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What are the key trends in the global energy sector … are economics, climate or geopolitics driving change ?

AFRY Management Consulting

08 July 2026

Agenda

- **Introduction**
- Global electricity demand
- Global gas markets
- Retail electricity pricing

This presentation will look at the trends in three aspects of the global energy sector

Topics covered today

- **Global power demand**
- **Global gas markets**
- **Retail electricity pricing**

Honorable mentions (not covered today)

- **Supply-chain resilience:** Efforts are intensifying to secure critical minerals and reshore manufacturing inverters, substations
- **Biomethane:** Growing interest in biomethane as a pathway to heat and transport decarbonization and diversifying gas supply
- **Long-duration energy storage:** Growing focus on deploying long-duration storage technologies to address multi-day and seasonal flexibility needs
- **Wind and solar PV deployment:** ~500GW of wind and ~1600GW of solar PV have been added globally in last 5 years and are dominating global power capacity additions
- **Grid connection policy:** Renewable connection queues are increasing … network operators are racing to prioritize and connect them
- **Co-location:** Developers are increasingly co-locating batteries on existing solar, wind sites to maximize efficiency and optimize grid access
- **EV charging infra:** Charging infrastructure is increasingly the key bottle neck for large scale EV deployment
- **Heat decarbonization:** Electrification through heat pumps is gaining momentum as the primary route to decarbonization

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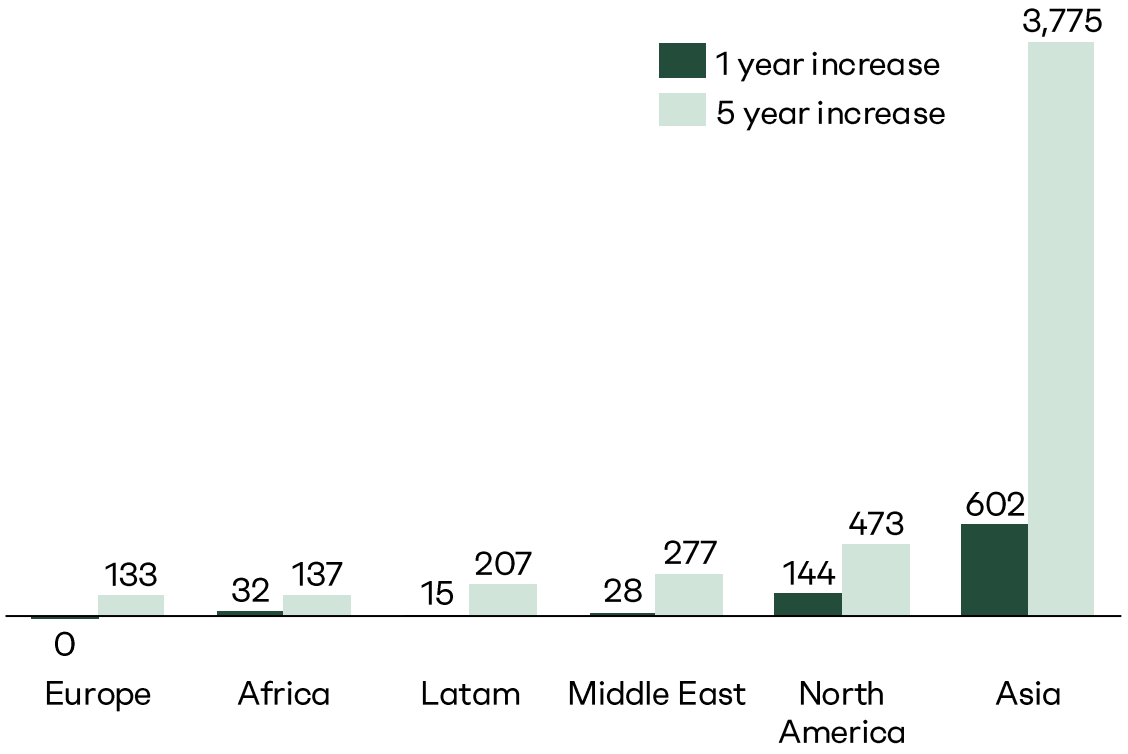
Electricity demand growth is driven primarily by Asian economic growth … with data centre driven growth observable in the US

Electricity demand growth (TWh)



Commentary

— Asia continues to drive global electricity demand growth, supported by population and economic growth … combined with increases in electricity intensive industry

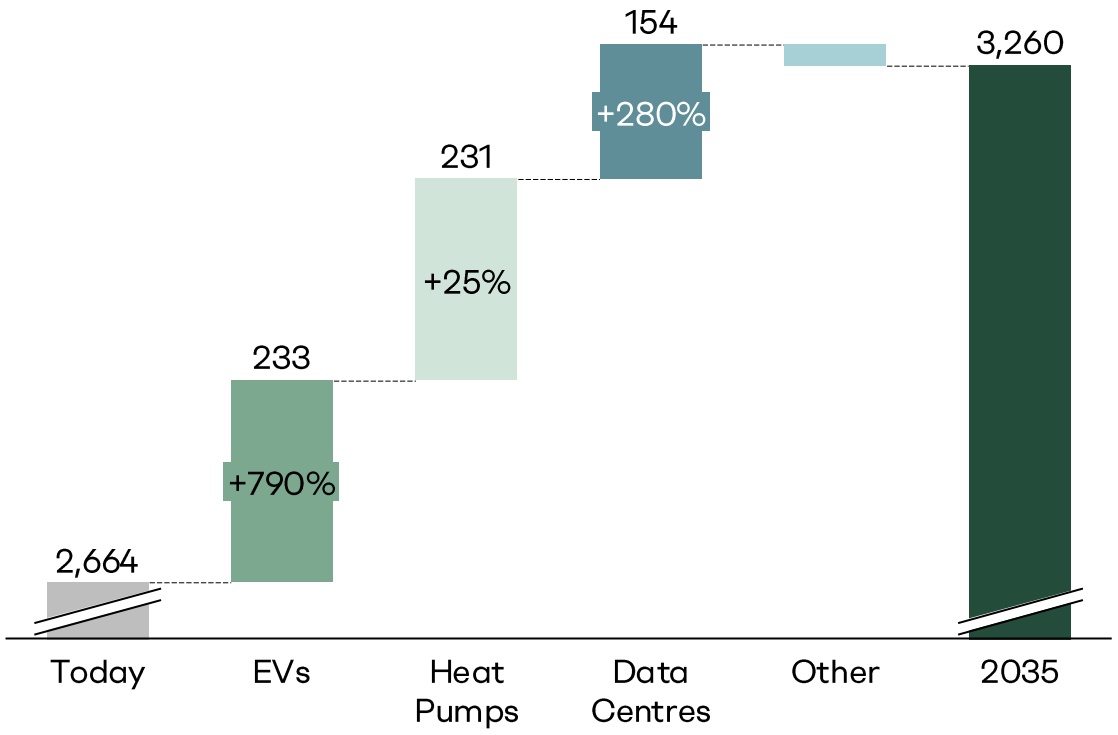
— US demand growth is increasingly driven by data centres and bitcoin mining demand

— European electricity demand growth has been weak in the last 5 years

Source: Ember

EVs, Heat Pumps and Data Centers will become the main drivers of European electricity demand over the next decade

EU-27+UK electricity demand (TWh)



Commentary

- Data Centers demand to double by 2030 and almost triple by 2035
- Electrification of heat & transport remains key growth driver
- EVs and heat pumps improve system flexibility in mid- to long-term

Source: AFRY analysis excluding electrolysis

Global data centre capacity is expected to increase from 100GW to 225GW by 2030 … this capacity has a very high willingness to pay

Power supply strategy	Companies	Description
Space-based solar power	SpaceX	SpaceX has proposed deploying data centre capacity on satellites powered by solar panels
Nuclear	Google, amazon, Microsoft	Technology companies are exploring SMRs and nuclear PPAs to secure firm, low-carbon power for growing AI and data centre loads
Gas	Meta, xAI	Dedicated gas generation can provide reliable power where grid capacity is constrained and rapid deployment is required
24/7 clean power	Microsoft, Google	Combining renewables, storage, hydro and other carbon-free resources to match data centre demand with clean electricity on an hourly basis
Carbon removal credits	Google, amazon, Microsoft, Meta	Purchase carbon removal credits e.g. Direct Air Carbon Capture and Storage (DACCS), to neutralise the emissions from power consumption

Source: IEA, AFRY analysis

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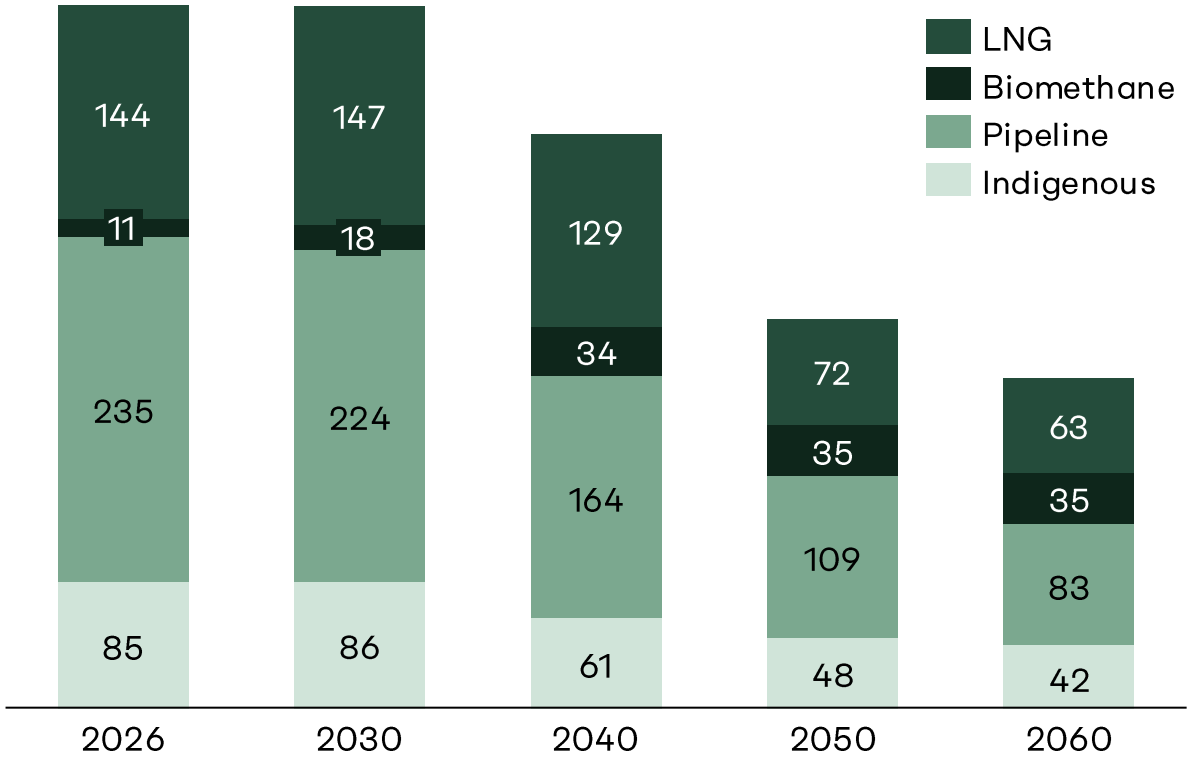
Europe will continue to need LNG imports … linking European gas prices to global LNG market dynamics

Europe + UK source of gas (bcm)



Note: In this chart, Europe includes Turkey
Source: AFRY analysis

Commentary

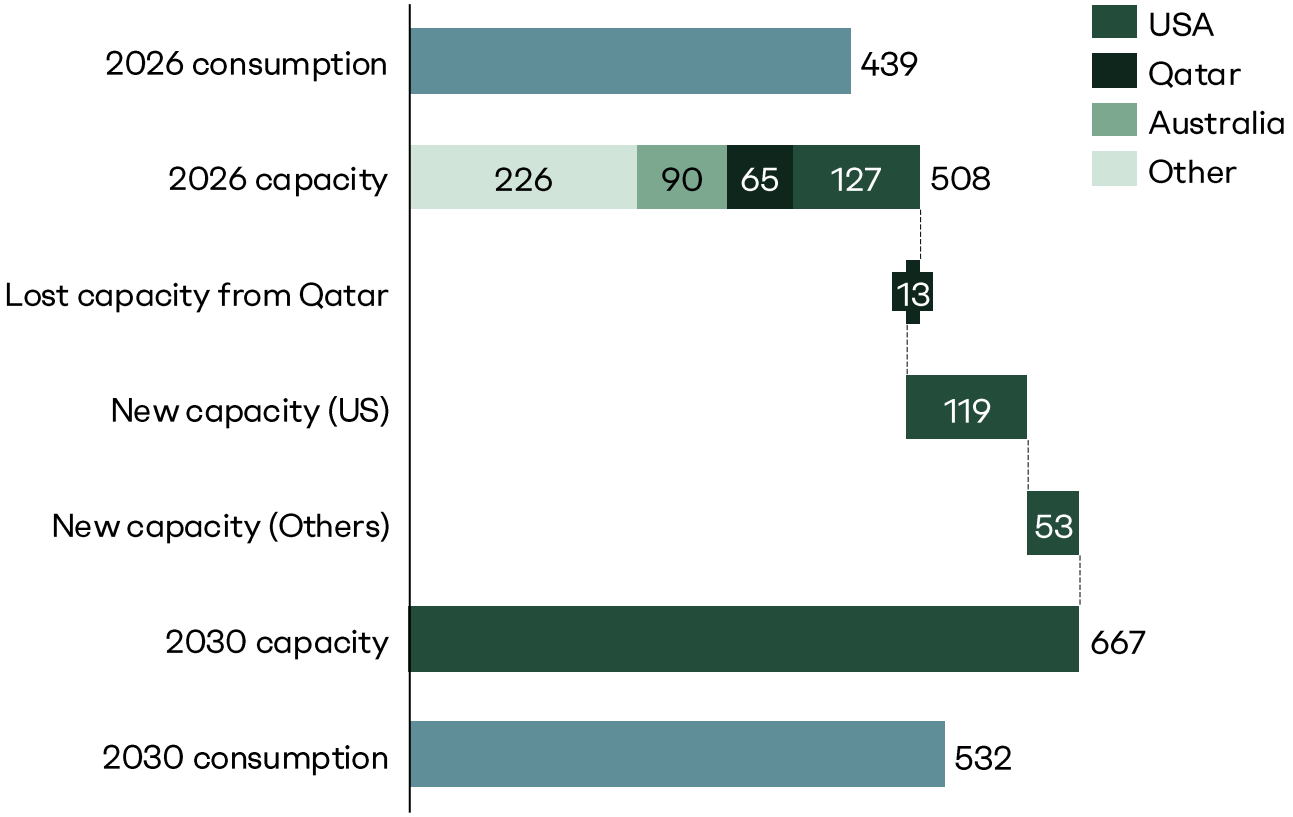
— European gas demand will decline as the economy decarbonizes … but gas demand will persist even in a net-zero scenario due to CCUS, low carbon hydrogen and biomethane

— Pipeline imports will continue from Norway, North Africa, Russia and Central Asia

— We expect biomethane to expand rapidly in the next 10 years

The global LNG market is constrained at present … but a large amount of new US LNG export capacity is under construction

Supply and demand in the global LNG market (mtpa)



Commentary

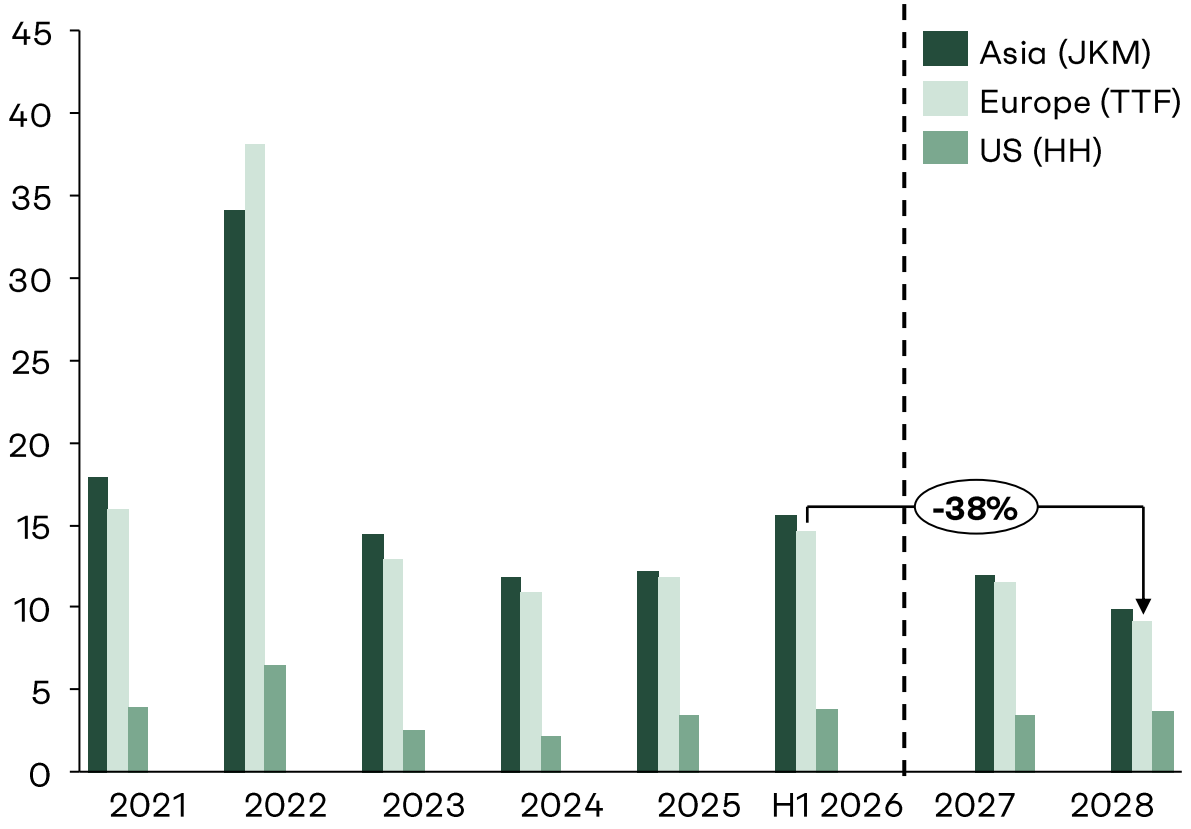
— Some of Qatar's LNG capacity has been physically damaged and will be offline for ~4 years

— There is a large amount of new LNG export capacity in the US and elsewhere due to come online

Sources: LSEG, AFRY analysis

The futures market sees a 38% reduction in European gas prices by 2028 compared to H1 2026

Key gas price indices ($ per mmbtu, nominal)



Forward and Historical prices taken on 29th June 2026
Source: LSEG

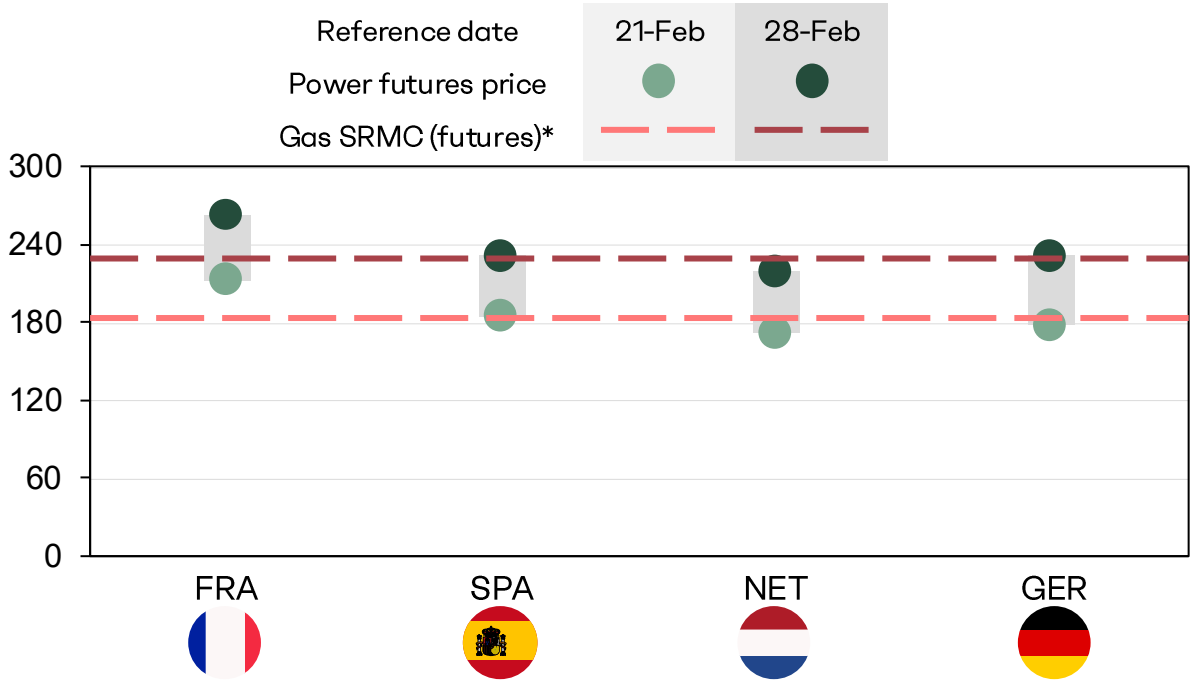
Commentary

— Gas prices have increased in 2026 following the Iran conflict … but they remain below 2022 crisis levels

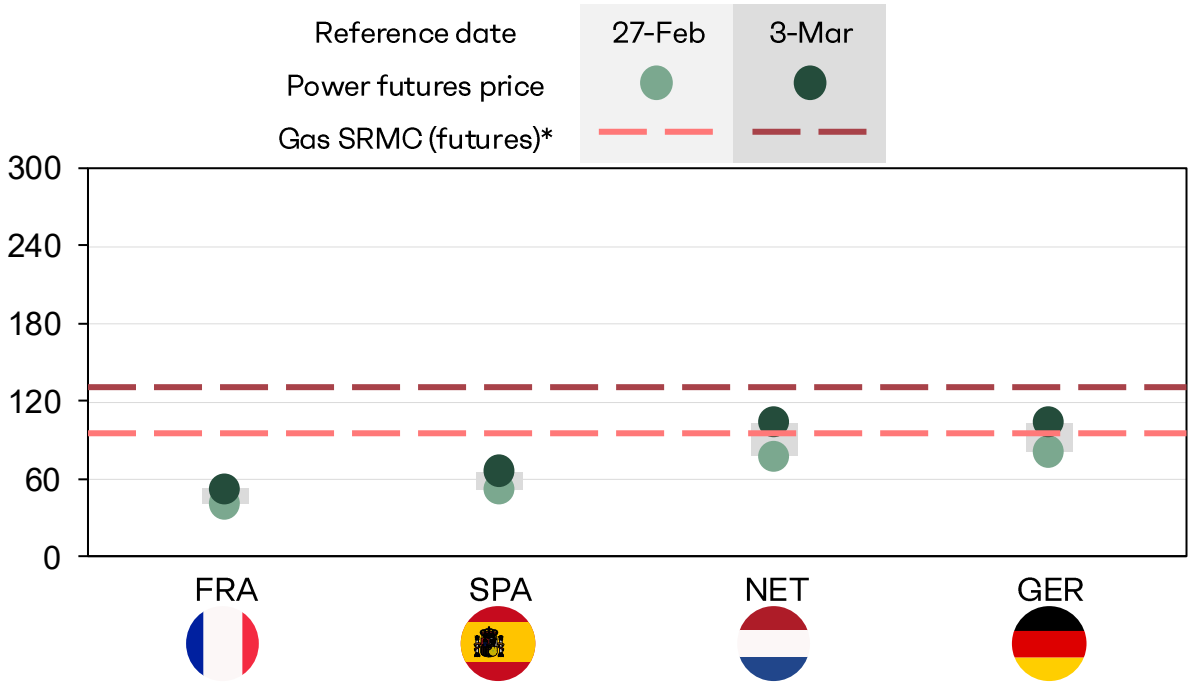
— The LNG supply additions are expected over the coming years, led by the US … this is expected to reduce gas prices

The impact of gas on European wholesale power prices is weakening

Electricity futures in selected European markets
EUR/MWh – average of monthly futures (Apr-22 to Dec-22)



Electricity futures in selected European markets
EUR/MWh – average of monthly futures (Apr-26 to Dec-26)



Sources: LSEG & AFRY analysis
Note: (*) We have estimated a generic Short-Run Marginal Cost (SRMC) of a CCGT assuming a 50% efficiency and on the basis of forward prices for gas and carbon.

Agenda

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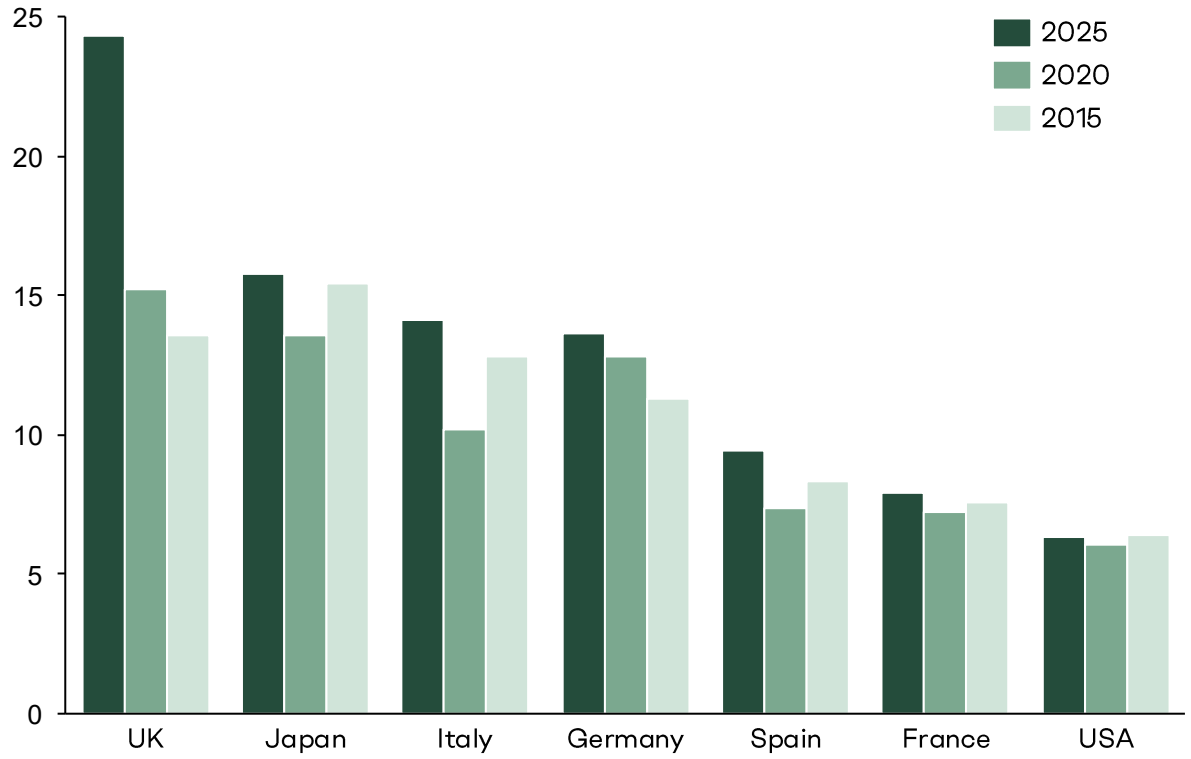
Electricity prices have increased significantly due to higher gas prices combined with rising policy and network costs

Non-domestic electricity prices including taxes (real 2025 p/kWh)



Commentary

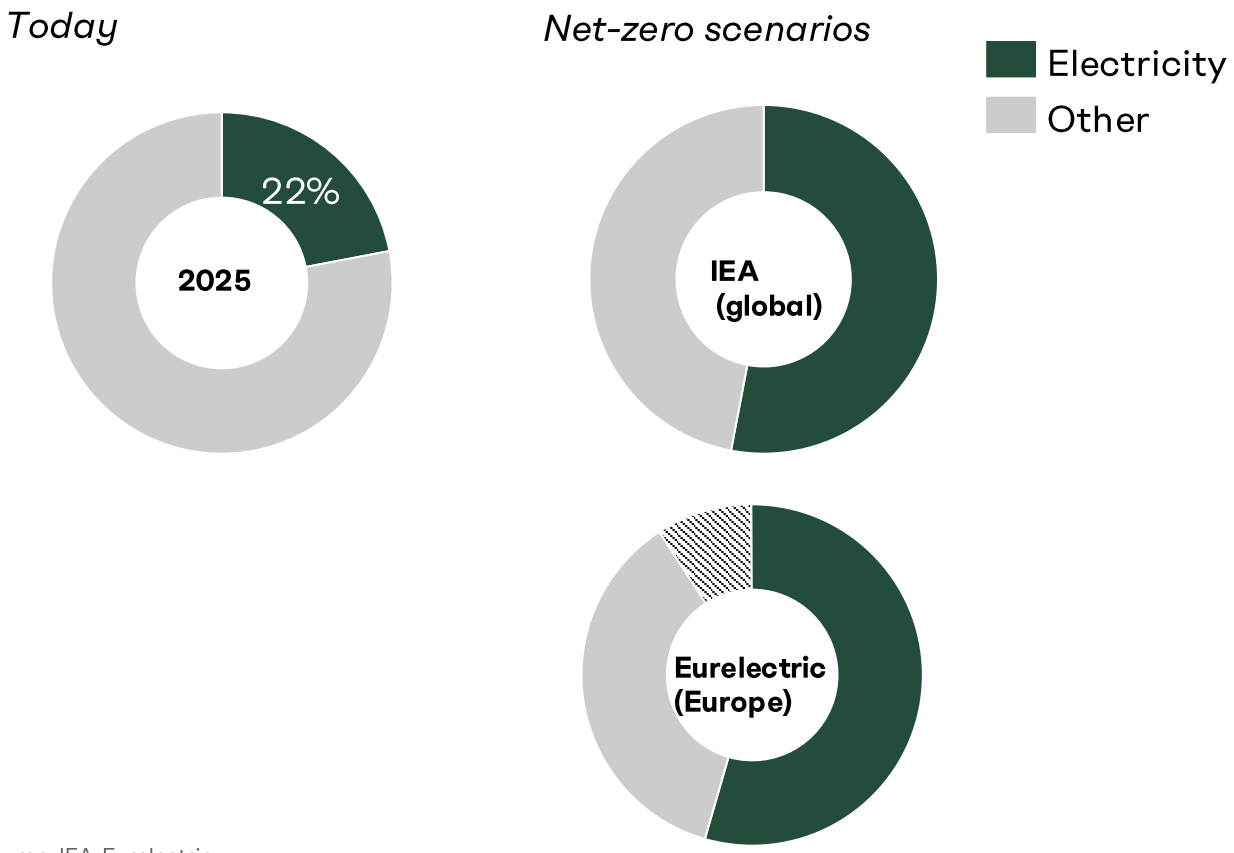
— Non-domestic electricity prices have increased across most major economies since 2015

— Higher gas prices have been a key driver, but policy support mechanisms and increasing network investment are becoming an increasingly important component of retail electricity prices

Sources: AFRY analysis

Electricity will be more than 50% of final energy consumption in a net-zero world … making the correct pricing of electricity key to delivering net-zero

Electricity share of final energy consumption (%)



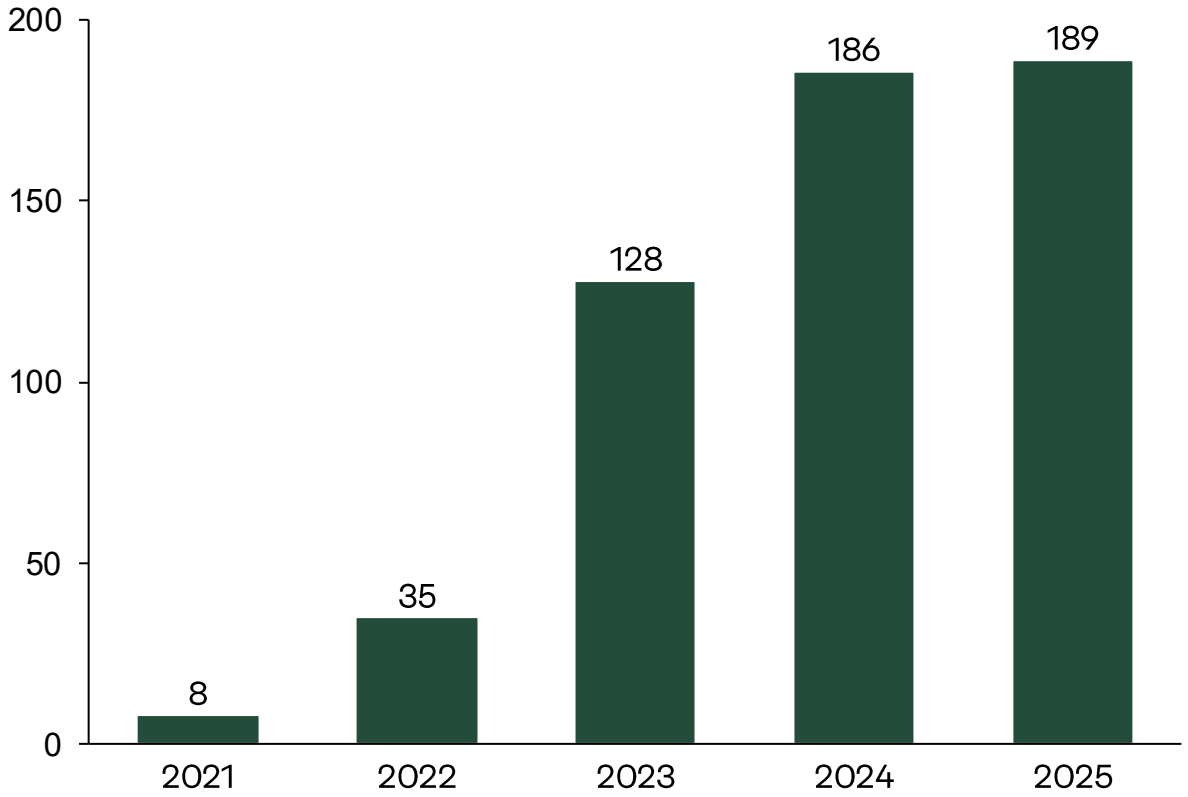
Source: IEA, Eurelectric

Commentary

— Electricity's share of final energy consumption is expected to rise from around 20% today to more than 50% by 2050 under plausible net-zero scenarios

We used to shape electricity supply around the unresponsive demand …. in future we must use prices to target demand to times of high renewable output

Hours with zero or negative day-ahead price in GB



Source: AFRY analysis of GB day-ahead prices

Commentary

— Pricing needs to granular and reflect marginal cost … which is often zero

Government and regulatory decisions over the last 18 months have unlocked more than £100bn of potential capex investment

Capex associated with recent government and regulatory decisions

Area	Associated capex	Description
Sizewell C RAB	~£40b	Regulated asset base for 3.2 GW of nuclear
LDES Window 1	~£13b	Cap and floor contracts for 136GWh of storage
Allocation Round 7	~£30b	Contract for difference for 15GW of renewables
Allocation Round 8	~£20–40b	Contract for difference for 10–20 GW of renewables
RIIO-T3 Price Control	~£10b with a ~£90b pipeline	Development of the transmission network over the 2026-31 period
RIIO-D3 Price Control	~£30–60b	Development of the distribution network over the 2028-33 period

Commentary

— Government and regulatory decisions over the last 18 months have unlocked more than £100bn of potential UK energy infrastructure investment

How capex costs are reflected in retail electricity prices will be a hotly debated political issue in the coming years

There is no easy answer on how best to recover capex costs …

— The recovery of these capex costs has the potential to distort marginal cost signals

— One solution would be to move these costs on to general taxation … but this is politically unrealistic

— Other options (triad, connection-based, capacity-based charges, time-of-use) are all imperfect

… meaning the debate will continue in the coming years

— Governments and regulators around the world will be seen as responsible for the investment that arose from their policy decisions … and for determining how best to recover the associated cost from customers

— The government's 'wholesale CfD' proposals announced in April 2026 is an example of the UK government seeking to influence how the costs of low-carbon investment are reflected in retail electricity prices

— The debate on how best to approach this will continue in the coming years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