

# Quarter European Energy Market Trends

Q4 2025

*Note: This is a new report that is intended to be issued quarterly. The format and content may change slightly over the coming quarters, based on feedback from readers. Please feel free to send in any comments or suggestions for improvements to [info@semopx.com](mailto:info@semopx.com).*

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# 1. Introduction

The retail cost of electricity in Ireland – the price paid by households and businesses – consists of several key cost components. These reflect not just the cost of generating electricity but delivering it to where it is needed, managing the electricity system and government charges.

The wholesale electricity price relates to the cost of generating electricity and, typically, accounts for 30-40% of the retail cost of electricity. The wholesale electricity price is the price that electricity is bought and sold in bulk, typically by electricity generators, retailers and large energy consumers.

This report provides a summary of the latest trends in the factors influencing Western Europe and neighbouring countries wholesale electricity prices with a particular focus on the Single Electricity Market (SEM).

Section 2 provides a summary of the key trends seen this quarter.

Section 3 compares wholesale electricity prices across key European jurisdictions over the last quarter of 2025.

Sections 4, 5 and 6 provide further detail on the main drivers for the wholesale electricity prices namely gas prices, generation mix and interconnection.

Section 7 provides a glossary of some of the more technical terms used in this report.

## 2. Summary of Trends

European wholesale electricity prices averaged €80/MWh during Q4 2025, marking a 16% decrease year-on-year. This decline was aligned with softer gas prices, which fell by 30% compared to Q4 2024, and strong renewable contributions, particularly wind.

The Single Electricity Market (SEM) remained the most expensive region, averaging €110/MWh, even though this was its lowest Q4 level in five years. Within SEM, November stood out with prices surging to €122/MWh, 17% higher than October and December, attributed to the lowest wind-to-demand ratio of the quarter (35%).

Gas prices remained relatively stable throughout Q4, closing at 78.06p/therm in October, 74.43p/therm in November, and 71.3p/therm in December.

Generation mix trends reinforced price movements. Across Europe, wind output rose 17% year-on-year, while gas-fired generation increased modestly by 4%. In SEM, wind generation surged by over 40% compared to Q3, while gas-fired output grew only 3% quarter-on-quarter. France saw notable shifts, with gas generation doubling from September to October, while Belgium faced nuclear shortfalls of 26% year-on-year before partially recovering in November.

Interconnector flows continued to follow price signals, with France acting as a major exporter to Great Britain, Belgium, and the Netherlands. Both Great Britain and SEM remained net importers, though Great Britain reduced its import volumes thanks to improved domestic renewable generation and lower prices, positioning it as the third cheapest market in Q4.

### 3. Wholesale Electricity Prices

***Wholesale electricity prices fluctuate over time in Europe based on several influences including gas prices, renewable generation, interconnection and seasonal demand.***

In Q4 2025, wholesale electricity prices averaged around €80/MWh across the regions analysed, representing a 16% decrease compared to the same period last year. This decline was accompanied by a 30% drop in gas prices and a 4% increase in gas-fired generation.

Norway recorded a 55% year-on-year price increase. In contrast, the other regions experienced an average decrease of approximately 19% compared to Q4 2024. France registered the largest price reduction, with a decline of about 29% compared to the same quarter last year.

During the last quarter of 2025, the Single Electricity Market (SEM) showed mixed trends. November prices were 17% higher than those recorded in October and December. This increase in November, despite relatively stable gas prices throughout the quarter, may correlate to the wind generation-to-demand ratio, which was at its lowest level of the quarter [35%].

SEM remained the most expensive market among those analysed, with an average price of €110/MWh. However this was the lowest level observed for this period in the past five years. Looking at each month during the quarter individually:

- **October 2025:** Average wholesale electricity prices showed a notable shift compared to the previous month, reflecting changes in generation dynamics and demand patterns [€79/MWh]. Despite softer gas prices, the combination of higher gas-fired output and rising consumption pushed prices upward 13% from September levels. Jurisdictions displayed contrasting trends, with some systems experiencing sharp increases due to reduced hydro availability and nuclear shortfalls, while others benefited from stronger renewable contributions. Norway reclaimed its position as the lowest-priced market [€37/MWh], breaking its earlier alignment with continental Europe, while SEM continued to lead as the most expensive system, reversing the downward trajectory observed earlier in the year [€100/MWh].
- **November 2025:** Prices continued to evolve under the influence of seasonal factors and generation mix adjustments [€87/MWh]. Although gas prices remained subdued, the surge in coal and gas-fired generation, coupled with higher demand, supported a month-on-month increase of 10%. SEM maintained its role as the highest-priced jurisdiction [€122/MWh], while Germany consolidated its position as the second most expensive market [€101/MWh]. In contrast, Spain and France emerged as the cheapest systems [€59/MWh avg].
- **December 2025:** During the last month of the year, the average monthly price showed no significant change compared to November [€86/MWh], decreasing by only 0.47%. However, when compared to the same month last year, prices recorded a substantial decline of 22%. On the other hand, the behavior of individual systems varied. Spain

and France were the only markets to register a price increase compared to the previous month [€73/MWh avg].

Despite these variations, Spain and France continued to rank among the cheapest systems analyzed, while SEM and Germany remained at the top of the price range [€100/MWh avg].

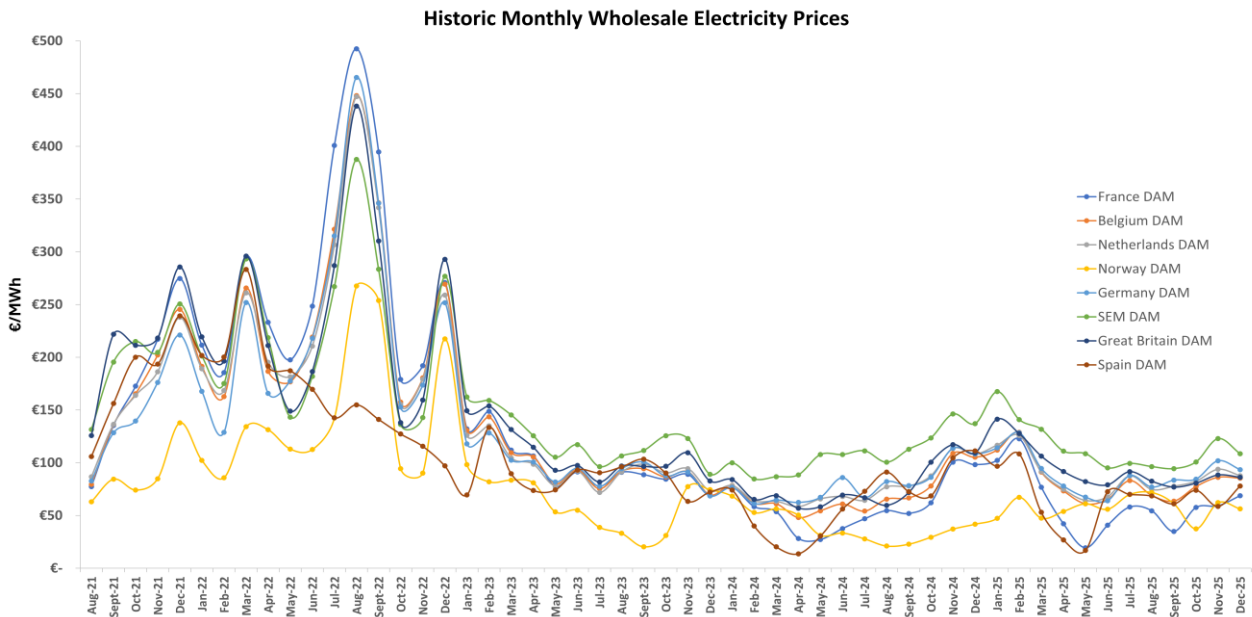


Figure 1: Historical Average Monthly Wholesale Prices in European Jurisdictions

Data source: Montel EnAppSys [BE, FR, GB, NO, NE], ENTSO-E transparency platform [DE, SP], SEMOpX [SEM]

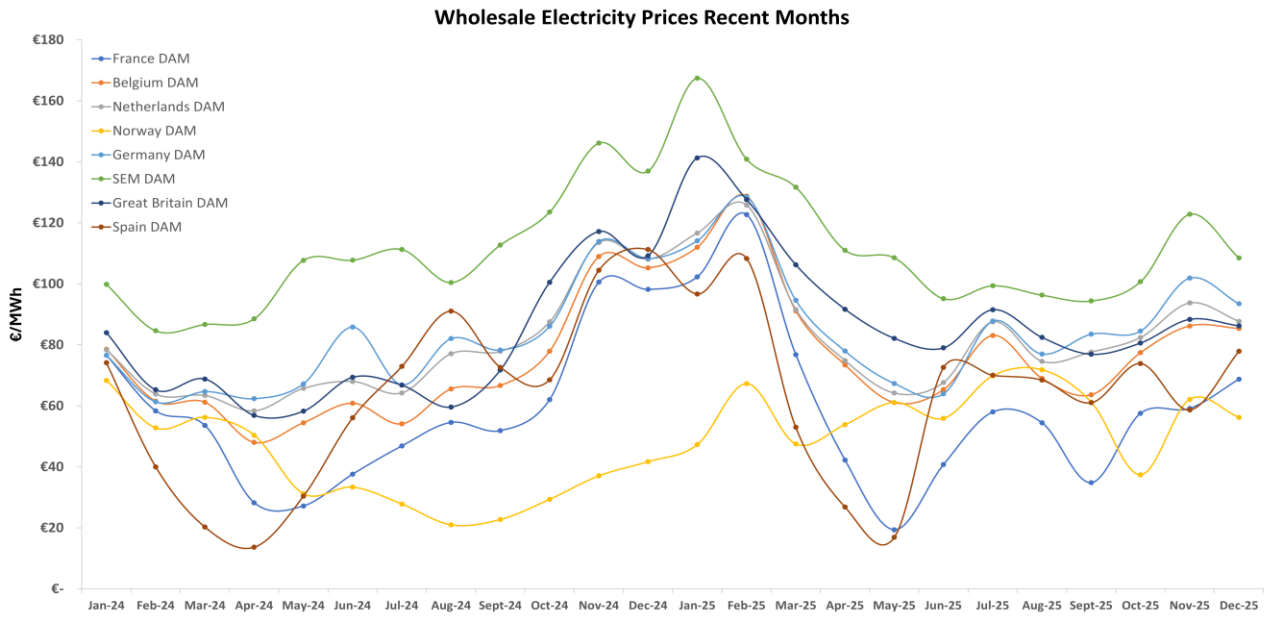


Figure 2: Average Wholesale Prices Recent Months – Jan. 2024 to Dec. 2025

Data source: Montel EnAppSys [BE, FR, GB, NO, NE], ENTSO-E transparency platform [DE, SP], SEMOpX [SEM]

## 4. Gas Prices

**Gas prices have an influence on the cost of wholesale electricity prices across Europe. SEM wholesale electricity prices are significantly influenced by gas prices given the SEM's high proportion of gas-fired generation.**

Gas prices in Q4 2025 remained relatively stable throughout the quarter. While various geopolitical events and supply chain issues caused some minor volatility generally gas prices remained steady.

As described previously, the SEM continued to show wholesale electricity prices stabilising around gas generation prices with SEM's gas-fired generation typically being the margin units in the SEM. Variability in SEM prices could be seen when a) more expensive fossil fuels were needed to meet demand when insufficient renewables were available and conversely lower prices when abundant renewable generation was available.

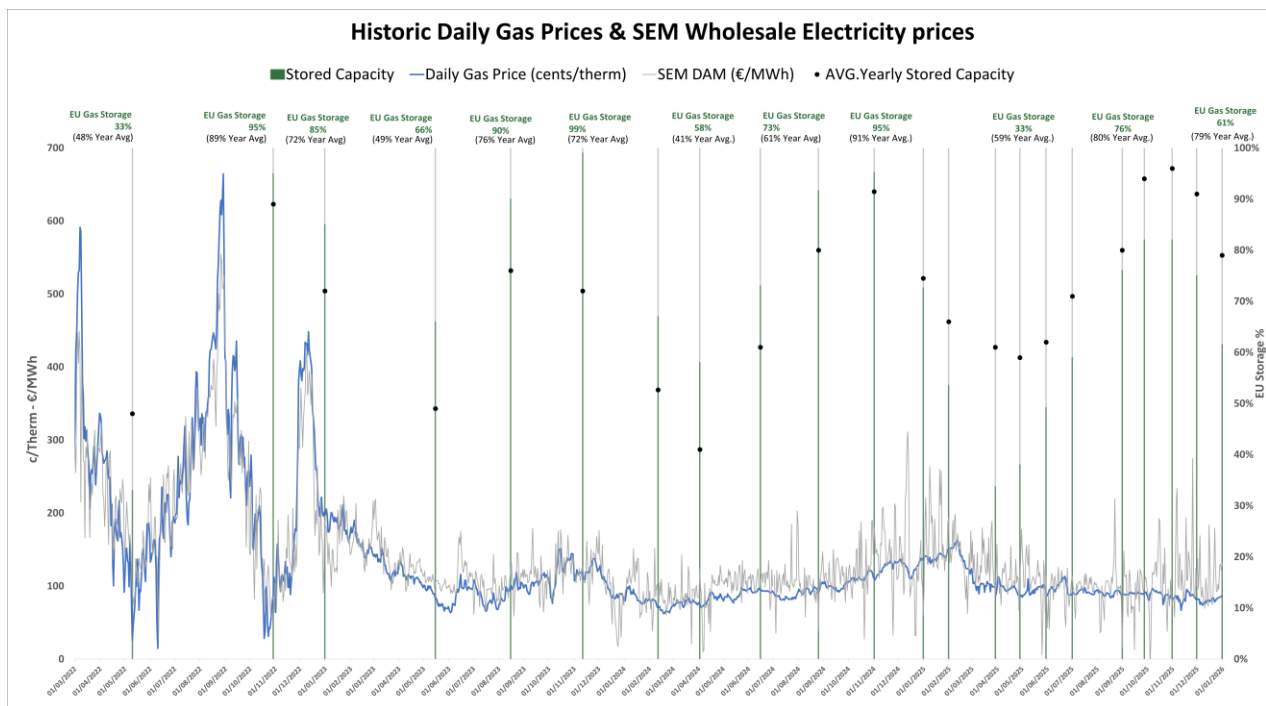


Figure 3: Historical Gas Prices

Data source: GMO operational Data Daily gas price, ENTSO-g Gas dashboard

Looking at each month during the quarter individually:

- October 2025: Gas prices reflected relatively stable conditions, Storage levels remained healthy, and abundant LNG supply helped maintain downward pressure, even as infrastructure outages uncertainty. Gas average price closed at: 78.06p/therm
- November 2025: Market conditions continued to favor stability, with intermittent cold spells introducing brief upward pressure mid-month. Despite these fluctuations, overall prices tended to be lower, storage remained robust. Gas average price closed at: 74.43p/therm

- December 2025: Gas prices experienced volatility. Early in the month, persistent mild conditions and abundant LNG supply. Mid-month saw brief recoveries with colder weather outlook. Toward the end of December, sharp rallies occurred on forecasts for below-seasonal temperatures, Gas average price closed at: 71.3p/therm

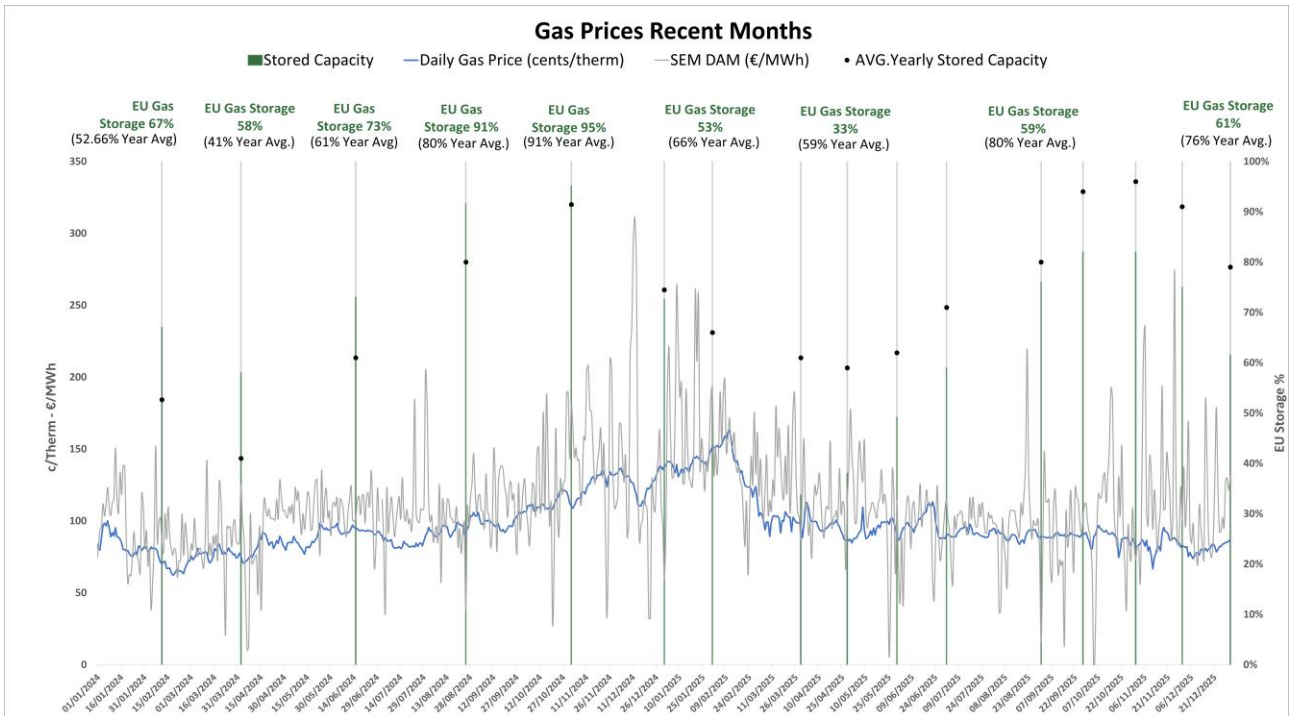


Figure 4: Gas Prices Recent Months – Jan. 2024 to Dec. 2025.

Data source: GMO operational Data Daily gas price, ENTSO-g Gas dashboard

## 5. Generation Mix

***The generation mix has a significant influence on wholesale electricity prices across Europe. Typically, higher renewables combined with higher nuclear mixes have lower wholesale electricity prices.***

During the last quarter of the year, the Single Electricity Market (SEM) recorded an 11% decline in gas-fired generation compared to the same period last year, which aligns with a 12% increase in wind generation.

Moreover, in SEM, wind generation in Q4 increased significantly compared to Q3, with growth exceeding 40%. This was also reflected in the one of the smallest increases in gas-fired generation between the third and fourth quarters, at just 3%.

Across Europe, the generation mix in Q4 2025 highlighted strong wind performance, with average wind output increasing by 17% year-on-year. Conversely, gas-fired generation rose by only 4%. Nuclear output remained almost unchanged compared to the same period last year, with France registering the largest increase at 4%, while Belgium recorded the sharpest decline, with nuclear generation down by 29%. Looking at each month during the quarter individually

- **October 2025:** Renewable generation played a central role in shaping the analyzed systems, with wind output rising 21% year-on-year while solar declined as daylight hours shortened [-34% vs Sep]. Despite these gains, thermal generation increased in several jurisdictions to meet higher demand, particularly gas-fired output in SEM and GB [+30% vs Sep 2025 and +10% Y-o-Y]. France recorded the most pronounced shift [+100% vs Sep 2025 and +65% Y-o-Y], with surging gas generation and modest nuclear growth offsetting renewable contributions, while Belgium faced challenges from reduced nuclear availability [-4% vs Sep 2025 and -26% Y-o-Y]
- **November 2025:** Seasonal adjustments continued to influence generation patterns, with solar output falling further [-32% vs Oct] and wind maintaining a strong presence across most systems [+2% vs Oct 2025 and +17% Y-o-Y]. France experienced another sharp rise in gas generation alongside higher nuclear output, while Spain leveraged exceptional wind performance to secure its position as the cheapest market [+73% vs Oct 2025 and +41% Y-o-Y]. Conversely, Germany faced mounting pressure from declining wind and increased reliance on gas and coal. Belgium reversed its earlier nuclear shortfall, restoring output levels that will likely define its winter profile. [+13% vs Oct 2025 and -14% Y-o-Y]
- **December 2025:** During the last month of the year, seasonal adjustments were observed, with a rebound in wind generation [+12% vs Nov 2025 and +0.02% Y-o-Y]. Overall, the generation mix during December did not vary significantly compared to the same month in 2024. The main changes were a 25% decrease in coal usage, a 15% increase in solar generation, and an 8% rise in gas-fired generation. The countries with the most notable changes in their mix compared to December 2024 were Belgium, which saw a 43% decline in nuclear generation due to several plant closures, likely linked to an increase in gas usage. Meanwhile, the Netherlands recorded a 61%

reduction in coal generation and a 22% increase in gas-fired generation. SEM followed this trend, reducing coal usage practically to zero.

During Q4 2025, Spain and France recorded the lowest prices among the analysed regions, driven by a combination of high nuclear shares around 70% of total generation of France, and a rebound in wind generation within their energy mix.

Throughout the last quarter of 2025, total hydropower generation across the analysed countries improved compared to the underperformance observed earlier in the year. However, overall hydropower output for this quarter was still 4% lower than in the same period of the previous year. France, Belgium, and Germany registered the largest declines, with an average decrease of 15% year-on-year.

Great Britain reported its lowest price in this period since before 2021, and had a lower average price than Netherlands, Germany, and SEM.

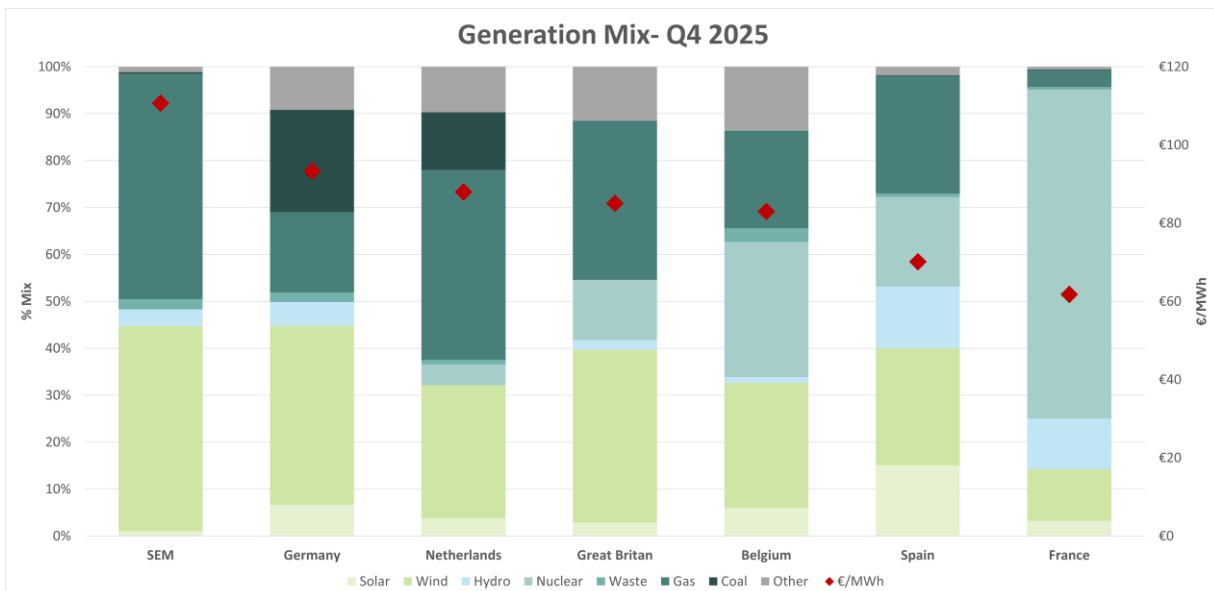


Figure 5: Generation Mix and Prices in Selected European Jurisdictions – Q4 2025.

Data source: Montel EnAppSys [Prices - BE, FR, GB, NO, NE], Fraunhofer Energy-Charts [Fuel Mix - BE, FR, GB, NO, NE], ENTSO-E transparency platform [DE, SP], SEMOpX [SEM]

## 6. Interconnector Flows

*Interconnection plays an important part in maximising the benefits to society of the European wholesale electricity market. Flows typically follow price differences between regions, from low price to high price.*

During the last quarter of 2025, interconnector flows continued to reflect regional price differences and the availability of renewable generation. Flows mainly originated from France and moved towards Great Britain, Belgium, and the Netherlands, before continuing to neighbouring interconnected countries.

This pattern may be linked to the increase in wind generation, demand volatility driven by temperature variations, and the utilization of gas-fired generation.

Meanwhile, both Great Britain and the SEM remained net importers. However, Great Britain showed a decrease in imports from the continent, mainly due to the drop in prices and its position as the third cheapest market.



Figure 6: Europe Interconnector Physical Flows – Q4 2025.

Data source: Fraunhofer Energy-Charts, ENTSO-e transparency p

## 7. Glossary

*The glossary provides a description of the key terms used in the report.*

Term	Definition
Average Monthly Wholesale Prices	Refers to the average of the hourly day-ahead wholesale electricity prices for a given month.
Capacity Factor	Is a measure of how much energy a generator produces relative to its technical maximum energy output. It is especially relevant for renewable sources like wind or solar where generation levels are variable dependent on the wind or solar intensity.
Day-Ahead Market (DAM)	The Day-Ahead Market is the forward electricity market where electricity is bought and sold one day in advance of the actual delivery. It is the key index for wholesale electricity prices.
Wholesale Electricity Price	Refers to the prices for which electricity is bought and sold in bulk, typically by electricity generators, retailers and large energy consumers. It is a key component of the cost electricity but represents only part of the total cost of electricity supply.
SEM	The Single Electricity Market is the electricity market arrangements that cover the island of Ireland namely Ireland and Northern Ireland.