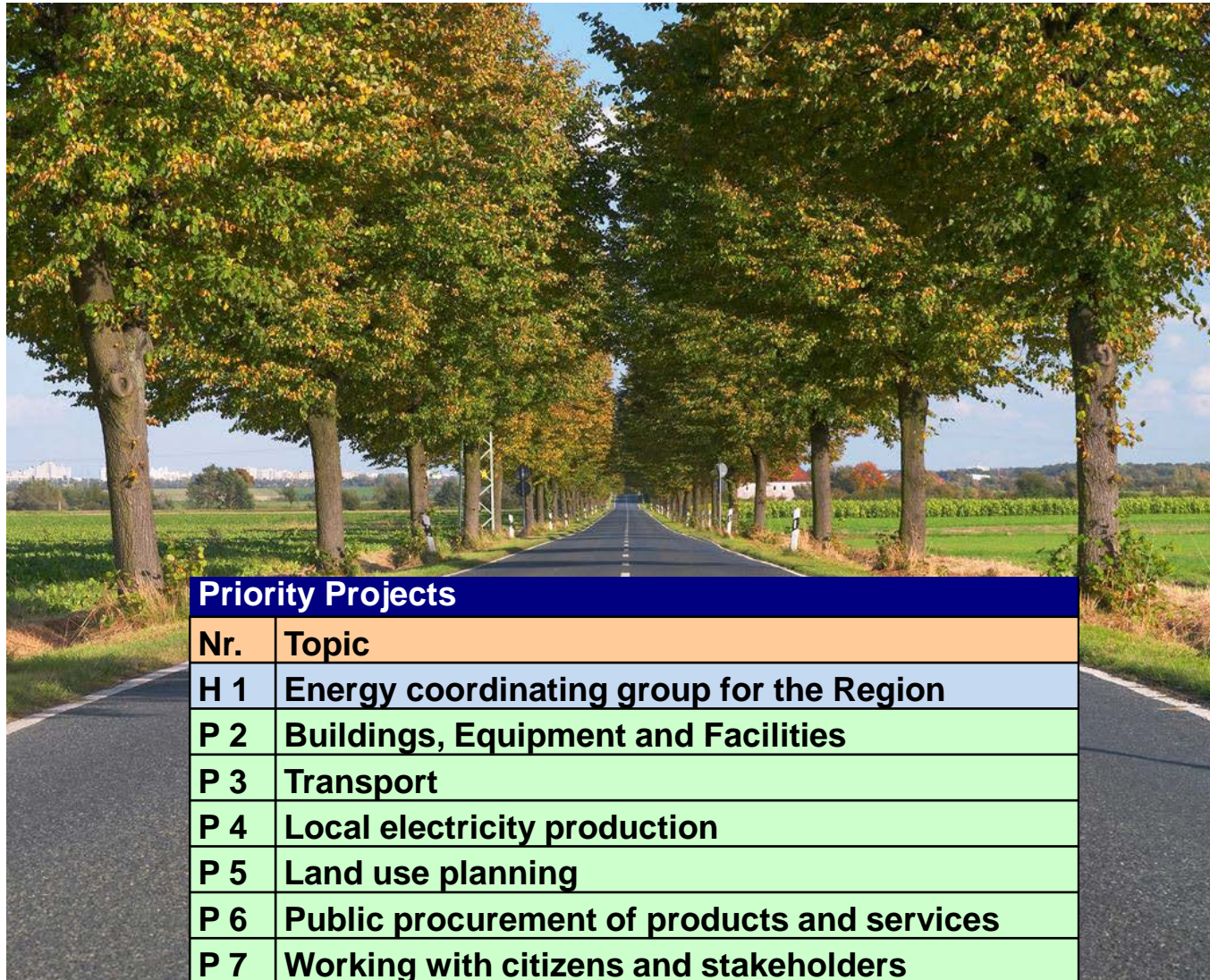


- Insulation
- Heating system retrofit
- Energy management plan



- for the region Borsod-Abaúj-Zemplén and Heves – Hungary (HU)





Priority Projects	
Nr.	Topic
H 1	Energy coordinating group for the Region
P 2	Buildings, Equipment and Facilities
P 3	Transport
P 4	Local electricity production
P 5	Land use planning
P 6	Public procurement of products and services
P 7	Working with citizens and stakeholders

- Priority Sectors covered in the Roadmap

Buildings, equipment & facilities	Transport	Local electricity production	Land use planning	Public procurement of products and services	Working with citizens and stakeholders
<p>Introduction of solar thermal facilities in sports centers and municipal public buildings with high hot sanitary water demand</p> <p>Energy audit of all public buildings</p> <p>Introduction of LED technology in conventional holiday lighting, public lighting and traffic lights</p> <p>Installation of presence detector systems in common spaces</p> <p>Installation of high efficiency lighting technology in future city council buildings</p> <p>Energy saving measures in fountains and park watering systems</p> <p>Elaboration of an internal regulation on energy efficiency of the City Council</p> <p>Installation of water saving devices in the points of consumption of hot sanitary water</p> <p>Introduction of heat recovery in HVAC systems of public buildings with high power installed</p> <p>Green Commerces Certification Program; shops, restaurants, hotels, shopping centers</p>	<p>Progressive renovation of the City Council fleet by electric and hybrid vehicles</p> <p>Ecodriving courses for City Council staff</p> <p>Tramway Rabat-Sale</p> <p>Execution of a Sustainable Mobility Urban Plan</p> <p>New taxis only hybrid, electric or with alternative fuels</p> <p>Development of a biking system</p> <p>Cycling lanes construction</p> <p>Tax reduction for hybrid, electric or high efficiency vehicles</p>	<p>Installation of solar photovoltaic plants on roofs of public building</p> <p>Installation of internal combustion engines for the generation of electricity from biogas in the waster treatment plant (plant Oulja & Akreuch landfill).</p>	<p>By-law on energy efficient new buildings</p> <p>Solar thermal by-law for new buildings</p> <p>Plantation of trees in parks, gardens and public land</p> <p>Maintenance of agriculture and forest land protected against urban development</p> <p>Execution of an Urban Cycling Master PAn</p>	<p>Introduction of energy efficiency criteria in City Council Tenders for services and infrastructure</p> <p>Requirement of solar thermal energy in all new city council facilities with hot sanitary water demand</p>	<p>Creation of staff allocated for SEAP development and energy saving actions</p> <p>20% emissions reduction commitment for citizens</p> <p>Bicycle working group with stakeholders</p> <p>Mobility working group with stakeholders</p> <p>Energy comity with stakeholders</p> <p>Car pooling program</p> <p>Awareness campaigns for energy saving, ecodriving, promotion of renewable energy, use of sustainable mobility modes</p> <p>Green School Award Programme</p> <p>Workshops on energy saving at home</p> <p>Ecodriving courses for citizen</p> <p>Programme for the use of bicycle among students</p> <p>Energy Saving Family Award</p> <p>Energy Efficiency Commerce Award</p> <p>Cycle to work programme</p> <p>Actions and conferences programmed within the SURE project</p>

An “**implementation programme**” – at least with a **set of defined actions** all aimed at the achievement of the roadmap goals.

Essential components:

- **Concrete actions** and a **prioritization** for their implementation
- with “**SMART**” targets and target indicators
- **Responsibilities** and definition of working groups
- A sufficient **time frame** for implementation and monitoring
- A plan for sufficient **budget** and specification of funding sources
- Don't forget about the **monitoring** and plan additional resources





Action Plan 1: Building rehabilitation programme

- Activities: assessment, improved design, tendering, award, implementation
- Responsible: Building management authority XYZ
- Implementation plan: 2017-2022
- Financing: Municipality x%, state grant x%, private sources x%
- Indicators: XX MWh thermal savings, XX MWh electric savings, XX t CO2



Action Plan 2: Electricity savings in homes

- Activities: Distribute energy meters, promote EE appliances, implement competition
- Responsible: Local utility, NGO, municipality support
- Implementation Plan: 2017-2018
- Financing: Municipality x%, utilities x%
- Indicators: XX MWh electric savings, XX t CO2



Action Plan 3: Renewable Energy Investments

- Activities: bioenergy sources assessment, development of supply chains with local farmers, pilot installation, roll-out program for single-family houses/small businesses
- Responsible: Biomass association, Chamber of Agricult, Municipality, NGO
- Implementation Plan: 2018-2020
- Financing: national grants x%, local chamber x%, soft loans x%
- Indicators: XX projects implemented, XX MW new capacity installed, XX MWh of renewable heat provided from the region

etc.





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THE LOW-CARBON COMMUNITY
IN CENTRAL AND
EASTERN EUROPE**

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