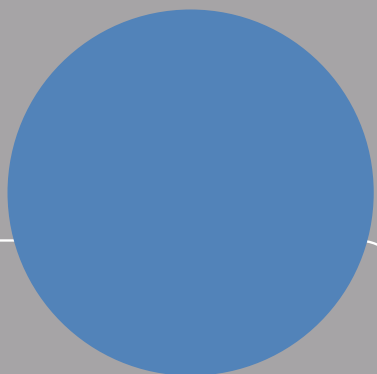
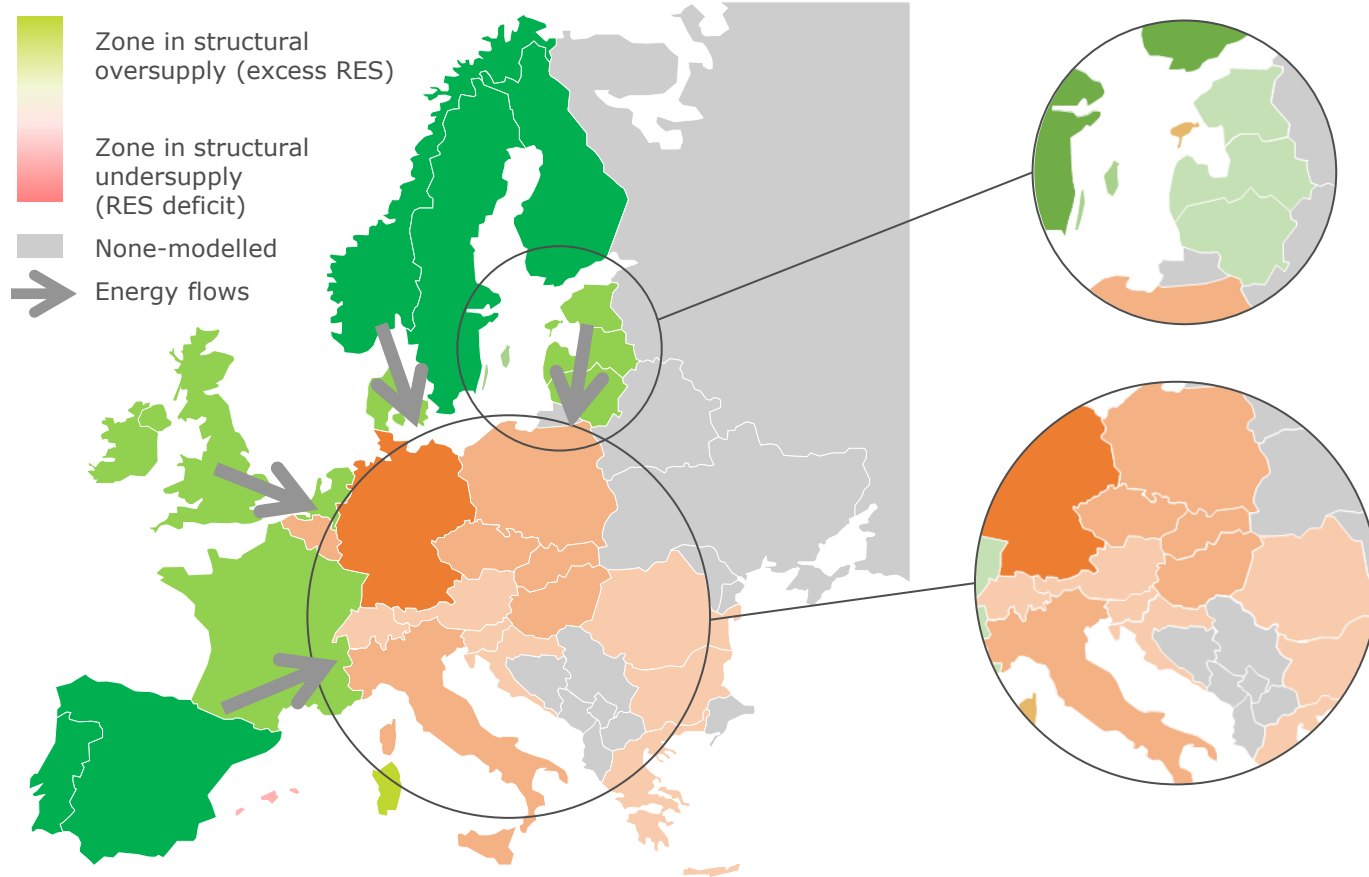


NEW ENERGY STRATEGY – ATTENTION TO ENERGY SECURITY



GREEN TRANSITION – NEW OPPORTUNITIES FOR BALTIC STATES



Estimated oversupply of energy by 2030-2035.

Due to relatively small economies and demand and inherent energy supply potential of the Baltic States they will be one of the first countries in EU to reach the position of energy oversupply and export.

Estimated overdemand of energy by 2050.

Germany alone is est. to require at least 2 000 – 3 000 TWh of electricity and H₂ combined.

LITHUANIA STRATEGIC ENERGY OBJECTIVES UNTIL 2050

Energy independence



Energy independent and self-sufficient by 2050 with **secured energy infrastructure**

100% decarbonized energy



Acceleration towards 100% clean energy in cost effective way

Become an energy exporter



Energy and higher value products supplier for the region

Pursue industrial growth



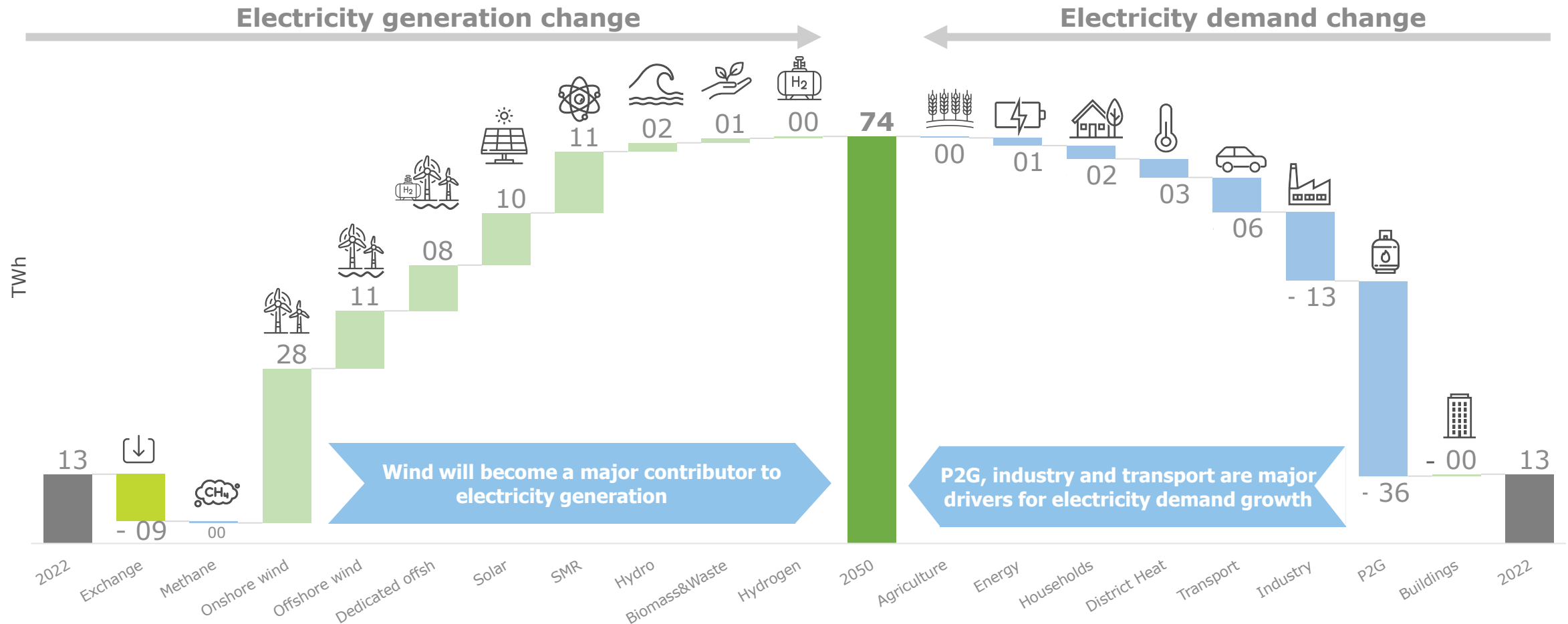
Energy sector transformation - opportunities for industrial growth

Energy costs & affordability

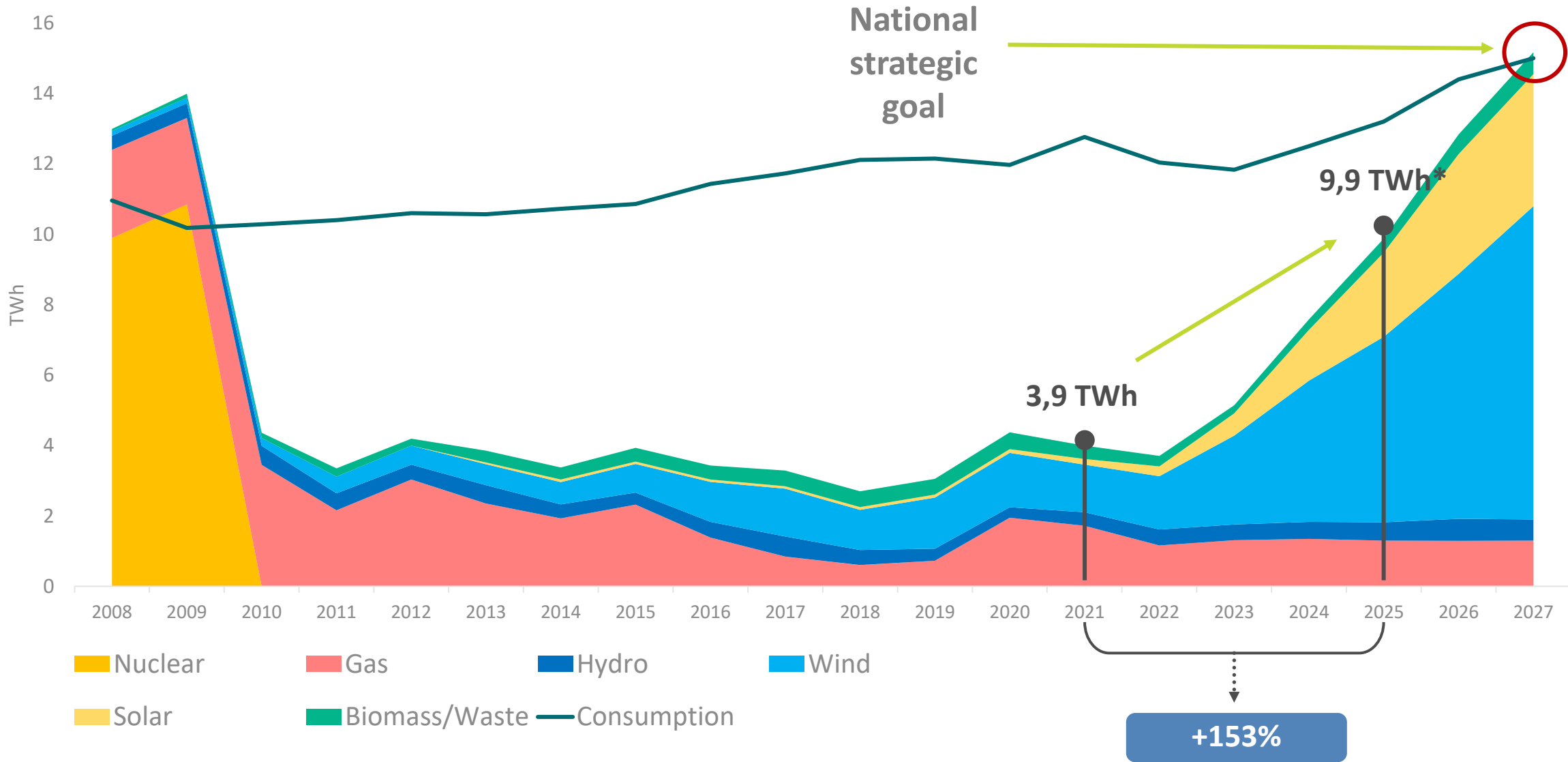


Ensured energy affordability and maximized export opportunities

ELECTRICITY GENERATION AND DEMAND CHANGE TO 2050



DOMESTIC POWER PRODUCTION – KEY TO ENERGY SECURITY



*Projections based on near-term project development. Does not include pump-storage hydropower

POWER SYSTEM FLEXIBILITY – ENERGY SECURITY ENABLER

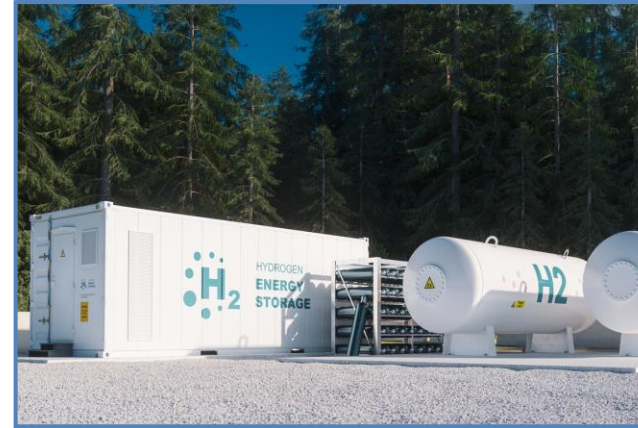
KRUONIS PUMP-STORAGE PLANT



Expansion of power plant with 5th unit

Total power – 1,01 GW

H2 PRODUCTION



Flexible hydrogen production through electrolysis

**2030 – 1,3 GW
2050 – 8,5 GW**

BESS



Support for BESS development

**2030 – 1,5 GW
2050 – 4 GW**









POWER TO HEAT (P2H)











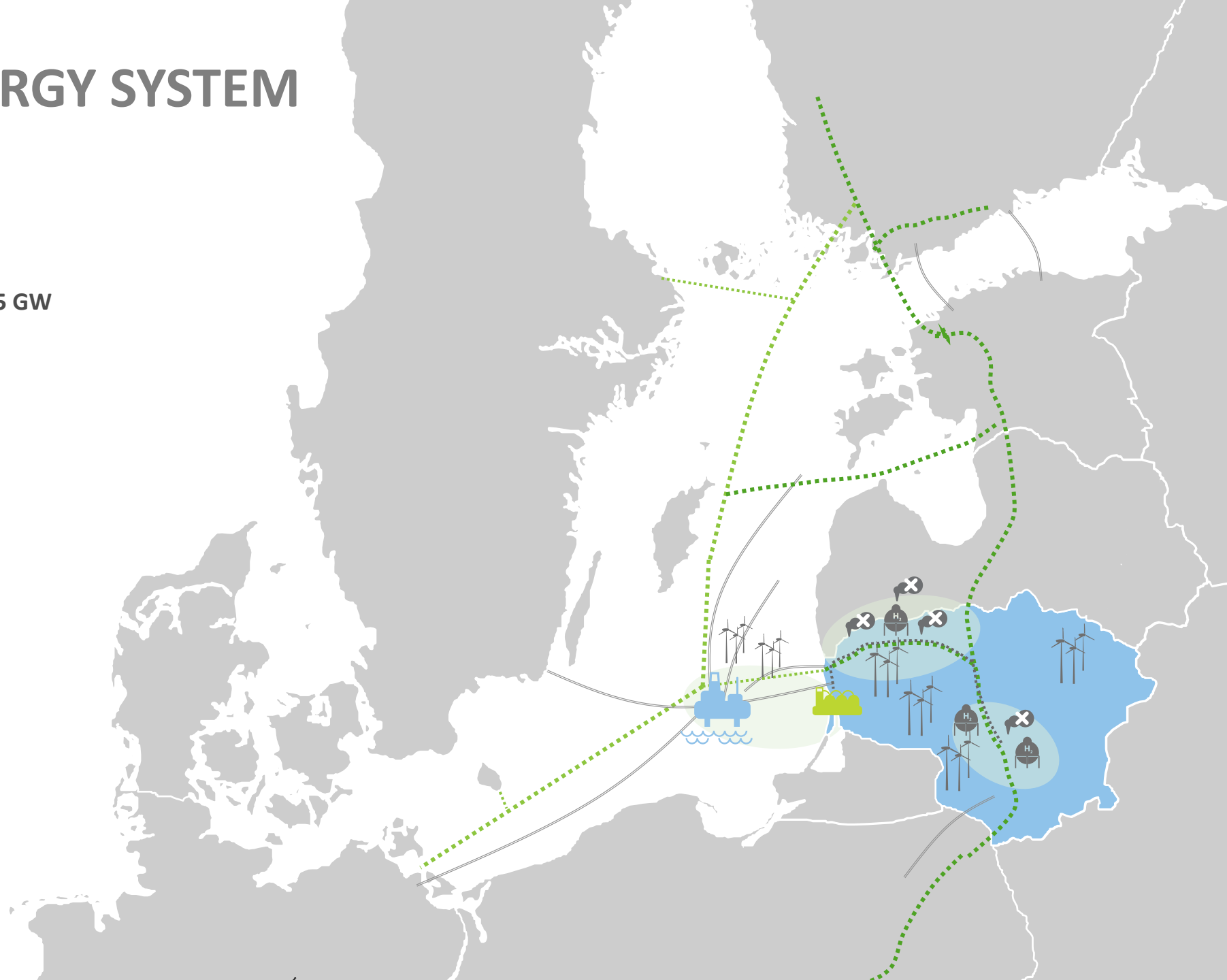
Excess renewable electricity to heat up cities

**2030 – 230 MW
2050 – 1118 MW**

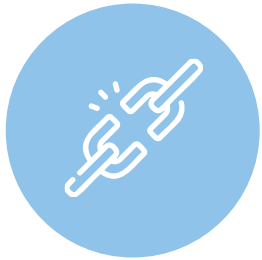
LITHUANIAN ENERGY SYSTEM IN 2050

-  Onshore and offshore wind – **14,5 GW**
-  Solar energy – **9,0 GW**
-  BESS – **4,0 GW**
-  Electrolysis capacity – **8,5 GW**
-  Interconnections – **10,65 GW**
-  Hydrogen demand – **24,2 TWh**
- Potential export:
 -  Synthetic fuels – **9,0 TWh**
 -  Hydrogen – **1,4 TWh**

-  Hydrogen Backbone
-  Power interconnections
-  CO₂ pipelines
-  CCU
-  H₂ electrolyzers
-  CO₂ products terminal
-  Energy Hub
-  Offshore/onshore wind



SOCIO-ECONOMIC BENEFITS BY 2050



Energy independence

100%

Electricity independency



Energy export

1.4 TWh

Hydrogen exports

9.1 TWh

Zero carbon product exports



100% decarbonisation

0 MT

Carbon emissions reached



Industrial growth

4-11%

GDP growth

44,000-140,000

Jobs created



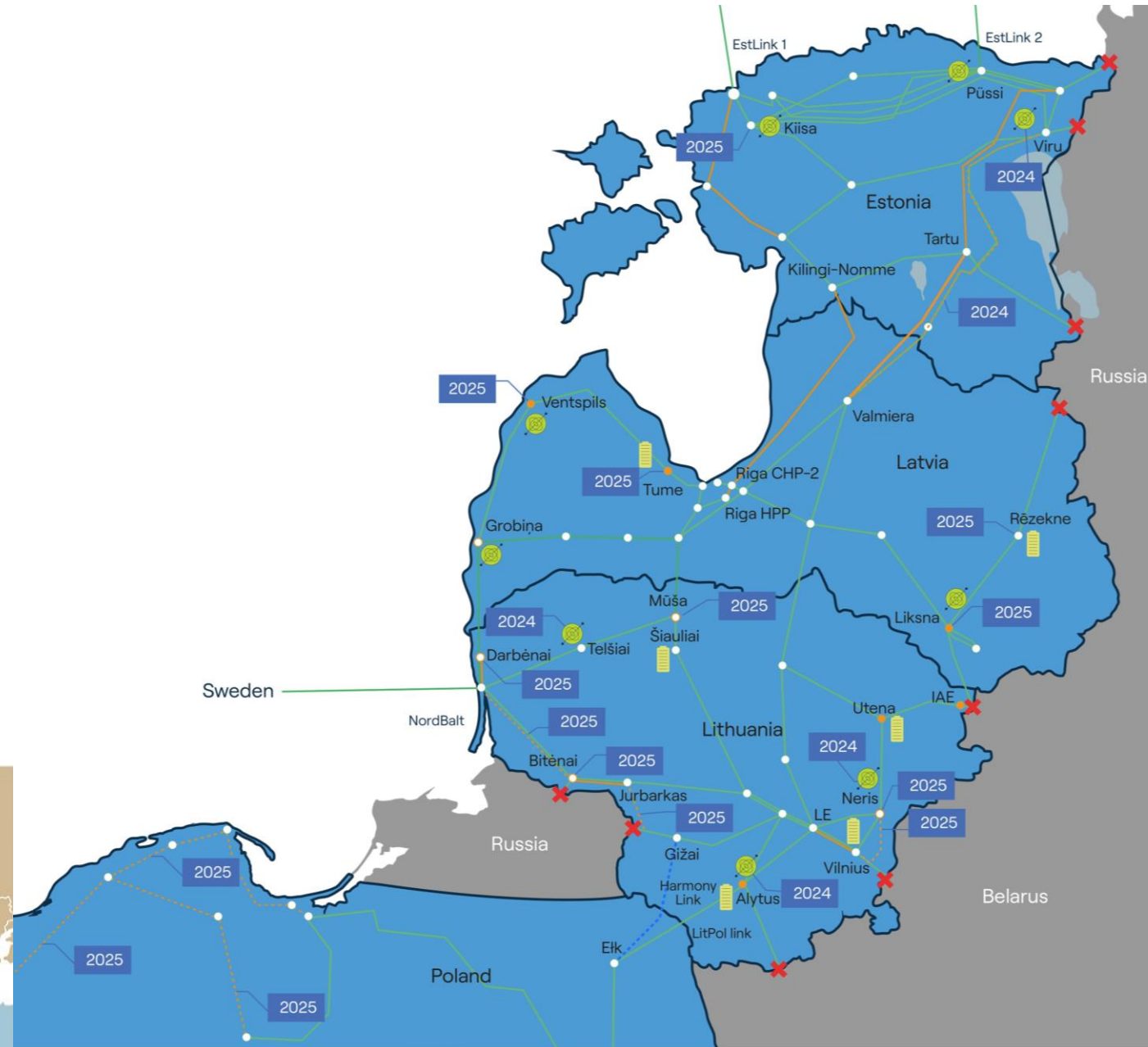
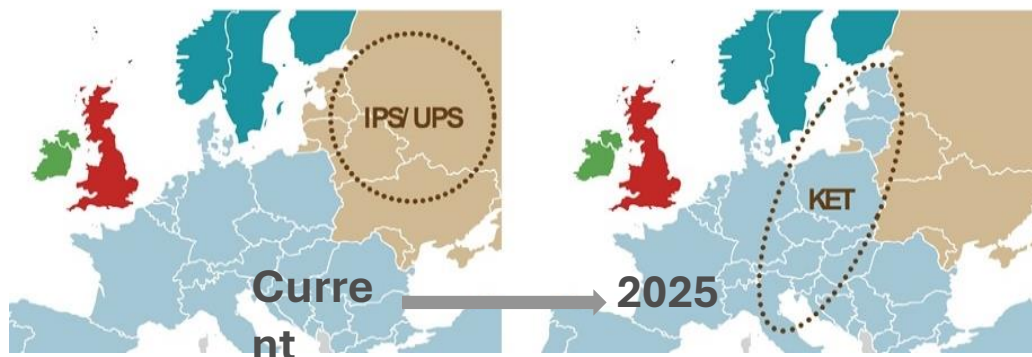
Energy costs & affordability

-6,3 blnEUR

Reduction in annual operational costs (energy carriers & O&M)

SINCHRONIZATION WITH CEN

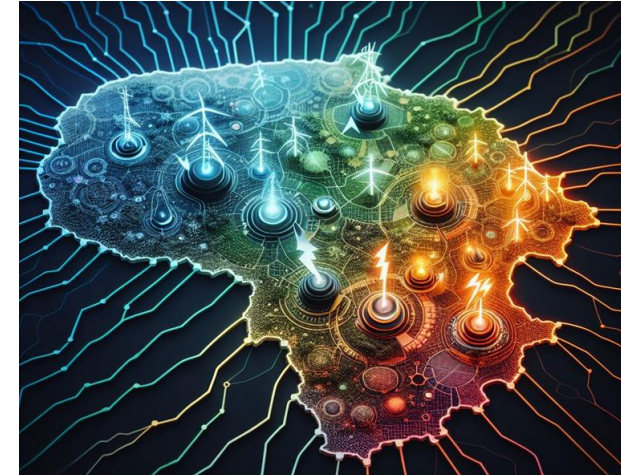
- Electricity systems of the Baltic States operate in synchronous post-soviet IPS/UPS system
- Disconnection from IPS/UPS - fundamental goal tied to our energy and national security
- **In February 2025 we will fully disconnect from the IPS/UPS system and begin synchronous operation with European Network**
- Political discussions and preparation for synchronization took more than 15 years
- The total costs of Baltic States synchronization are estimated up to 1,6 billion euros



DEVELOPMENT OF A PHYSICAL PROTECTION SYSTEM

The MoE has developed and launched a programme "Development of a physical protection system for energy infrastructure of strategic and critical importance". It includes:

- **Anti-drone systems**
- **Protective barriers for substations**
- **Emergency stockpile**
- **Blurring installations on open access maps**
- **Microgrid concept**



IMPLEMENTATION OF EU LAW

Three main recent documents:

CER directive

- shift from protection to resilience (critical entities will need to take appropriate measures to ensure their resilience)
- includes hydrogen as subsector
- The Council's recommendation covers 3 priority areas: preparedness, response and international cooperation

NIS2 directive

- significantly expands the sectors and type of critical entities falling under its scope

NCCS

- supports a high, common level of cybersecurity for cross-border electricity flows in Europe



Thank you!

