EPRI-IEA WORKSHOP

Risks for security of supply in clean energy transitions

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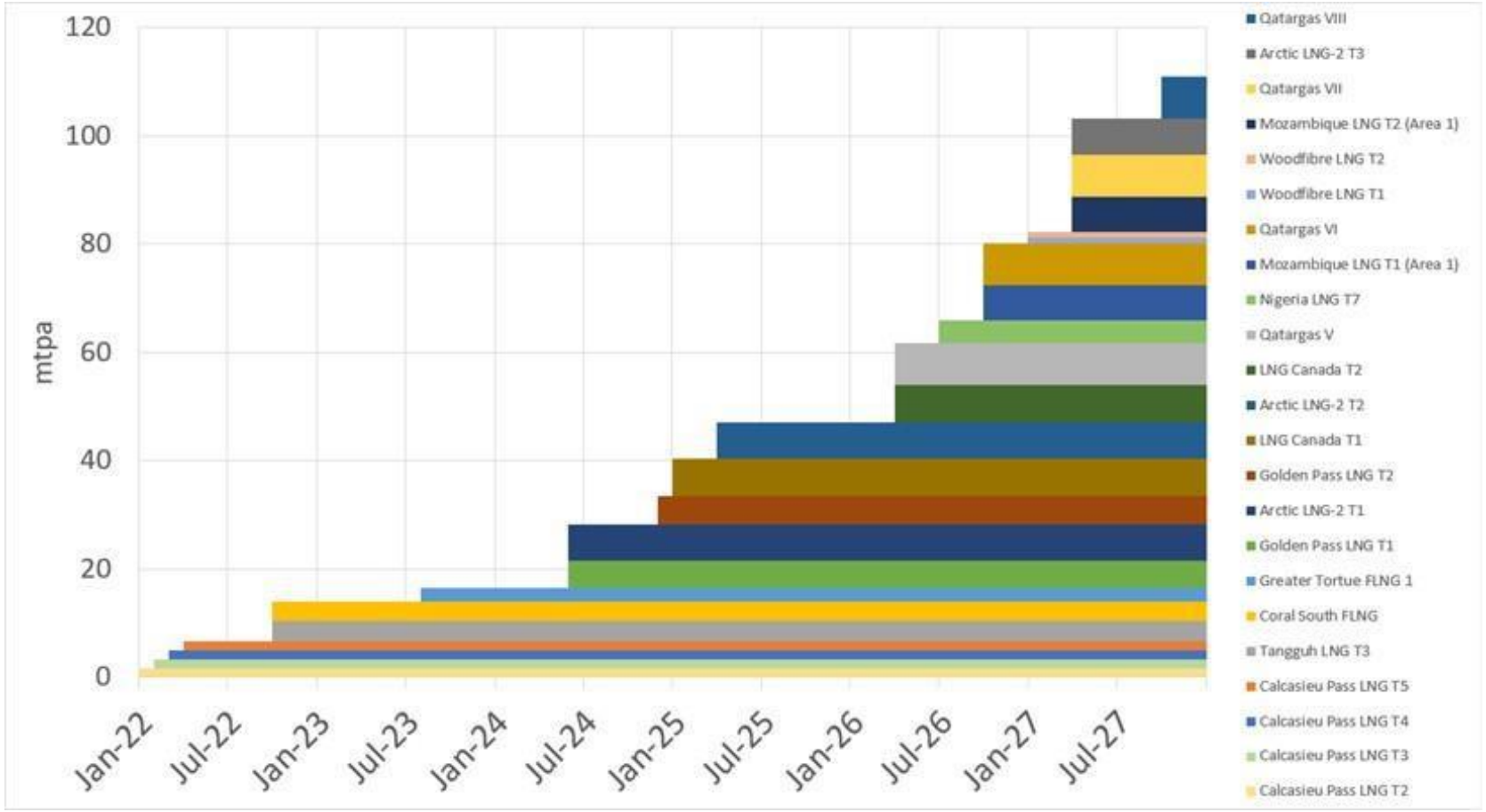
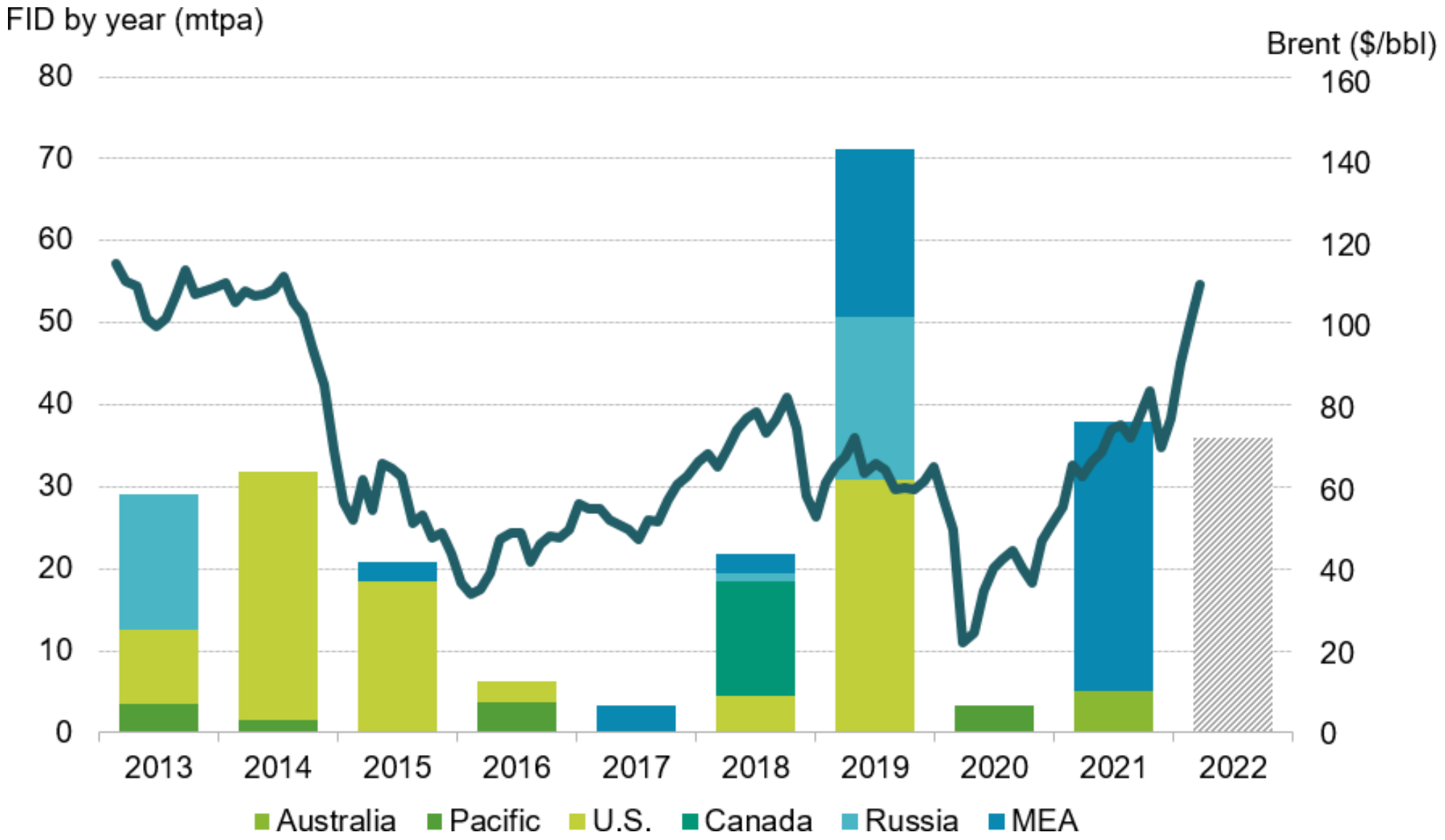
New LNG supply is not likely to loosen global picture before 2024



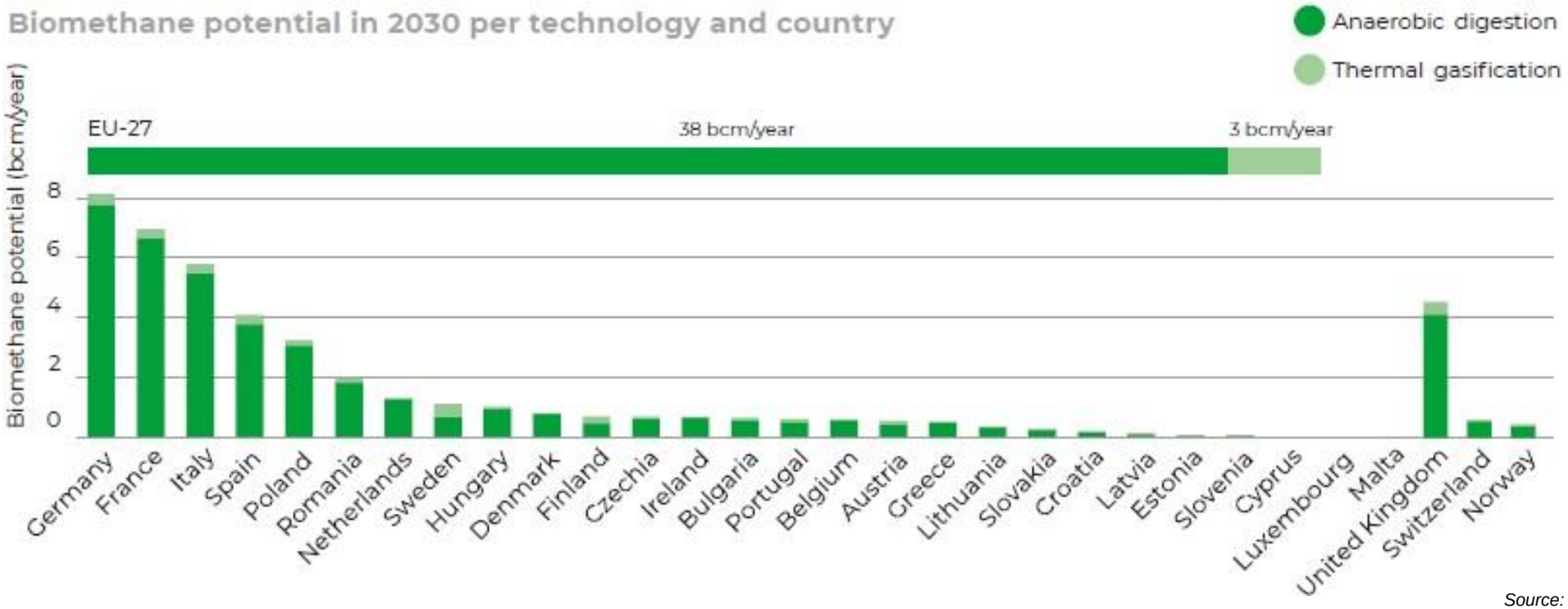
Europe is in competition with Asia, Middle East and South America to attract volumes

Good news is LNG investments have been responsive to prices, but require long term commitments



By 2030 biomethane could represent 25% of 2021 gas imports from Russia, in line with REPowerEU objectives

Figure 1.
Biomethane potential in 2030 per technology and country

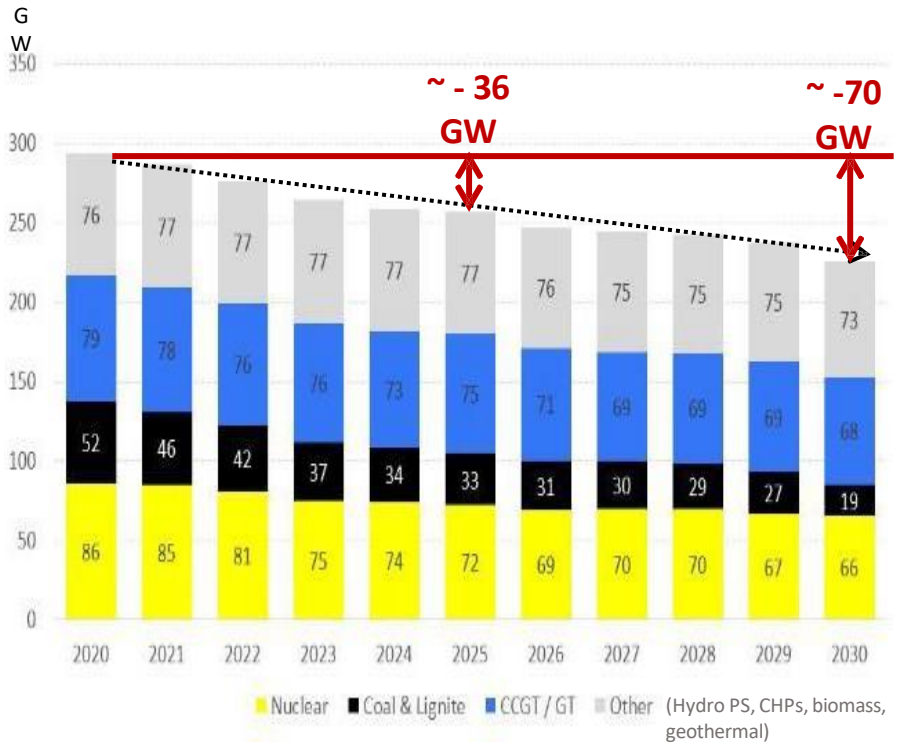


Source: Gas For Climate (2022)

Evolution of Adequacy Fundamentals

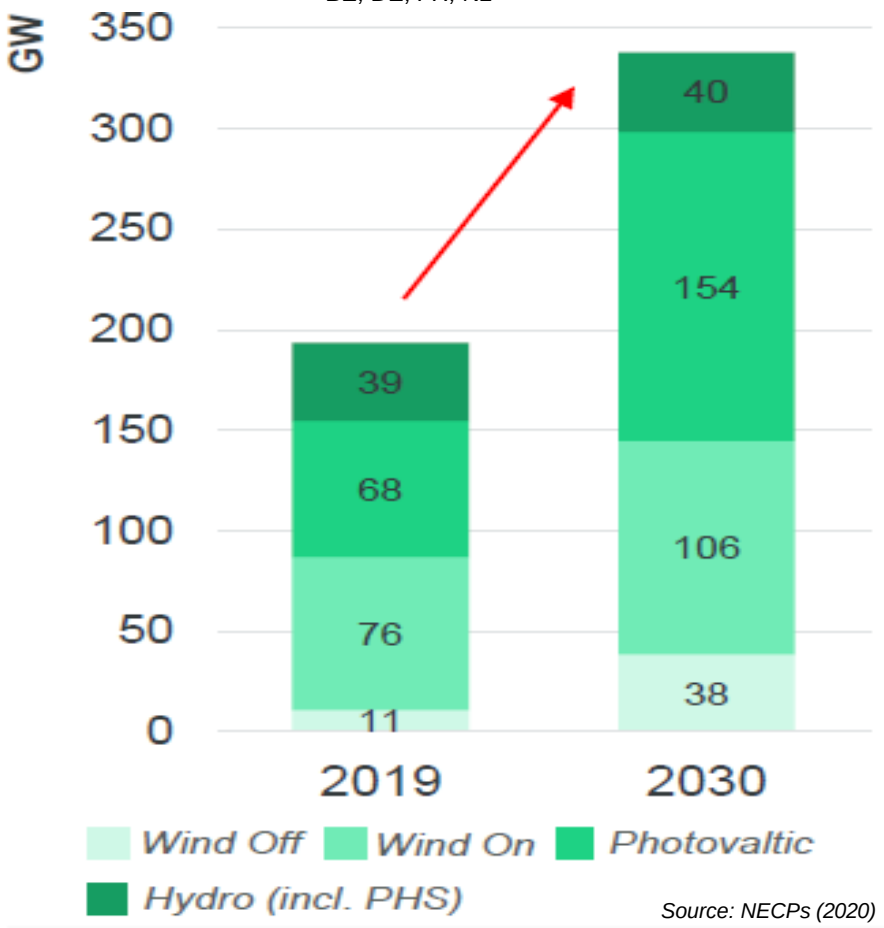
In CWE+UK*, **almost 70 GW of reliable capacity is expected to disappear between now and 2030** (+ some acceleration?). Candidate sites for closure are usually well identified (nuclear and coal phase out decisions). Mainly compensated by increasing RES in a context of growing demand (20% by 2030)

Future evolution of dispatchable capacity*



*Belgium, France, Netherlands, Germany, UK

Intermittent capacity
BE, DE, FR, NL

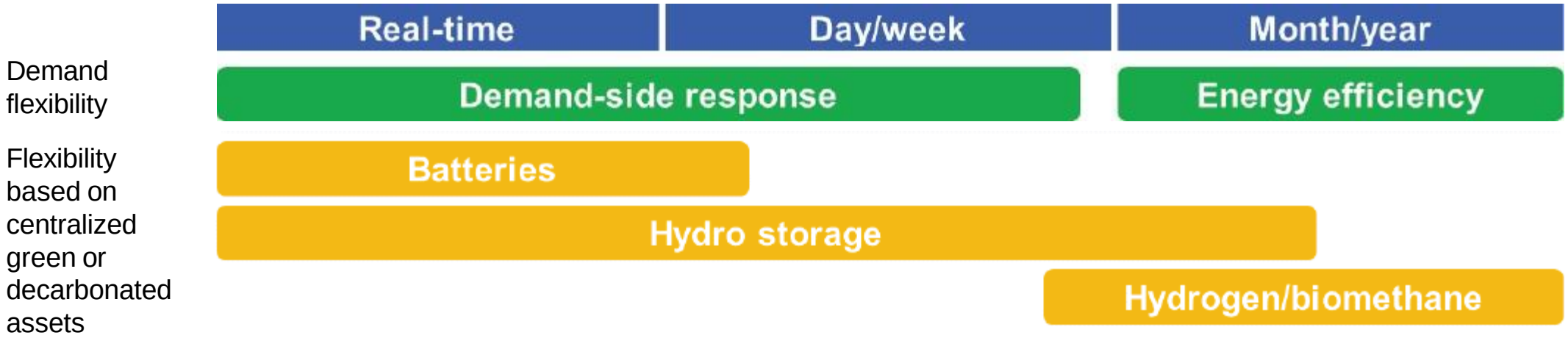


Source: NECPs (2020)

Flexibility needs to increase 4 fold in decarbonized power systems

There is no « one fits all » technology to match the various power flexibility needs

Clustering of technologies depending on the power flexibility need



Decarbonated thermal is necessary for long duration flexibility needs. Given the very low anticipated load factors and lack of maturity of some technonologies, specific support schemes will be needed to trigger investments

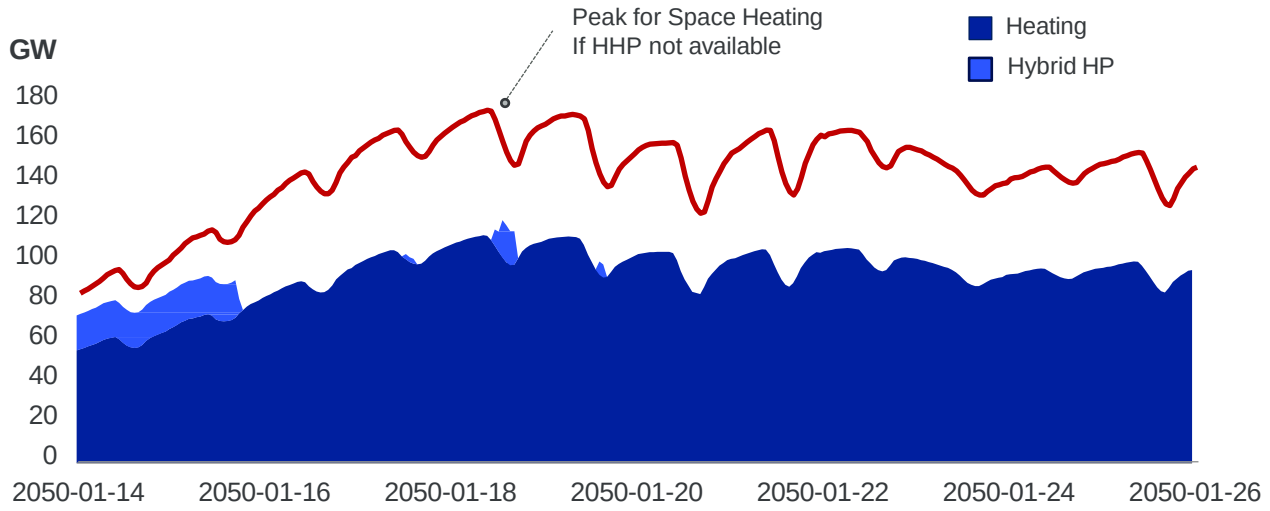
Source: «ACER's final assessement of the EU wholesale electricity market design », April 2022, ACER

Hybrid heat pump : an illustration of smart integration between gas and power systems

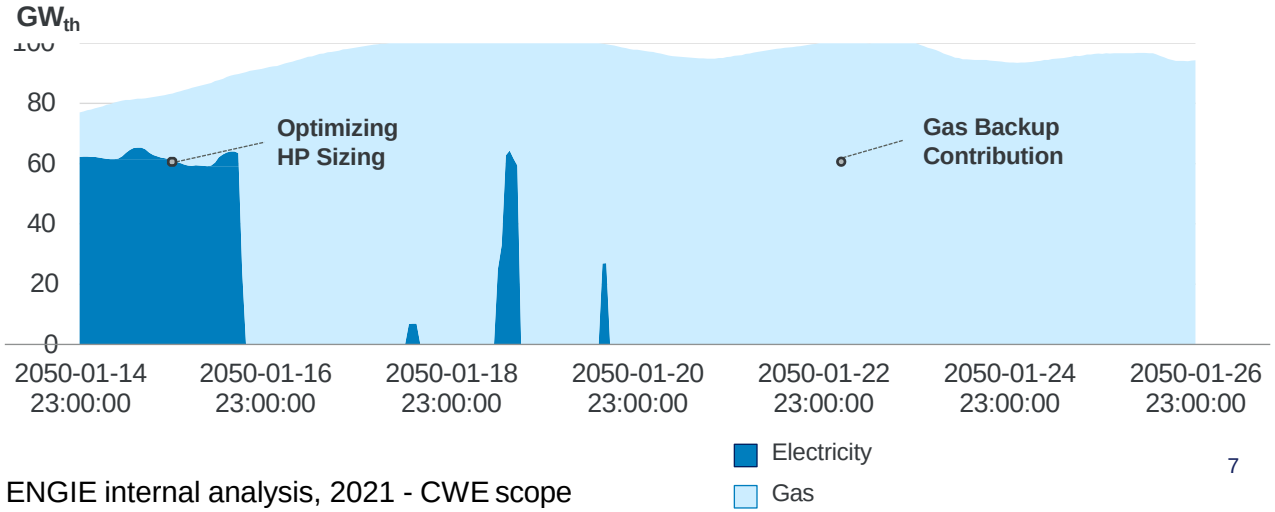
A unique demand side management tool saving both gas volumes and peak power

- Every Million hybrid heat pump generates 3 GW of interruptible demand
- A global deployment at CWE level could save up to 60 GW of peak load

POWER DEMAND
Focus on heating



HEATING DEMAND
Focus on HHP functioning



Source: ENGIE internal analysis, 2021 - CWE scope