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Update on Europe’s high energy prices and ACER’s forthcoming assessment of the current EU electricity market design

Informal Ministerial meeting - Council Presidency of France

Amiens, France

22 January 2022

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European Union Agency for the Cooperation of Energy Regulators

Agenda

- Latest market developments & near-term outlook
- ACER's upcoming April assessment:
  - Consumers, retail suppliers & volatility
  - Driving sufficient investment
  - Driving sufficient flexibility and capacity
  - What remains 'at the margins'

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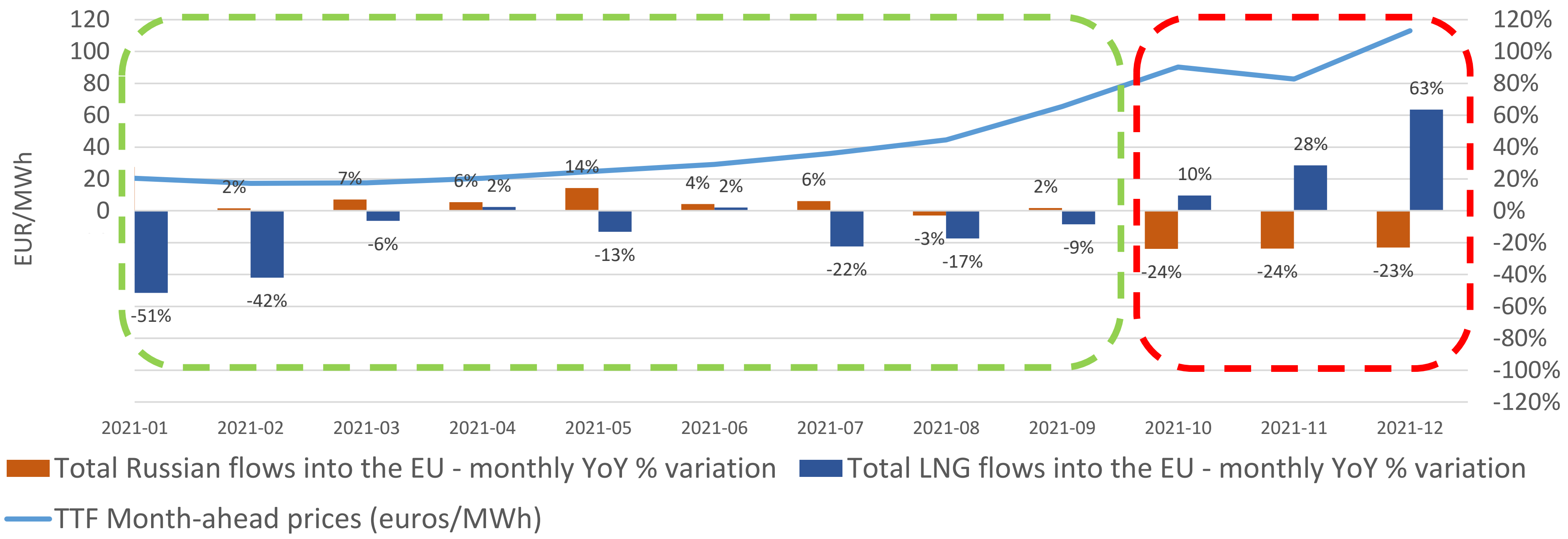
Latest market developments

The evolution of prices: The bigger picture

The high gas prices follow various demand and supply fundamentals. Additionally, however, anxiety about potential supply shocks going forward seem to be playing a contributing role. This ‘tension’ also impacts forward prices.

EU GAS FRONT MONTH PRICES VS LNG AND RUSSIAN GAS IMPORTS YEAR-ON-YEAR CHANGES



EU LNG deliveries recovered in Q4 2021; to some extent redirected per higher prices. However, the added deliveries do not fully offset impact of lower pipeline flows.

Main driver: Scarce (and thus relatively expensive) LNG supply.

Additional drivers: Lower pipeline flows exacerbated by record-low storage stocks. Increased ‘tension’ an additional factor.

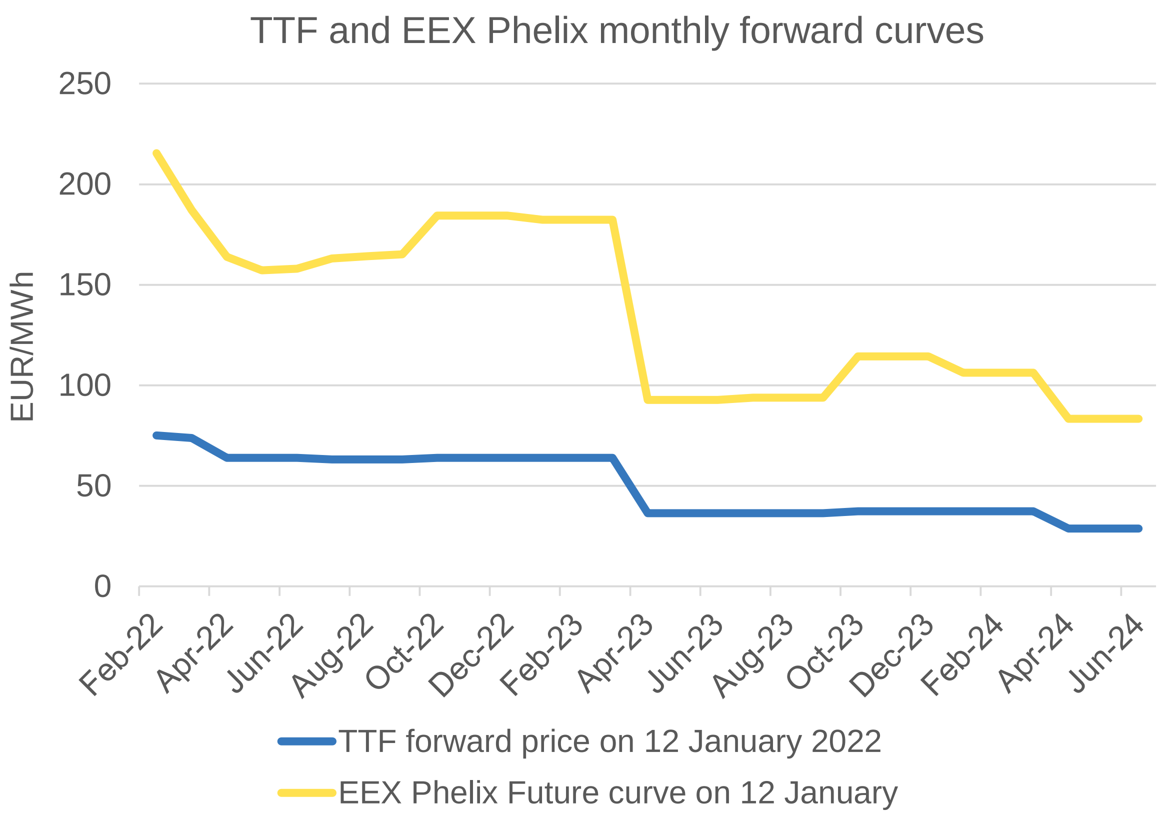
Source: ICIS Heren, ENTSOG and ACER calculation.

‘Unpacking’ this bigger picture a bit further …

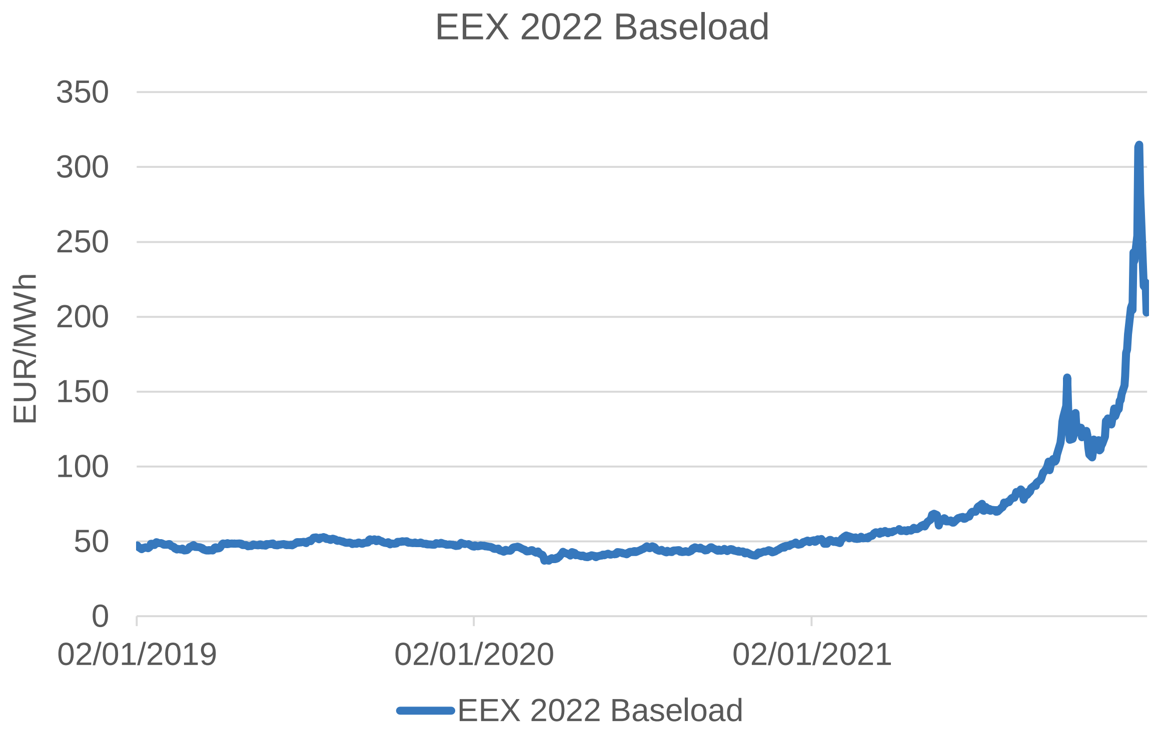
Source: Platts and ACER calculations.

Near-term outlook: A moving target

FORWARD PRICES ON 12 JANUARY 2022



DAILY EVOLUTION OF 'CALENDAR 2022' PRICE: TRADING FROM JANUARY 2019 TO DECEMBER 2021



Forward prices have sizeably increased since November 2021:

- Gas prices for the whole of 2022 have risen by 40%
- Power prices for the whole of 2022 have risen by 50%

Source: Platts, Refinitiv, EEX and ACER calculations.

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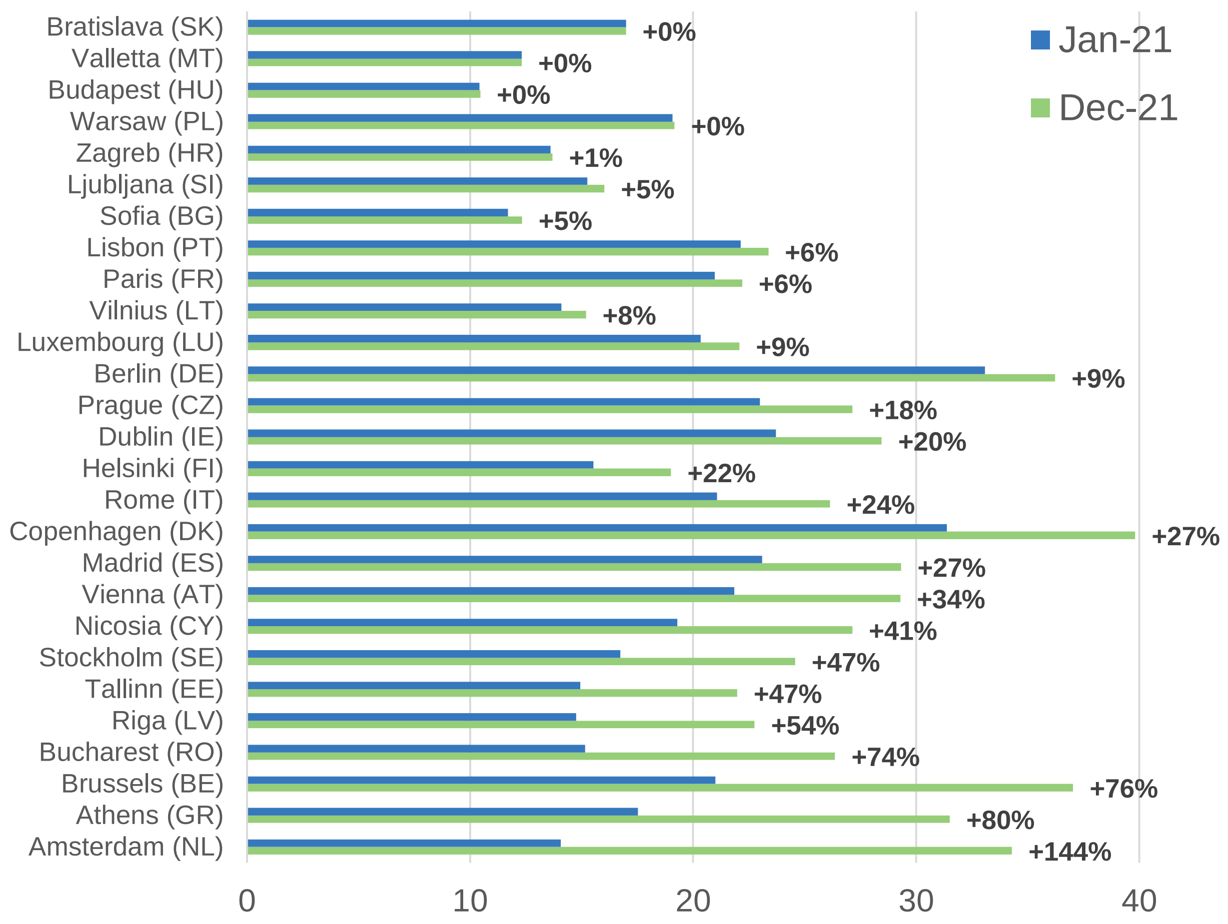
Towards April: Consumers, retail suppliers & tackling volatility

Consumer exposure (1/2)

ELECTRICITY HOUSEHOLD PRICE INCREASES, EUR/kWH, JAN-DEC 21



- EU power bills rose on average by 30%, despite government interventions in most Member States to reduce taxes and levies
- The energy component moved on average from 35% to 52% of the bill
- Retailers' indicative gross-margins moved into negative values*, at times prompting bankruptcies and/or market exit. Hence more consumers supplied through last resort entities

* Retailers' indicative gross-margins assess the difference between the energy price charged to household consumers and the actual power-procurement costs for retailers. Retailers' costs are dependent on procurement strategies. The negative margins are higher when solely considering spot power purchasing.

Source: European Household Energy Price Index (HEPI) assessed by Vasaa ETT, E-Control and MEKH. HEPI assessment considers the incumbent's standard tariff plus the tariffs offered by the two other main players in each city, according to their respective market shares.

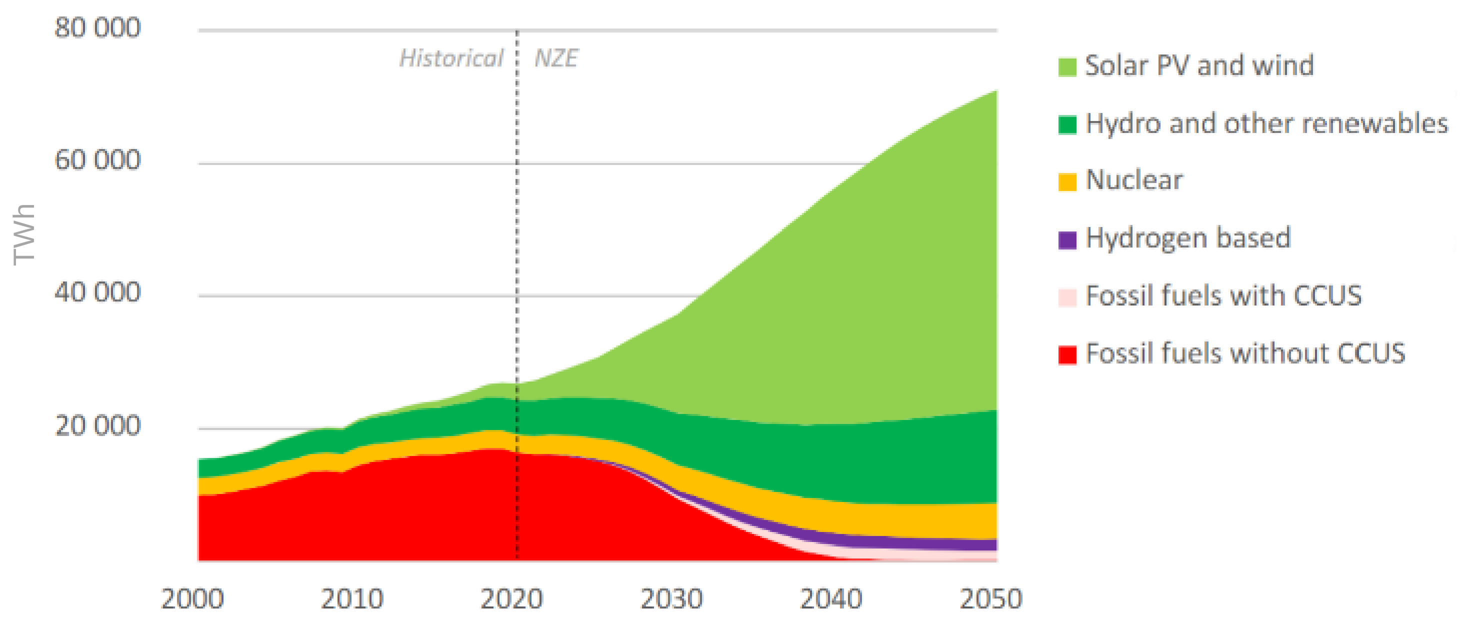
Consumer exposure (2/2)

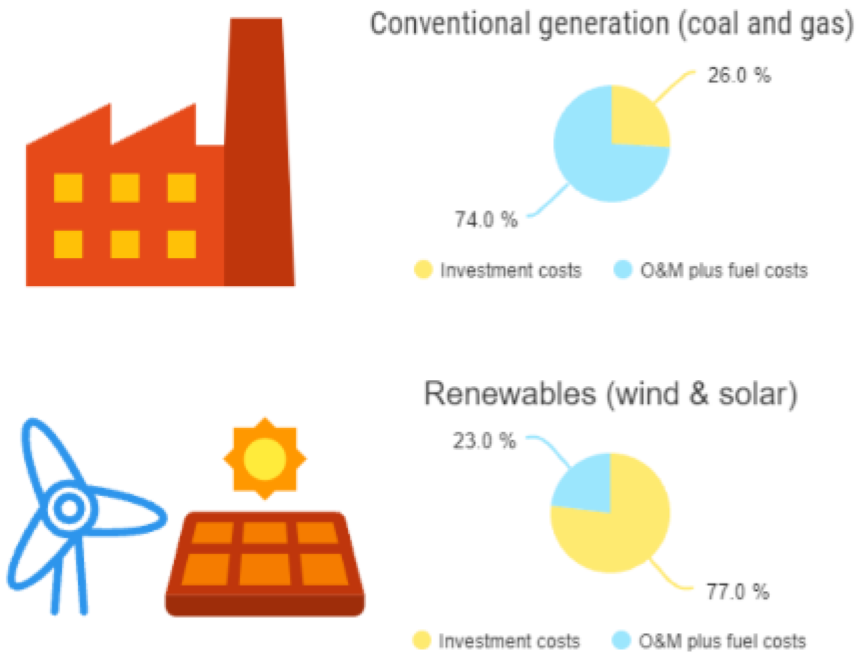
- Focus on supplier-of-last-resort mechanisms
- Focus on retail suppliers, including possible hedging obligations and/or collateral requirements
- Underscores dilemma going forward:
  - Shielding from excessive price volatility impacting affordability …
  - *vis-à-vis* retaining price signalling to drive desired behaviour (e.g. greater efficiency) and/or incentivise new investment

Towards April: The wholesale electricity market design

Driving sufficient investment in low-carbon generation

GLOBAL ELECTRICITY SUPPLY, NET ZERO SCENARIO



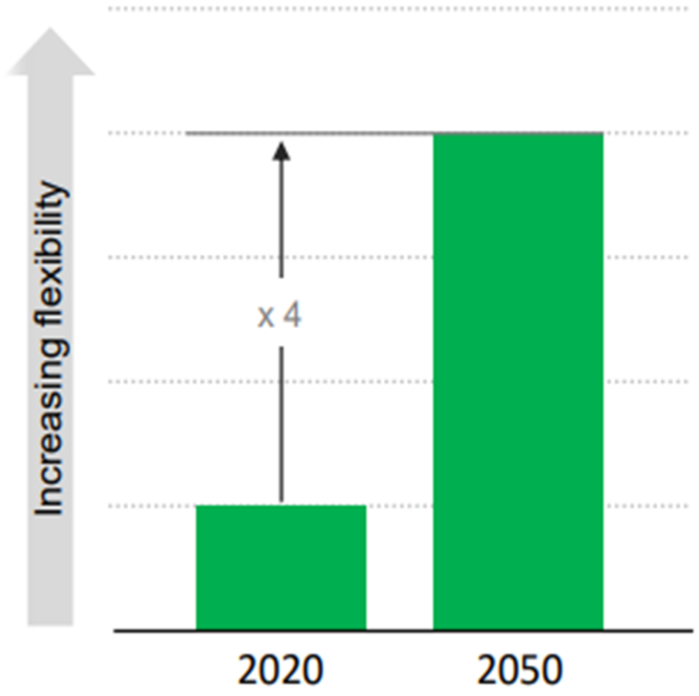


Low-carbon technologies are often CAPEX-heavy. How to ensure sufficient investment in low-carbon generation, whilst retaining the benefits of EU market integration? Is there a need for additional mechanisms to ensure this; if so, which ones? What about the role of non-market barriers to increased investment?

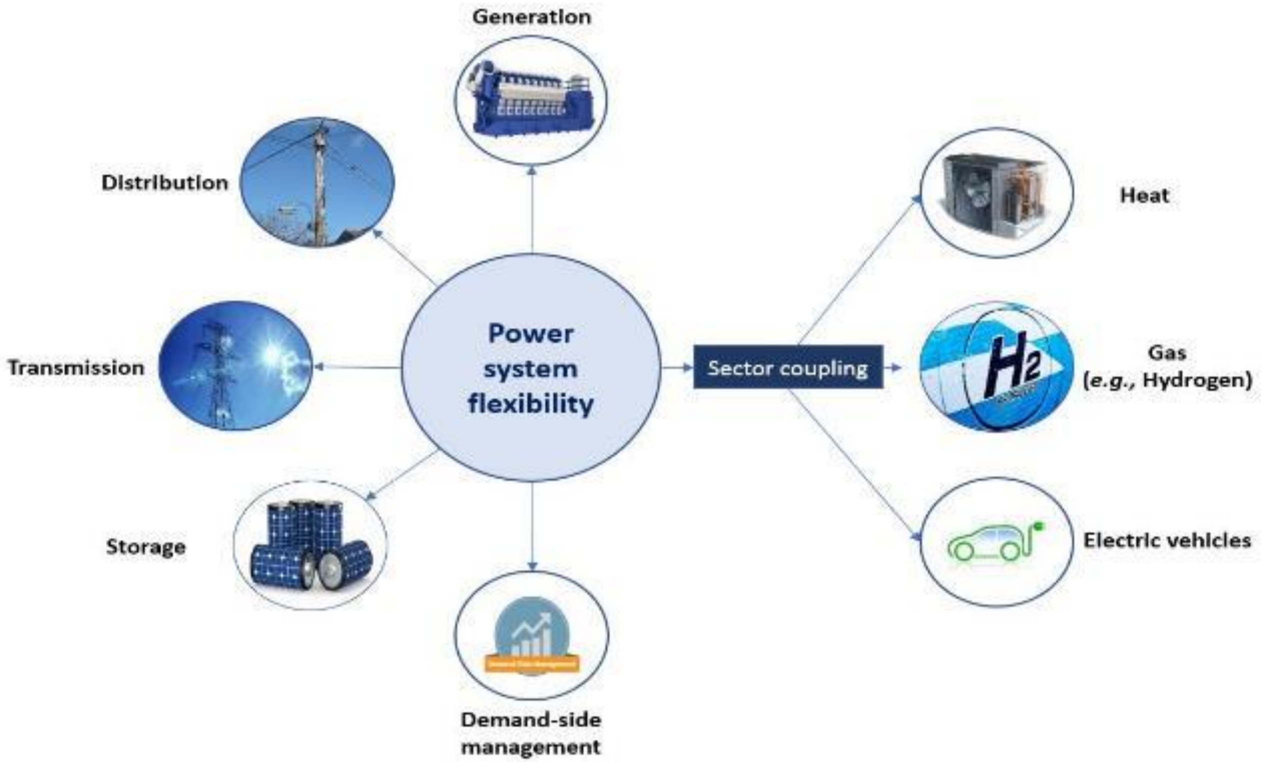
Source: IEA's 'Net Zero By 2050' report of 18 May 2021 (LINK). CAPEX overview is from IEA and ACER figures.

Driving sufficient investment in flexibility & capacity

ELECTRICITY SYSTEM FLEXIBILITY NEEDS



VARIOUS MEANS OF FLEXIBILITY AT DIFFERENT TIMESCALES (DAILY, WEEKLY, SEASONAL)

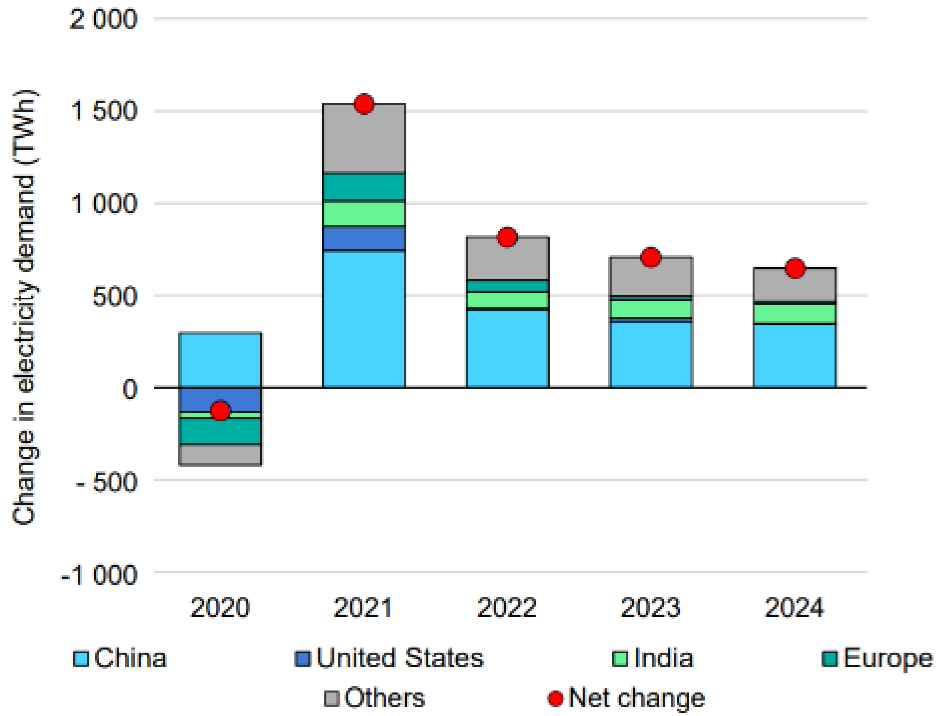


Increasing amounts of intermittent generation will increase the need for flexible and back-up low-carbon resources; and this across multiple time frames. How to ensure adequate incentives for e.g. demand-response and (both shorter and longer-term) storage in order to provide adequate flexibility and capacity, thereby ensuring supply of supply?

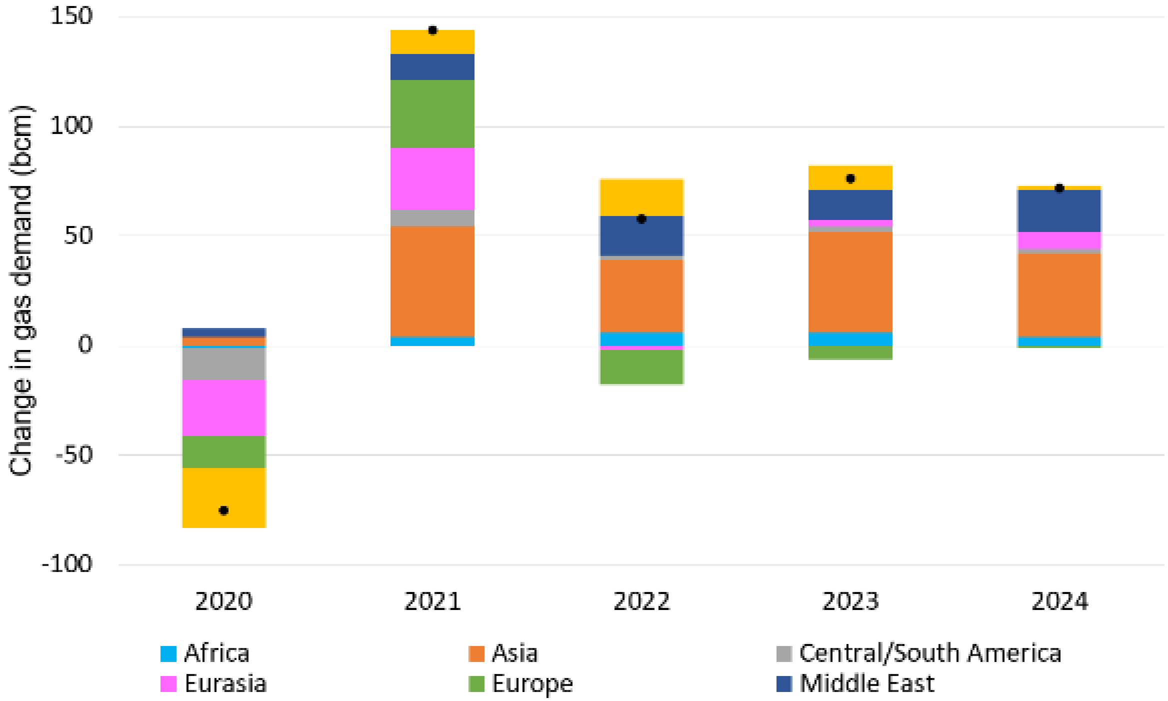
Source: IEA's 'Net Zero By 2050' report of 18 May 2021 (LINK) and IRENA's 'Power System Flexibility for the Energy Transition' report of November 2018 (LINK).

A key issue: What will clear 'at the margins' (1/2)

Electricity demand 2020-2024
(year-on-year increase)



Gas demand 2020-2024
(year-on-year increase)

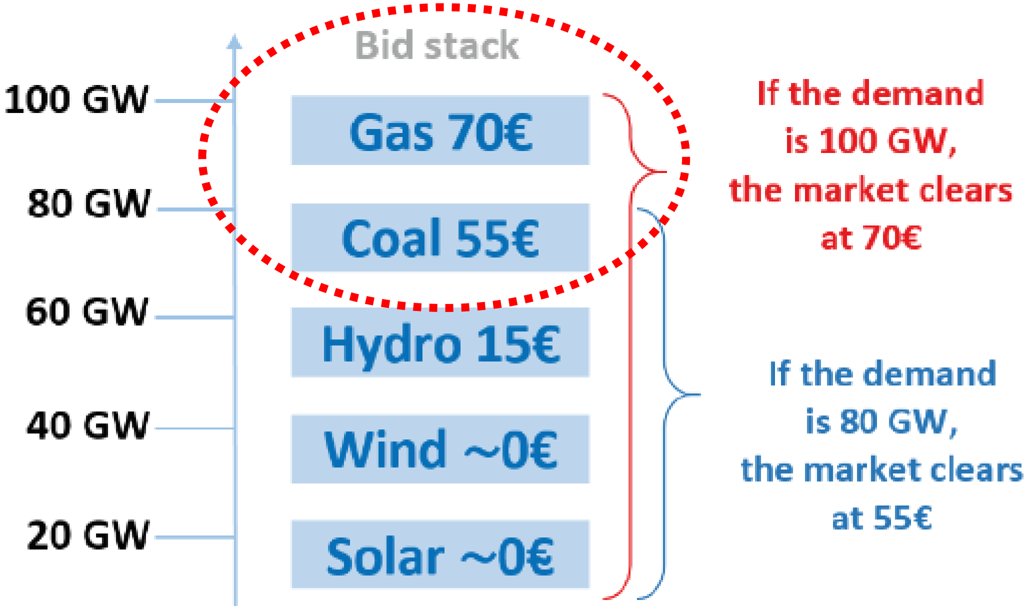


Outlook for the near-term: Gas demand likely to increase, in particular outside Europe, presumably impacting gas prices. For Europe, gas is likely to remain 'at the margins' as a relevant driver of electricity prices.

Source: IEA's 'Electricity Market Report' of 14 January 2022 (LINK) and IEA's 'Gas Market Report' of July 2021 (LINK).

A key issue: What will clear 'at the margins' (2/2)

PAY-AS-CLEAR



Producers bid true costs and get the market clearing price.

With increasingly limited coal-to-gas / gas-to-coal switching, alternative supply and demand oriented solutions 'at the margins' may prove key to 'outcompete' the contribution of gas. Hence, the relevance in appropriate incentives for such solutions. And conversely, in the absence of such incentives, are these solutions likely to materialise at scale?

Source: ACER.

Thank you for the opportunity.
Looking forward to the discussion.

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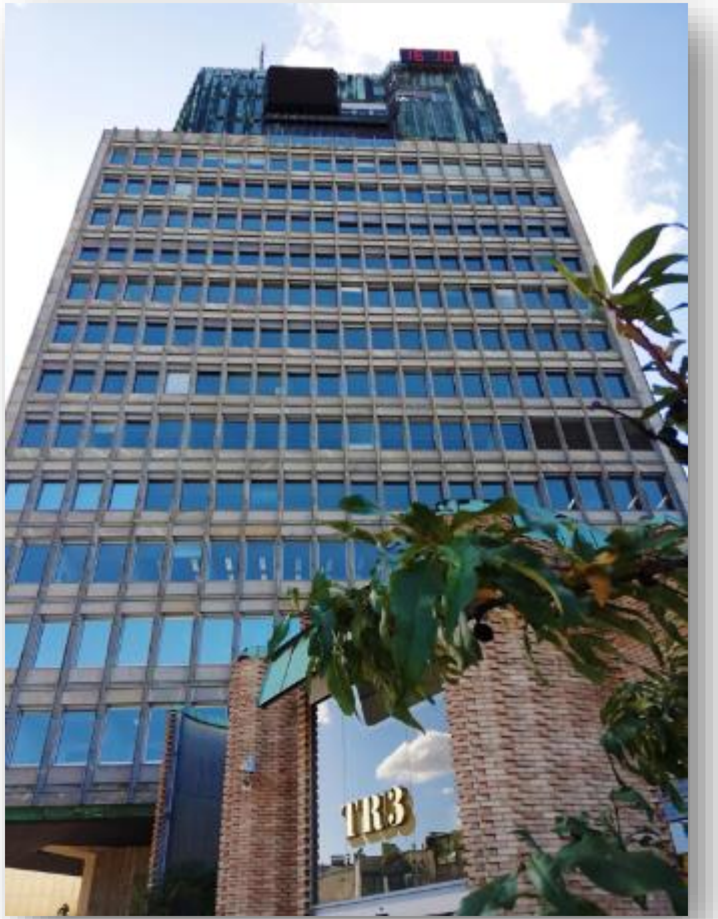
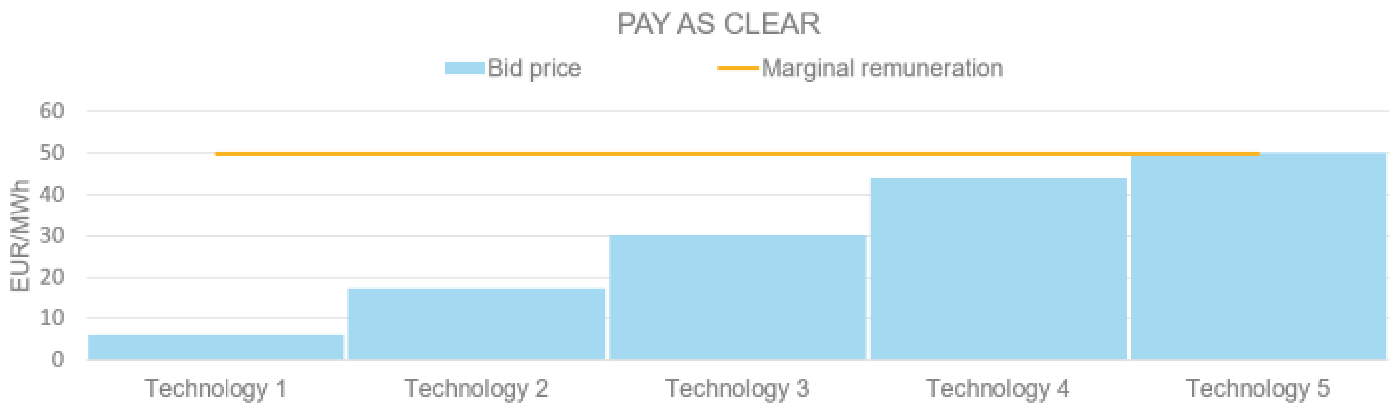
ACER: Role & governance

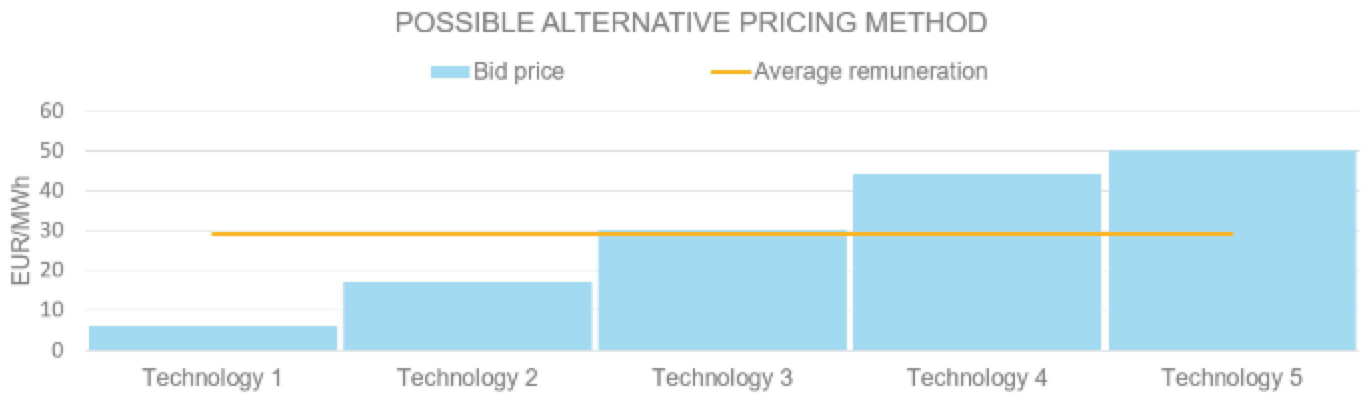


- **Supporting the integration of <u>energy markets</u> in the EU** (by common rules at EU level). Primarily directed towards transmission system operators and power exchanges.
- **Contributing to efficient trans-European energy <u>infrastructure</u>**, ensuring alignment with EU priorities.
- Monitoring the well-functioning and transparency of energy markets, **deterring market <u>manipulation</u> and abusive behaviour**.
- Where necessary, **<u>coordinating</u> cross-national regulatory action**.
- Governance: **<u>Regulatory oversight</u> is shared** with national regulators. **Decision-making** within ACER is collaborative and joint (formal decisions requiring 2/3 majority of national regulators). **Decentralised enforcement** at national level.

Alternative market design approaches

ILLUSTRATION OF THE CURRENT ELECTRICITY WHOLESALE PRICING METHOD AND POSSIBLE ALTERNATIVES





Other approaches recently raised, e.g. the notion of 'decoupling' bids and the respective clearing price and/or introducing price ceilings per particular technologies.

Source: ACER elaboration.

Recalling the value of interconnectivity

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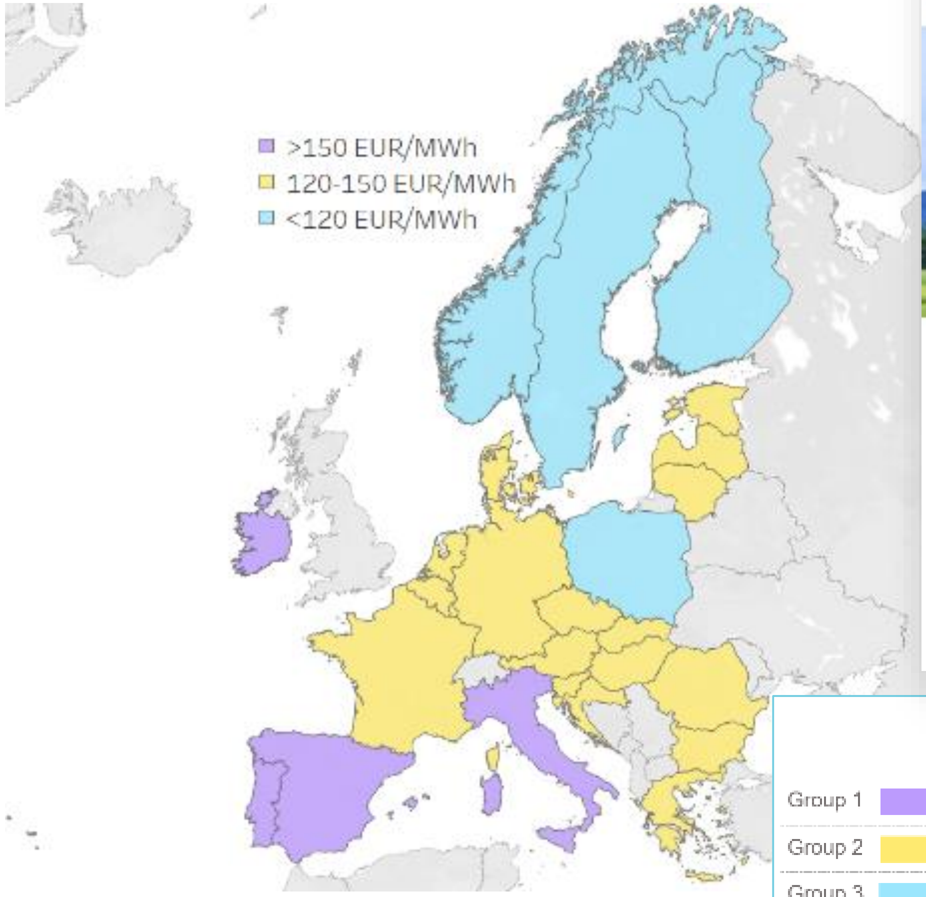
COUNTRIES AND THEIR EXPOSURE TO HIGH ELECTRICITY PRICES IN SEPTEMBER 2021



News 12/01/22 News

International dependency on security of electricity supply calls for more cross-border coordination

A further reduction in the capacity of gas and coal-fired power plants will result in a greater interdependence among countries in Northwestern Europe to meet their security of supply requirements in the medium to long term (2025-2030). This will also create greater risks for the security of supply for the Netherlands. These are the findings of the report 'Monitoring Security of Supply 2021', an annual analysis by TenneT that is commissioned by the Dutch Ministry of Economic Affairs & Climate Policy. In this report, TenneT analyses whether the Netherlands has enough production capacity to meet the national electricity demand in the short, medium, and long term. After 2025, uncertainties increase and security of supply drops. A robust electrification of society, decreasing coal and gas-fired capacity, and increasing production of wind and solar power make the system increasingly dependent on weather conditions and imports.

	Main characteristics of the Member States pertaining to the group	Average day-ahead prices (EUR/MWh)	Electricity demand covered with gas (%)
Group 1	Highly gas-dependent and/or limited interconnected countries	167	34
Group 2	Moderately gas-dependent and/or well interconnected countries	132	14
Group 3	Limited gas-dependent countries	89	3

Rte

Cette situation a été accentuée, en France, par des épisodes de faible production éolienne au cours de ces derniers mois, mais surtout par l'indisponibilité simultanée de nombreux réacteurs nucléaires. La disponibilité d'ensemble du parc se situe ainsi, depuis plusieurs semaines, en deçà des minima historiques et notamment de l'année passée, ce qui contribue à l'augmentation des prix de marché. Dans ces conditions, la France se trouve fréquemment en situation d'import d'électricité depuis le mois de novembre, alors qu'elle est traditionnellement exportatrice. Des niveaux très importants d'imports, proches des capacités techniques maximales, ont par exemple été enregistrés les 20, 21 et 22 décembre 2021.

Source: ACER calculation based on ENTSO-E data (from ACER's Preliminary Assessment of 15 November 2021). TenneT report from 29 November 2021: "Monitoring Leveringszekerheid 2021". RTE report from end-December 2021: "RÉACTUALISATION DES PERSPECTIVES D'ÉQUILIBRE OFFRE-DEMANDE EN ÉLECTRICITÉ POUR L'HIVER 2021-2022".