



LIFE IP North-HU-Trans

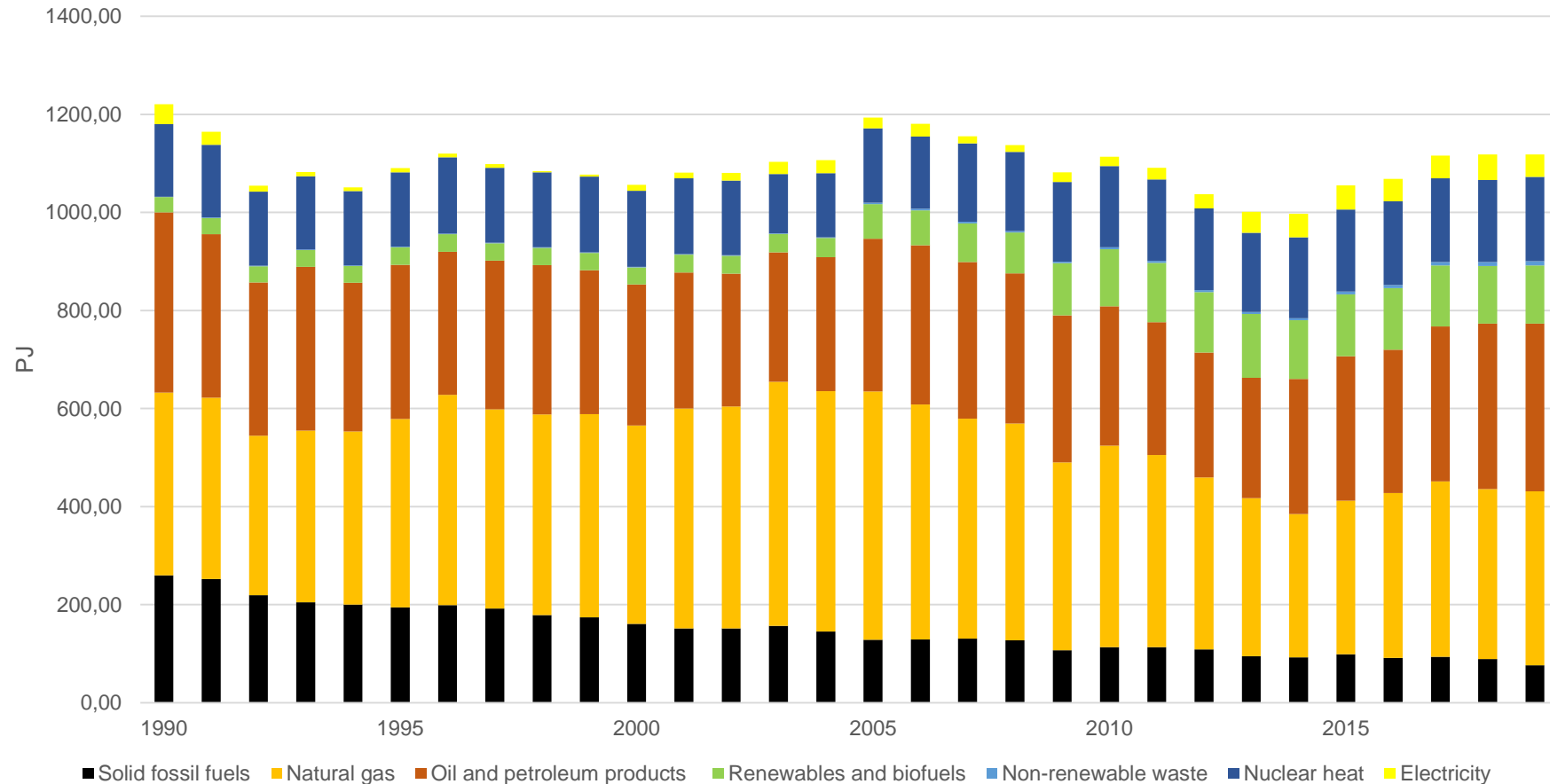
LIFE19 IPC/HU/000009

LIFE-IP North-HU-Trans - North Hungary in Transition – Project actions

*József Lezsák, leader of the NECP wg., Ministry for Innovation and Technology
WBGC CARI workshop
26 January 2022*

**AZ IGAZSÁGOS
ÁTMENETÉRT**

Gross inland energy use trend and mix in Hungary



In 2019:

- 6,8% solid fuels
- 3.8% lignite

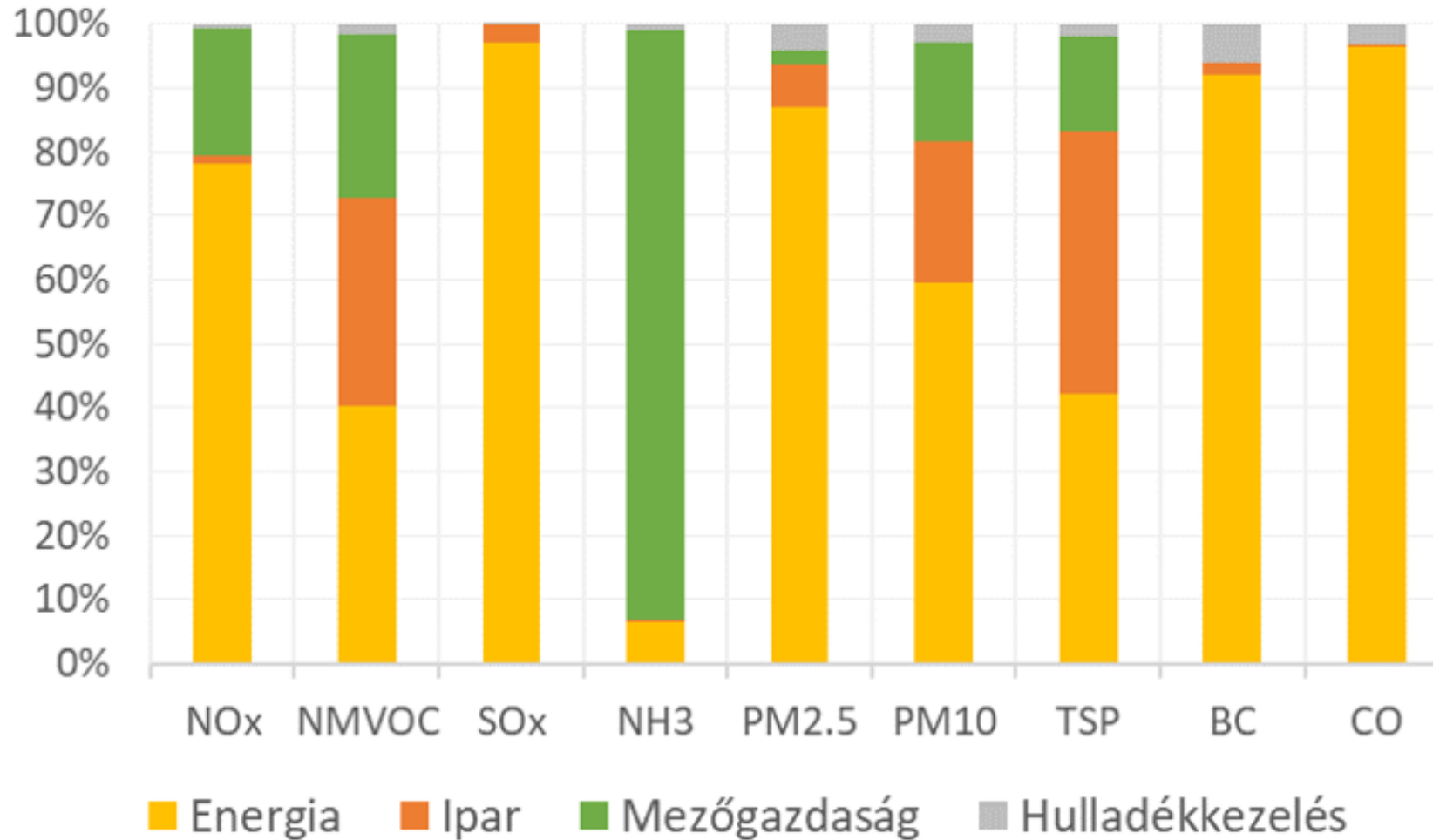
12% of the produced electricity comes from solid fossil fuels

Most of the lignite is used for electricity production and a smaller amount in residential use

Source: Eurostat



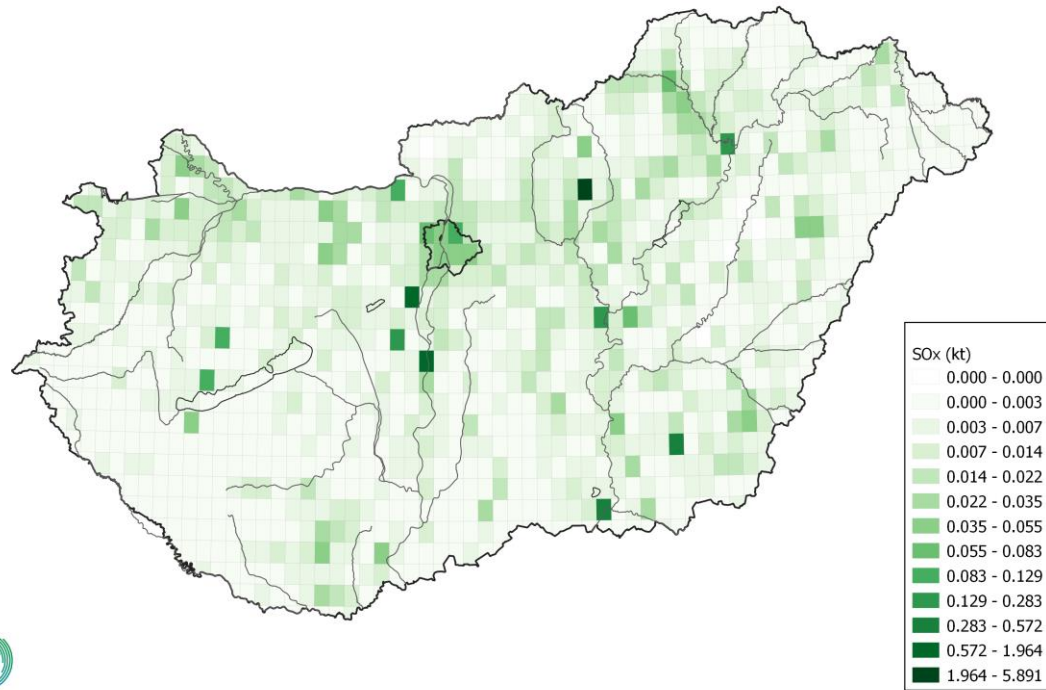
Air pollution by sectors



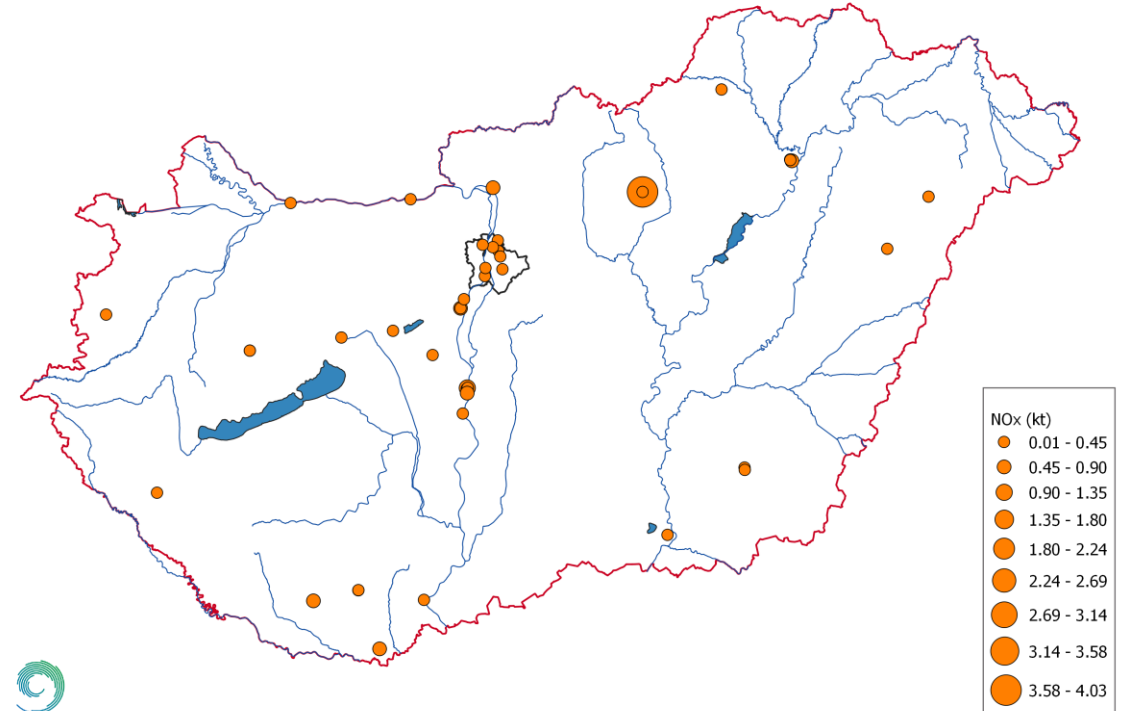
Source: Hungarian Meteorological Service

Air pollution of the Mátra Power Plant

Sulfur oxides (SO_x) - national emission

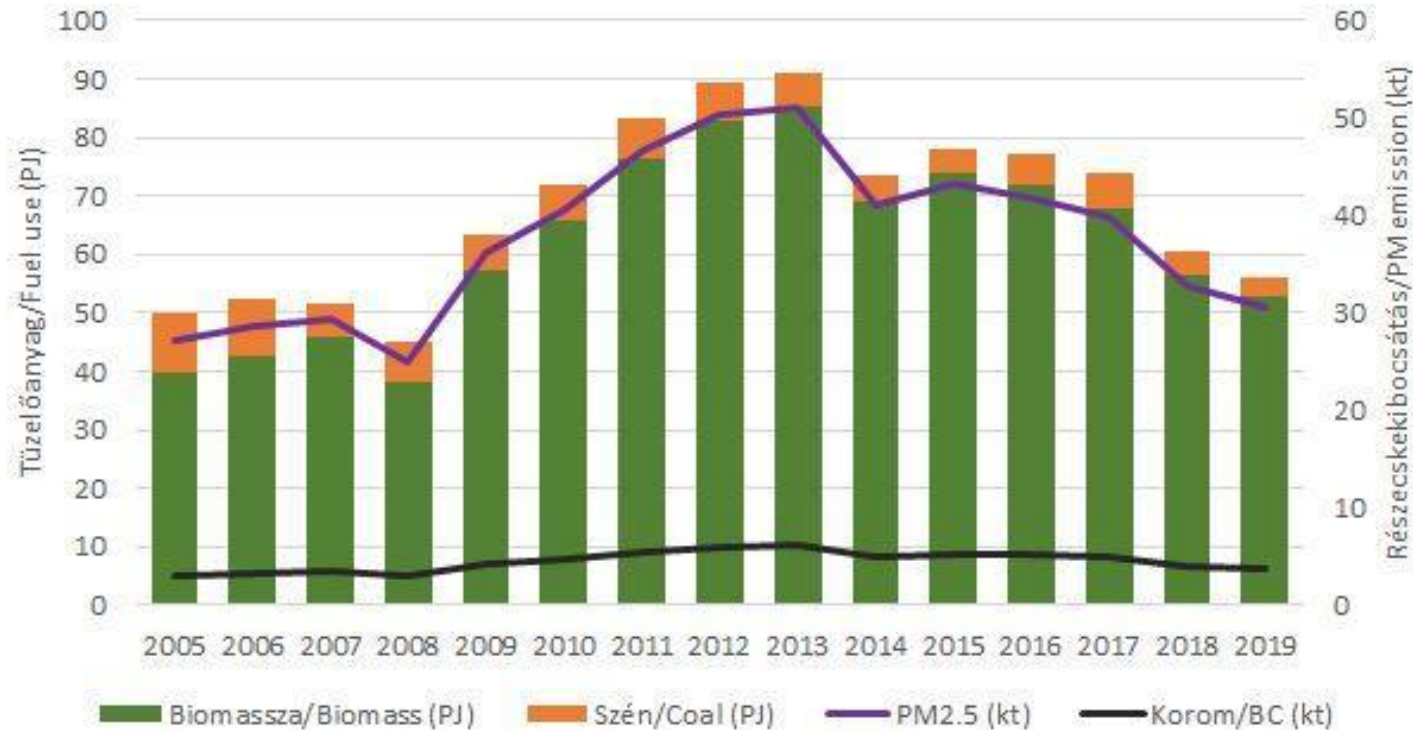


NO_x - large point sources (LPS)



	Share in national emission
NO _x	4%
SO _x	33%
Hg	24%
CO ₂	9,2%

Air pollution of households



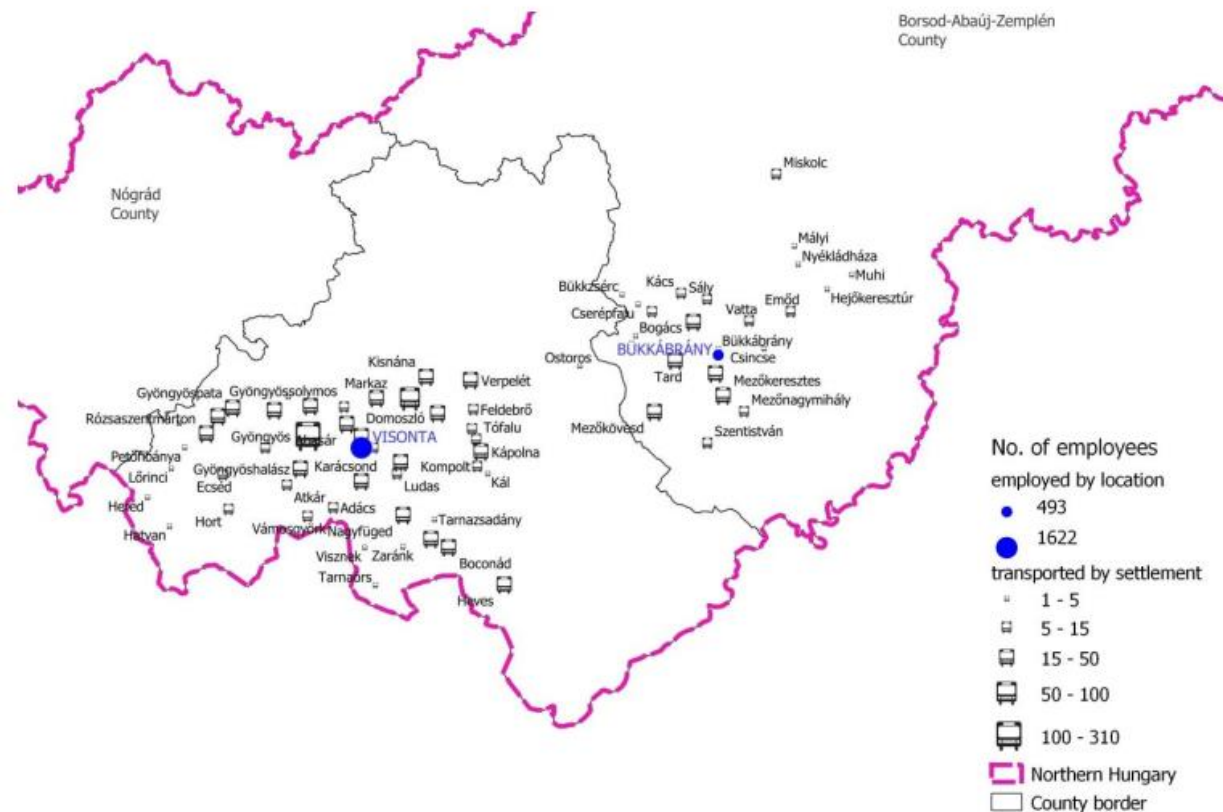
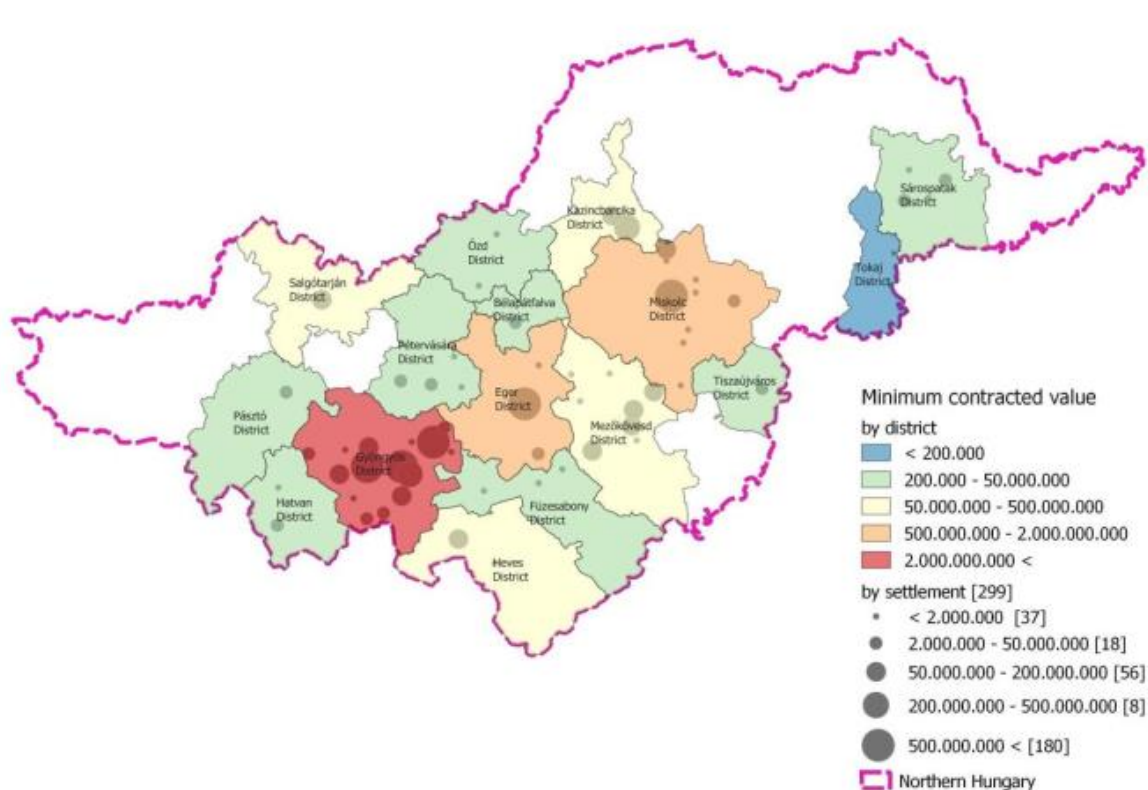
- Solid fuel use at households is responsible for most of the particulate matter pollution (PM_{2.5}:77%; PM₁₀:50%; BC: 64%)
- 3% of households use coal
- Most combustion installations are decades old

Targets and goals of Hungary's National Energy and Climate Plan

Energy union dimensions	Indicators	2030 targets
Decarbonisation	GHG emission reduction vs. 1990	min. -40%
	GHG intensity reduction of GDP	Continuously reduce
	A non-ETS emission reduction compared to 2005	min. -7%
	Share of renewables in gross final energy consumption	min. 21%
Energy efficiency	Final energy consumption	max. 785 PJ An additional energy use should be covered by renewables between 2030 and 2040

- Goals related to coal-phase out:
 - Transformation of the lignite-fired Mátra Power Plant based on low-carbon technologies.
 - Replacing residential heating with clean energy and reducing energy consumption.
 - Particular attention should be paid to the diversification of the region's economy and labor market and to a fair transition.

Economic and social importance of the power plant



- Nearly 1,000 supply chain companies have contracts with MPP
- Heat for 6 industrial companies
- Benefits for other industries

- Business tax for 11 municipalities
- 2,100 direct jobs in one power plant and two mines (average age 50 years)
- 4,700 indirect jobs
- Provides lignite for ~25.000 households

Vision of the Mátra Power Plant



CCGT

- Natural gas fired, high efficiency, low CO₂ intensity, flexibly controlled CCGT unit.
- 500-600 MWe capacity
- It may also be suitable for burning 30-50% mixed hydrogen



Biomass/RDF

- Further use of currently burned annual biomass / RDF fuel.
- Biomass / RDF (~ 38 MWe) block construction.
- It contributes to the achievement of national waste strategic goals.
- Continuing to use biomass / RDF on site is a national waste strategy task.



PV

- Establishment of PV power plants in the Visonta and Bükkábrányi Mines.
- In order to increase renewable capacities by 2x100 MWe and to reduce reclamation costs.



CCS/CCU pilot

- Implementation of a pilot project using CCUS technology.

Source: MVM Zrt.

Project actions

- Stakeholder analysis
- *Sustainable Transition Governance Model*
 - Establishment of the Coal Commission
- Capacity building
- Impact assessment for electricity and heating sector & renewable energy potential assessment
- Socio-economic impact assessment
 - Economic situation of the region;
 - Contribution of coal industry to economic activity of the region;
 - Description of the value chain of the MPP, exploring the effect of transition;
 - Workforce profile of the MPP;
 - Identified growing / developing sectors and activities in the region;
 - Report on evaluation of contribution of MPP to the financial operation of local municipalities;

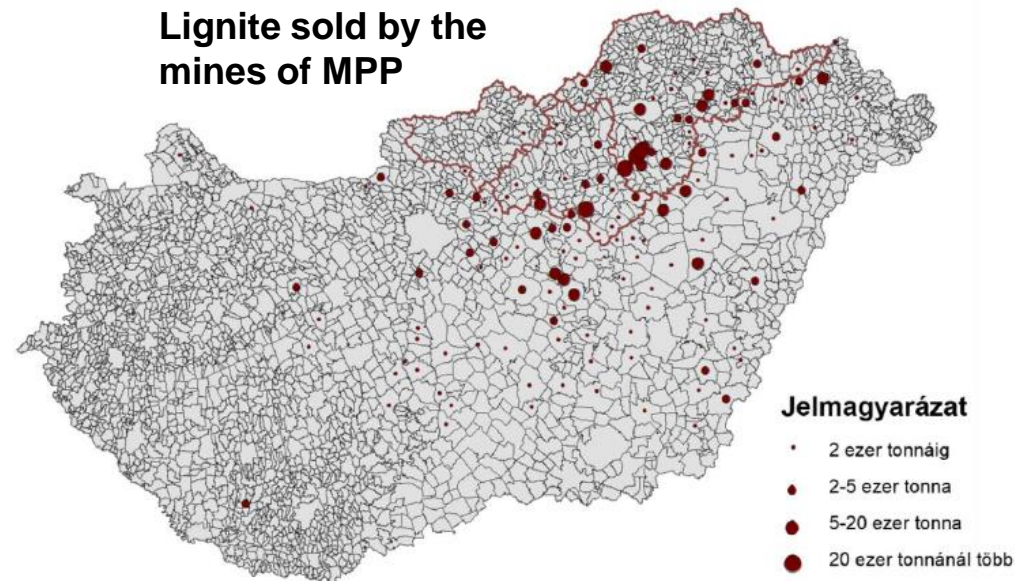
Project actions

- Ex-ante environmental impact assessment
 - Air quality, geological hazards, ecosystems
- Recultivation strategy for the sites of the mines
- Phase-out roadmap for the lignite blocks
- Installation of prototype projects on the premises of Mátra Power Plant
- Providing just transition for the workers of the power plant
 - Building a database
 - Outplacement services
 - Training plans
 - Follow - up
- Mentoring for related companies
- Studies on the future of carbon neutral energy production on the site of the power plant
- Identification of complementary funds
- Monitoring of results

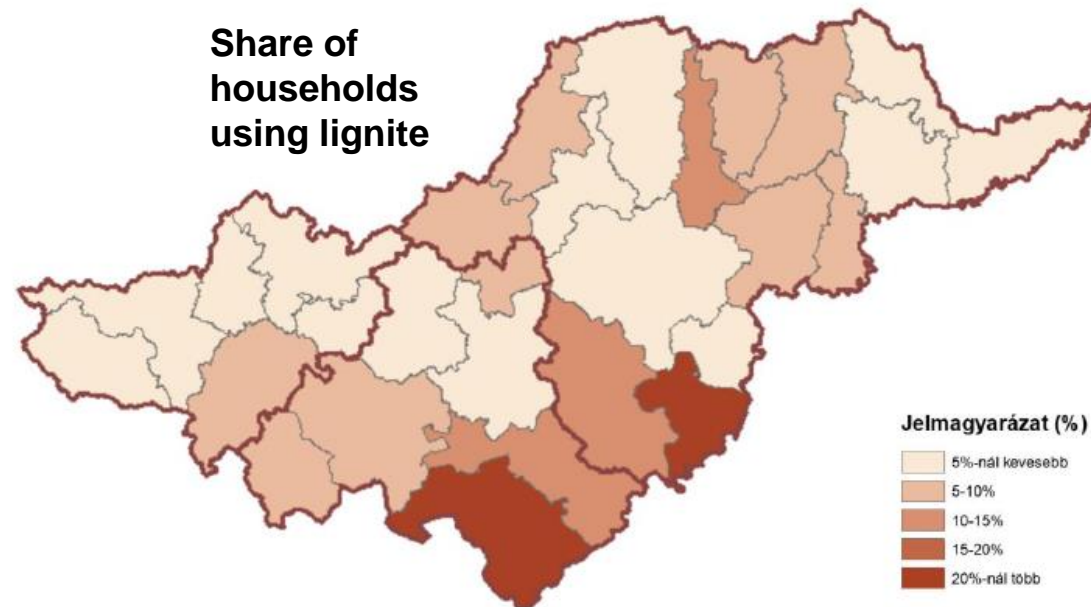
Project actions

- The two mines provide fuel for households as well
- Households in the area that are sensitive to the energy prices
- Evaluation of energy poverty and lignite use
- Energy community and residential decarbonisation pilot projects

Lignite sold by the mines of MPP

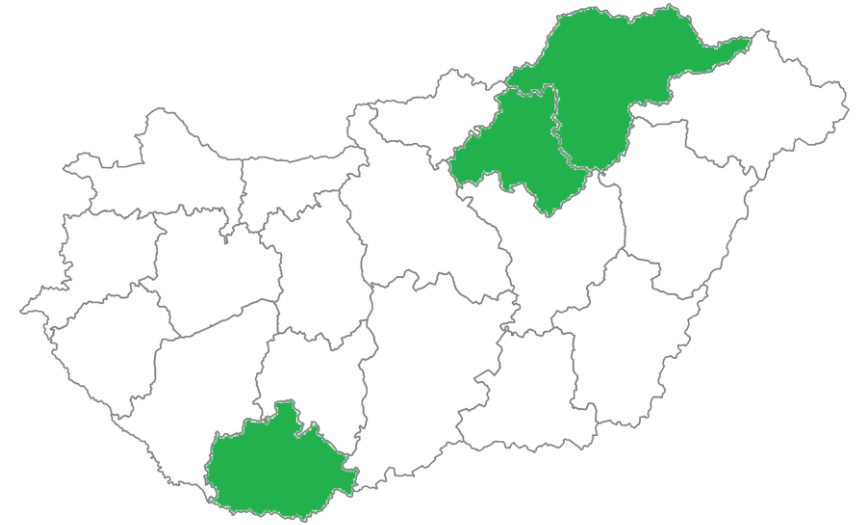


Share of households using lignite



Just transition plans

- **Just transition mechanism:** to ensure that the transition towards a climate-neutral economy happens in a fair way, leaving no one behind. It provides targeted support to help mobilise around €55 billion over the period 2021-2027 in the most affected regions, to alleviate the socio-economic impact of the transition.
- **Eligible counties in Hungary:** Heves county (in Northern Hungary), Borsod-Abaúj-Zemplén county (in Northern Hungary), and Baranya county (in Southern Transdanubia)
- Just transition plans are created for every eligible county
- Our LIFE project provides inputs for the creation of the plans
- The plans are not finalised yet
- Ongoing consultation with the European Commission



Just transition plans

Preliminary list of measures in the just transition plans:

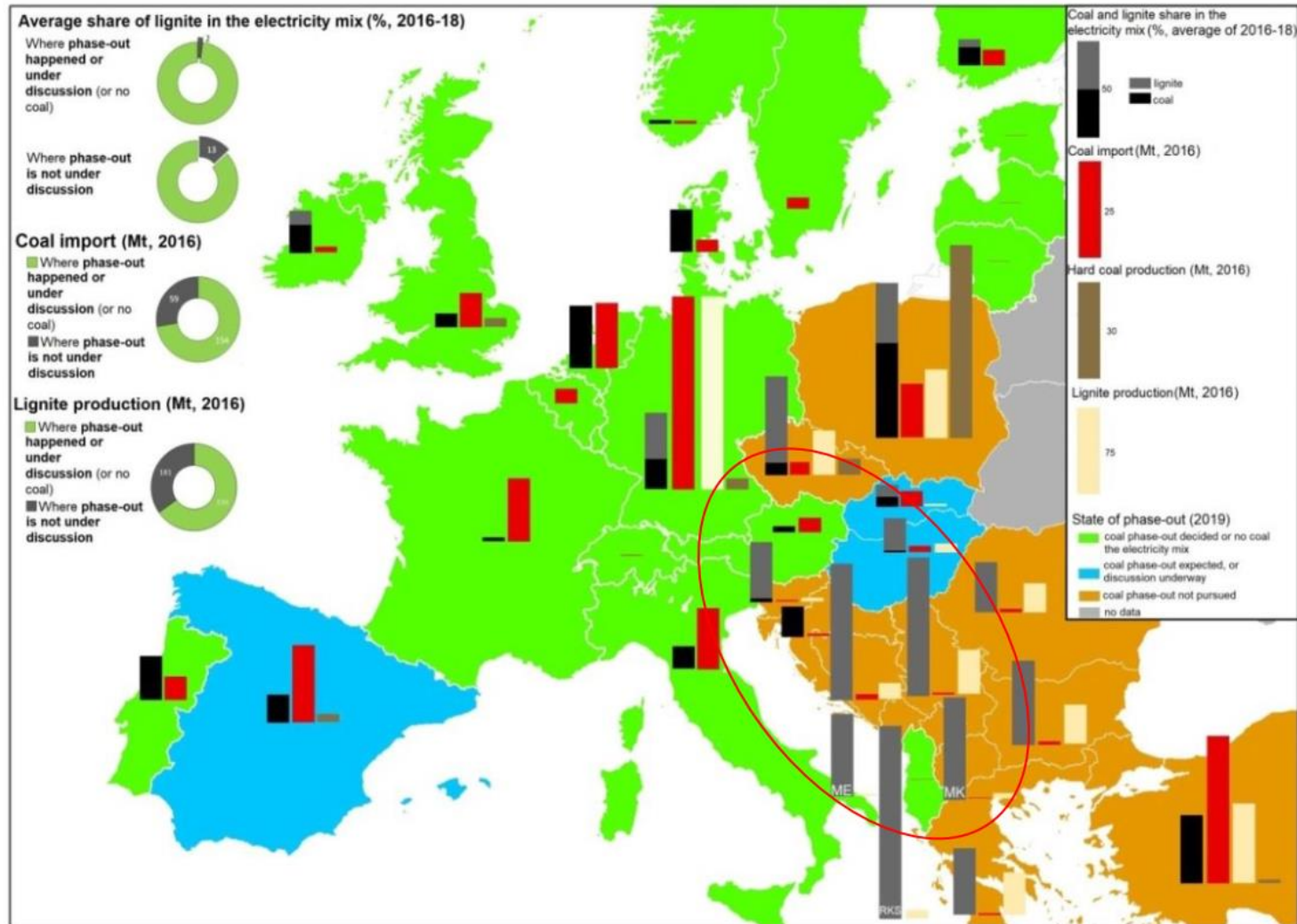
- Providing complex **labor market services for employees at risk** of transition or already losing their jobs, organizing further training and retraining, and changing jobs.
- **Supporting entrepreneurship** and starting a business.
- **Business incubation centers** for existing and start-up businesses viable in the green economy, corporate mentoring programs.
- Supporting **technology change** to lower GHG emissions.
- **Funding of research and development co-operations** involving the capacities of university centers and enterprises operating in the counties affected by the Territorial Fair Transition Plans, in order to promote efficiency-enhancing research and development activities with GHG emission reductions and significant green economy innovation potential.
- Supporting the **diversification of enterprises in the green economy**, in particular small and medium-sized enterprises.
- Support for **innovative energy storage pilot projects**
- Support for **the renovation of energy-using systems, residential buildings** and the purchase and **installation of solar systems** to support the replacement of residential coal
- **Green awareness-raising** mentoring program
- **Innovative green transport pilot projects** to reduce the need for mobility in the counties affected by the Territorial Fair Transition Plans
- Support for recovery projects related to the **reclamation of mines** to be closed and industrial sites for alternative uses of the affected areas



Lignite use in Western Balkan countries

	Lignite in GIC	Lignite in FIC of households
Montenegro	33,1%	0,9%
North Macedonia	32,2%	0,1%
Albania	0,0%	0,0%
Serbia	43,9%	2,8%
Bosnia and Herzegovina	45,2%	3,4%
Kosovo	56,4%	0,4%

Potential for replication



- The project can provide good practice for other coal regions, also in Western Balkan countries
- Similar characteristics



**FOR JUST
TRANSITION**

Thank you for your attention!