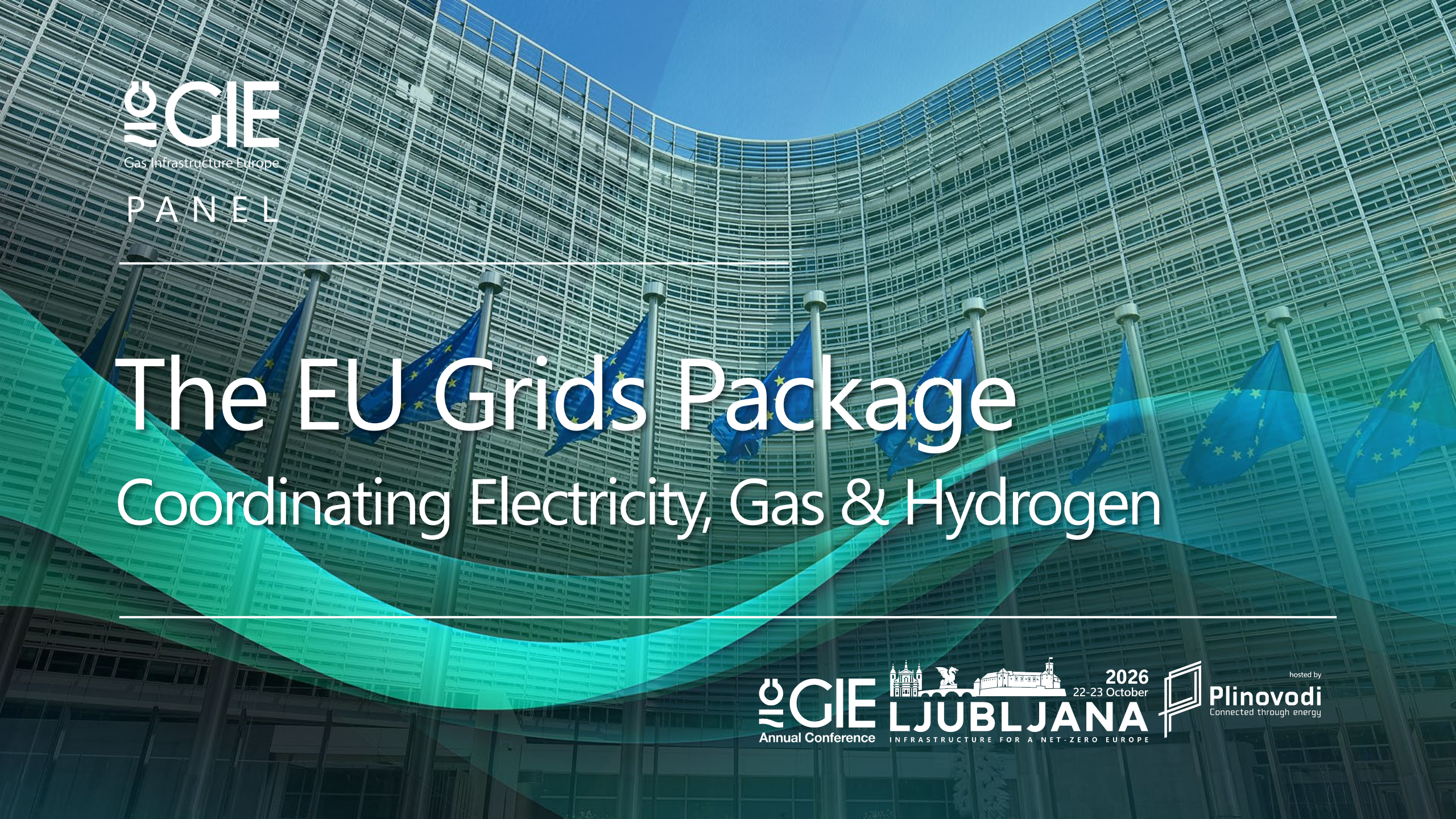

GIE
Gas Infrastructure Europe
PANEL
The EU Grids Package
Coordinating Electricity, Gas & Hydrogen
GIE
Annual Conference
LJUBLJANA
INFRASTRUCTURE FOR A NET-ZERO EUROPE
2026
22-23 October
hosted by
Plinovodi
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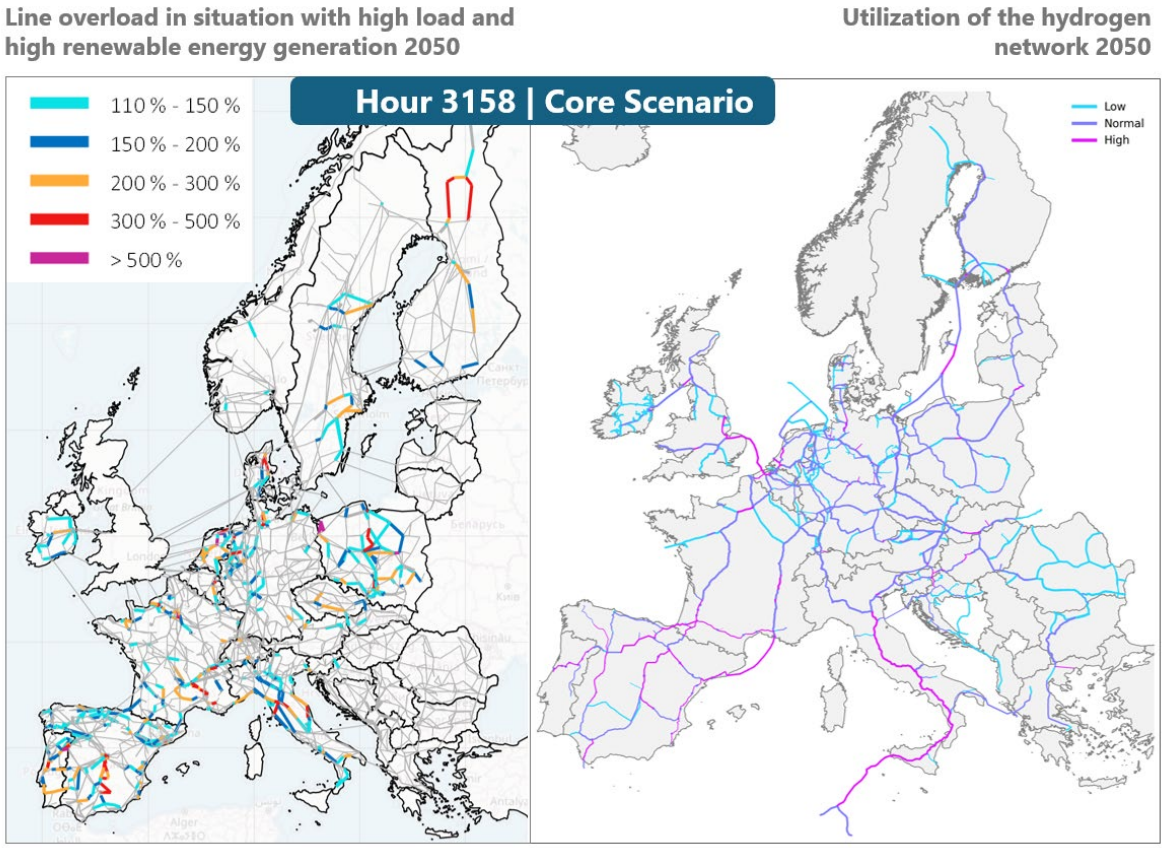
EU GRIDS PACKAGE



Gideon Saunders

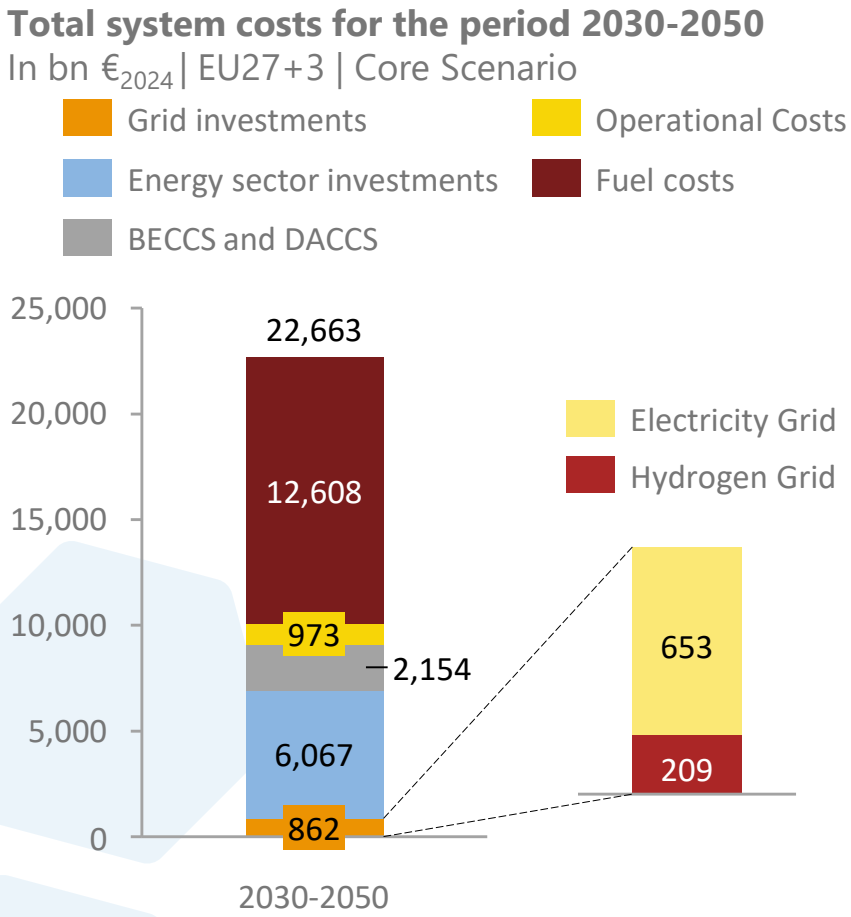
ONTRAS

In critical hours, both the electricity grid and hydrogen transport infrastructure complement each other



- The figure shows one selected hour with high renewable generation and highlights the interaction between electricity grid congestion and hydrogen transport.
- Electrolyzers act as the key link between both systems and can help reduce grid congestion by absorbing surplus renewable electricity.
- At the same time, the overall system benefit depends not only on installed electrolyzer capacity, but also on regional placement, dispatch behaviour, and integration into the hydrogen infrastructure.
- This underlines that coordinated planning of electricity and hydrogen infrastructure is essential.

Grid investments, especially for hydrogen, account for only a fraction of total energy system costs



The total system costs are dominated by fuel costs and investments in the energy sector**.

Electricity and hydrogen grid investments account for <4 % of total system costs from 2030 to 2050.

The hydrogen grid accounts for about 200 bn €$_{2024}$ (1 %) of the total system costs.

** Generation, Storage and Conversion investments