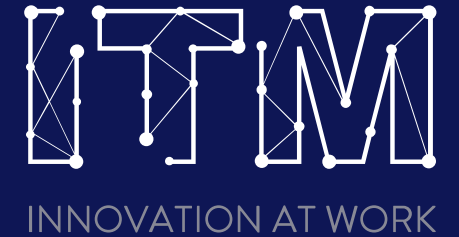


REKK
Budapest, 7 October 2020.



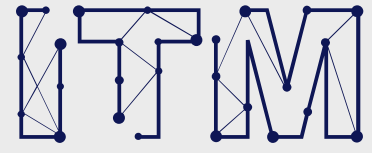
Hungarian roadmap for phasing out coal and lignite from electricity production



MINISTRY FOR
INNOVATION AND TECHNOLOGY

Dr. Péter Kaderják
State Secretary for Energy and Climate Policy

How to sustain a coal and lignite phase-out that is as swift as possible while also ensuring the security of supply, affordable electricity and a just transition in regions dependent on coal?



INNOVATION AT WORK

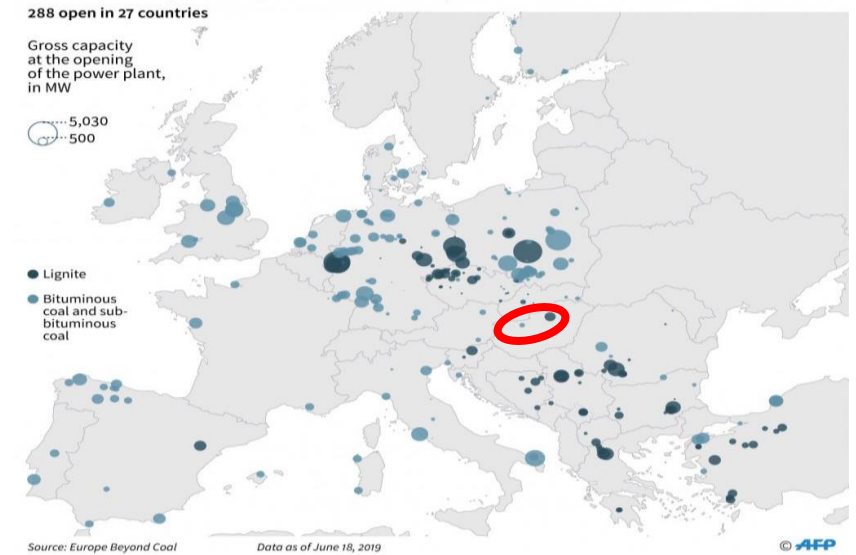
Now

- 1 operating lignite fired power plant in Hungary (Mátra power plant)
 - largest CO₂ emitter in Hungary, accounting for approximately 50 % of CO₂ emissions in the energy production sector
 - responsible for 14% of the total Hungarian GHG emission
 - contributes to the emission of other hazardous air pollutants like PM2.5, PM10, SOx and NOx
- 1 coal fired power plant in Hungary (Vértés power plant) – phased out already as electricity provider

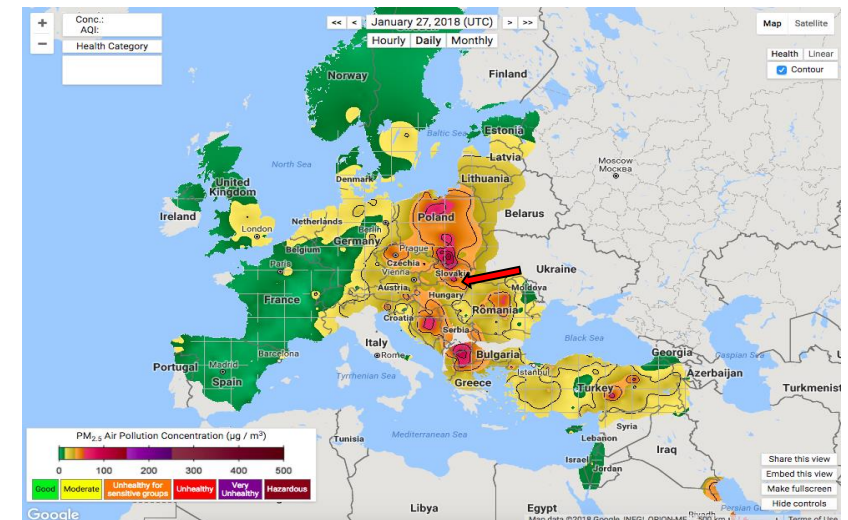
Future

- ✓ until 2030 all Hungarian lignite and coal fired power plants will be phased out
- ✓ 90% of electricity production should be decarbonised by 2030 (currently 60%)
- ✓ decommissioning of lignite-fired power plant decreases GHG emissions and emissions from hazardous air pollutants

Coal and lignite-fired power plants in Europe

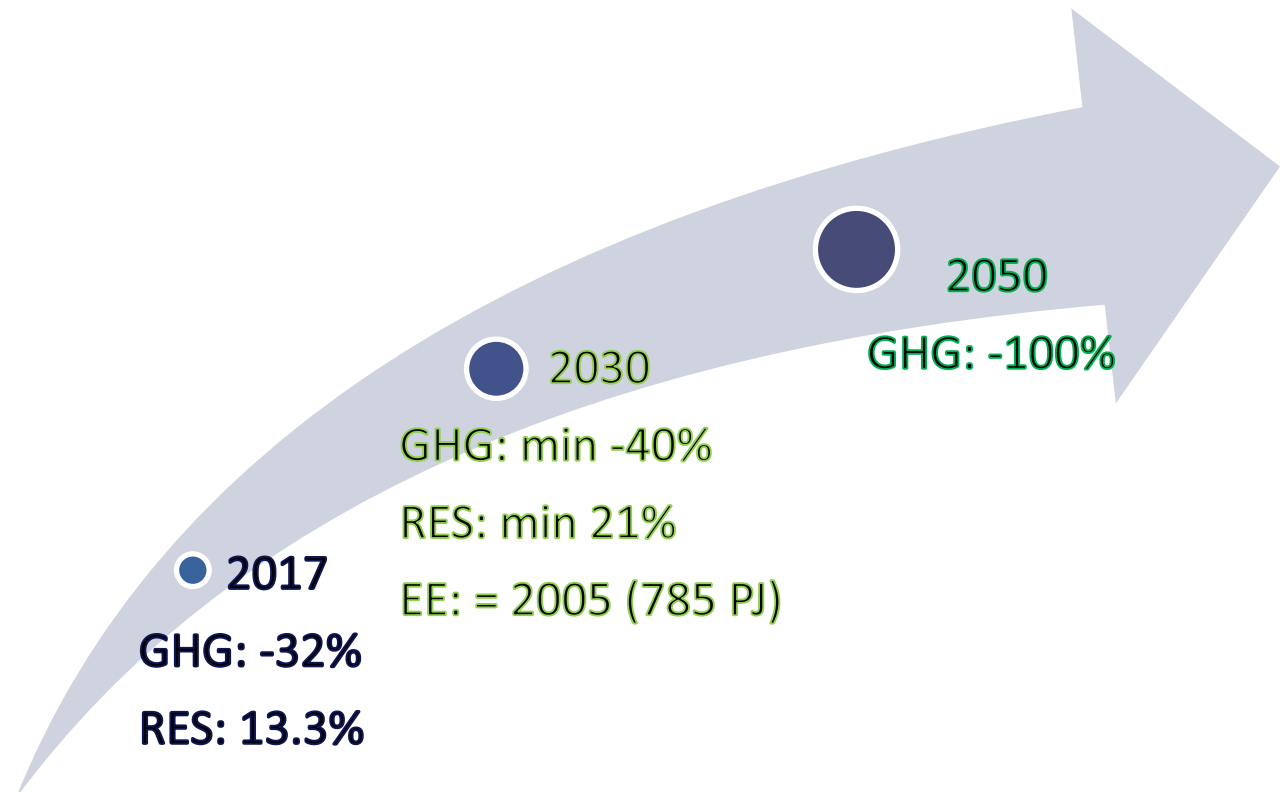


PM_{2.5} pollution in Europe

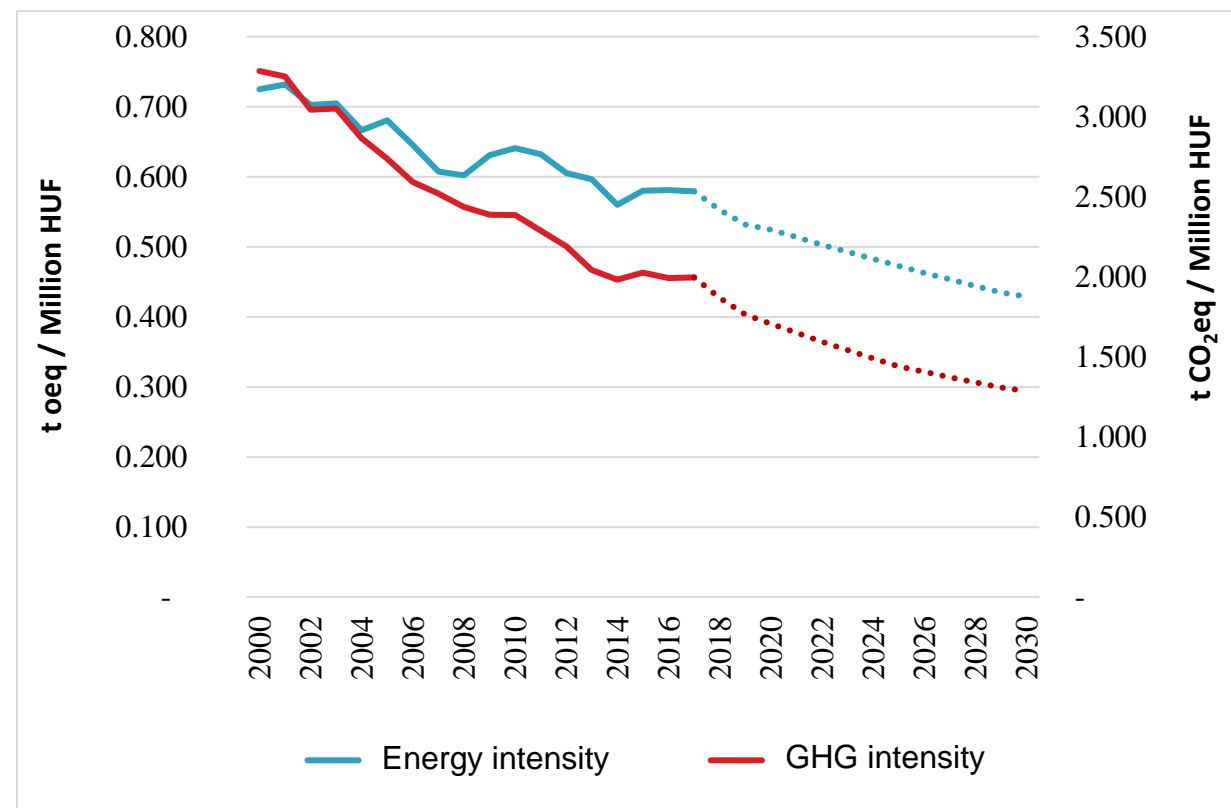


Achieving the main targets of the recently adopted 2030 and 2050 energy and climate strategies also requires a gradual decarbonisation of the electricity sector

Major energy and climate objectives for Hungary



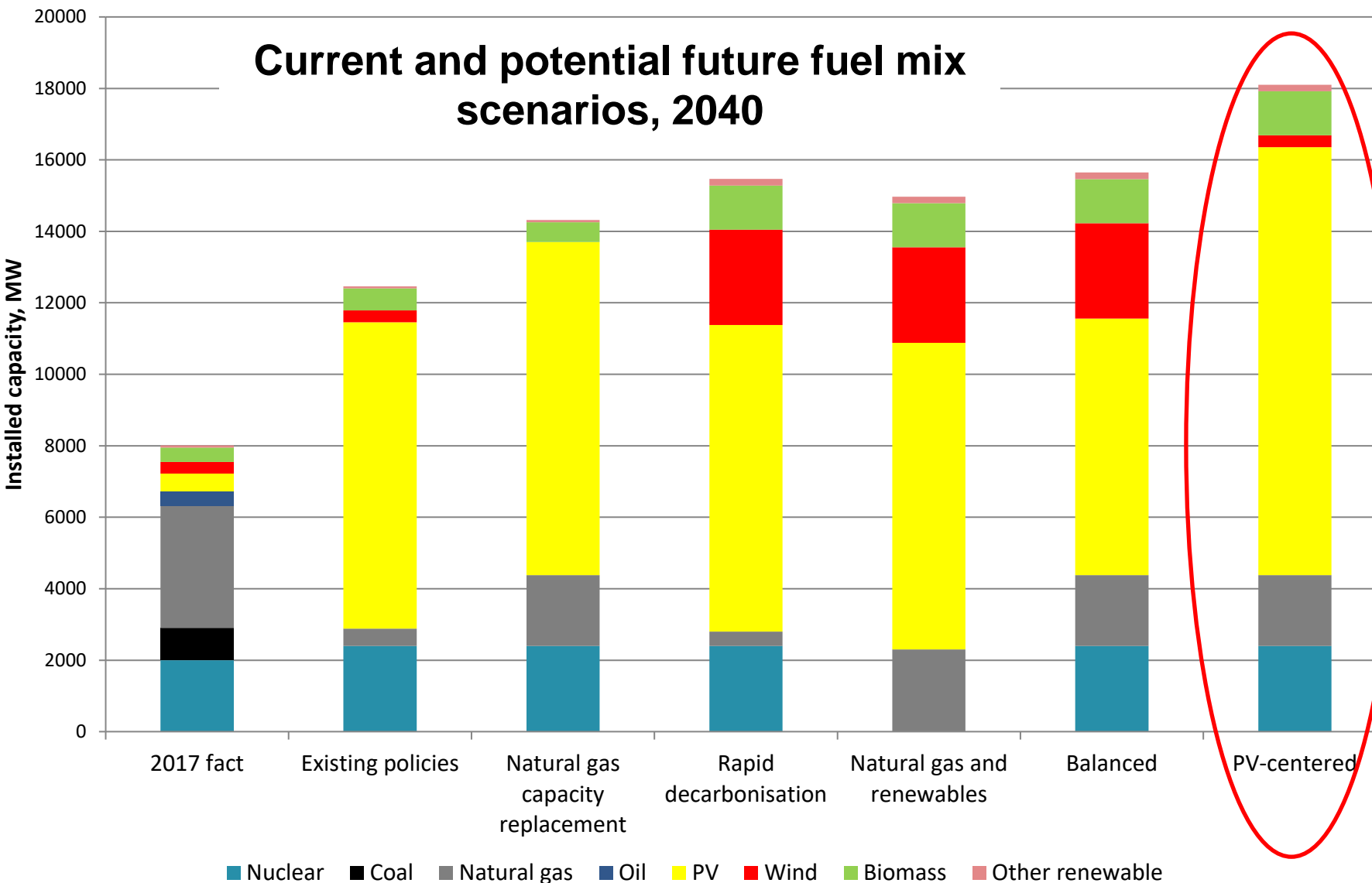
Energy and GHG intensity of Hungarian GDP 2000 - 2030



2018: + 5,1% GDP, - 0,7% GHG
2019: + 4,9% GDP, -0,3% GHG

Decarbonisation of the electricity sector: No1 flagship project

Current and potential future fuel mix scenarios, 2040



- ✓ **Decarbonising the power sector**
90% in 2030 vs 60% in 2020
- ✓ **Nuclear capacity renewal**
- ✓ **Lignite phase out**
- ✓ **Solar-heavy RES-E portfolio build-up**
6.6 GW by 2030; 12 GW by 2040
- ✓ **Gas based generation as primary backup**
- ✓ **Grid upgrade and re-regulation**
- ✓ **Flexibility market**
- ✓ **1 million smart meters**
- ✓ **Import ratio: 20% in 2040**

The reorganisation of the Mátra Power Plant goes beyond technological aspects, as it should also take into account the social-economic and environmental effects of the plant's operation



Decarbonisation plan for Hungary's largest CO₂ emitter

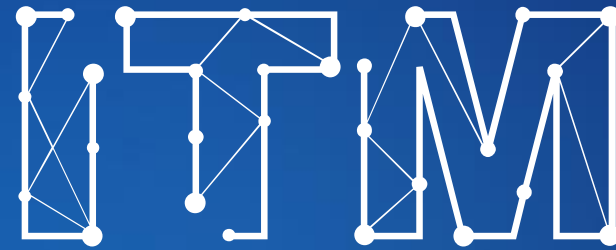
conversion of the lignite-fired Mátra Power Plant based on low carbon technologies, benefiting from the characteristics of the site

Components of the reorganisation plan

- Construction of a new gas turbine power plant at the site of the Mátra Power Plant, with particular relevance for ensuring the security of supply in the eastern area of the country
- Construction of a new PV power plant and industrial energy storage unit, and the energy recovery of refuse derived fuel (RDF)
- 1 lignite-fired block of the Mátra Power Plant is planned to be maintained as strategic reserve for emergency situations
- Testing innovative RES-based technologies in the area of former outcrop lignite mines
- Recultivation of former lignite mines
- Economic diversification in the former coal- and lignite regions
- Retraining programs for employees
- Managing the situation of vulnerable energy consumers

Financing from

- a) LIFE Integrated Project supporting the whole North-Hungarian coal region between 2020 – 2029 and Just Transition Fund
- b) other financial means



INNOVATION AT WORK

Thank you
for your attention



MINISTRY FOR
INNOVATION AND TECHNOLOGY