

Learnings from recent energy competition and REMIT cases

Presentation at Strommarkttreffen on market power in energy markets at Herthie School

November 2024

NON CONFIDENTIAL



Agenda

- Compass Lexecon energy team
- Learnings from recent REMIT cases
- Learnings on market definition from the European bidding-zone review

About Compass Lexecon

- One of the world’s leading economic consulting firms, Compass Lexecon provides corporations, governments and law firms with clear analysis of complex issues.
- We have been involved in a broad spectrum of matters related to economics and finance – providing critical insight in legal and regulatory proceedings, strategic decisions and public policy debates. Our experience and expertise apply to virtually any question of economics, in virtually any context of the law or business, and in any industry.
- We have more than 500 professionals worldwide and more than 90 professionals in Europe – based in Brussels, Berlin, Düsseldorf, London, Madrid and Paris.

Services

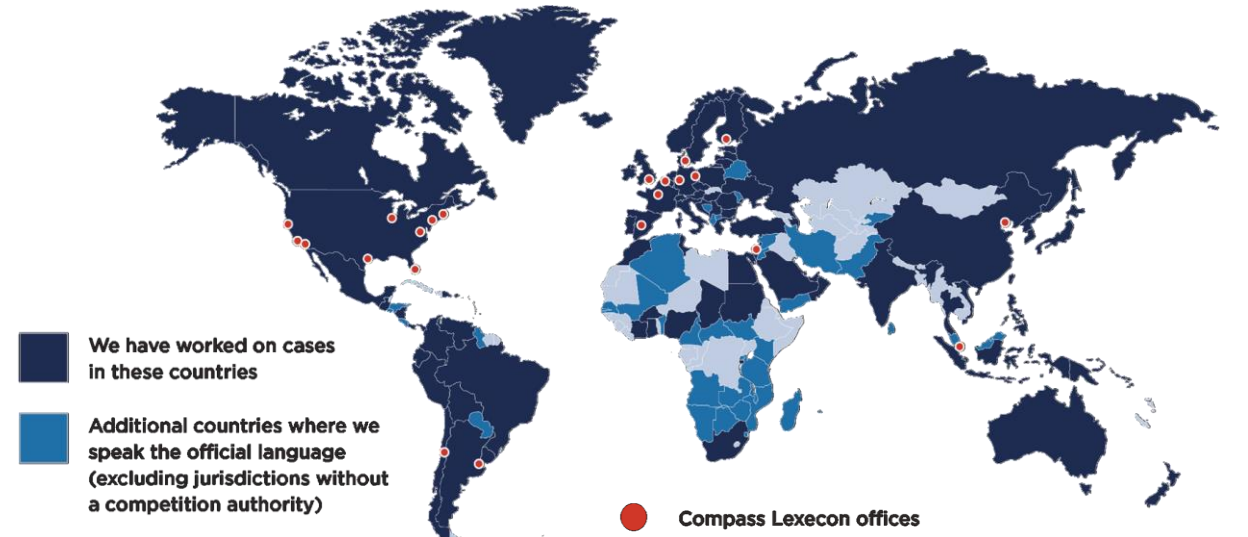
- Accounting litigation services
- Antitrust, competition and M&A
- International litigation & arbitration
- Intellectual property
- Valuation & financial analysis
- Market or sector inquiries
- State aid
- Damages
- Econometric analysis
- Economic and financial regulation

Sectors

- **Energy**
- Healthcare
- High Technology
- Pharmaceuticals
- Telecommunications
- Financial services
- Transportation
- International Trade
- Internet
- Entertainment & media

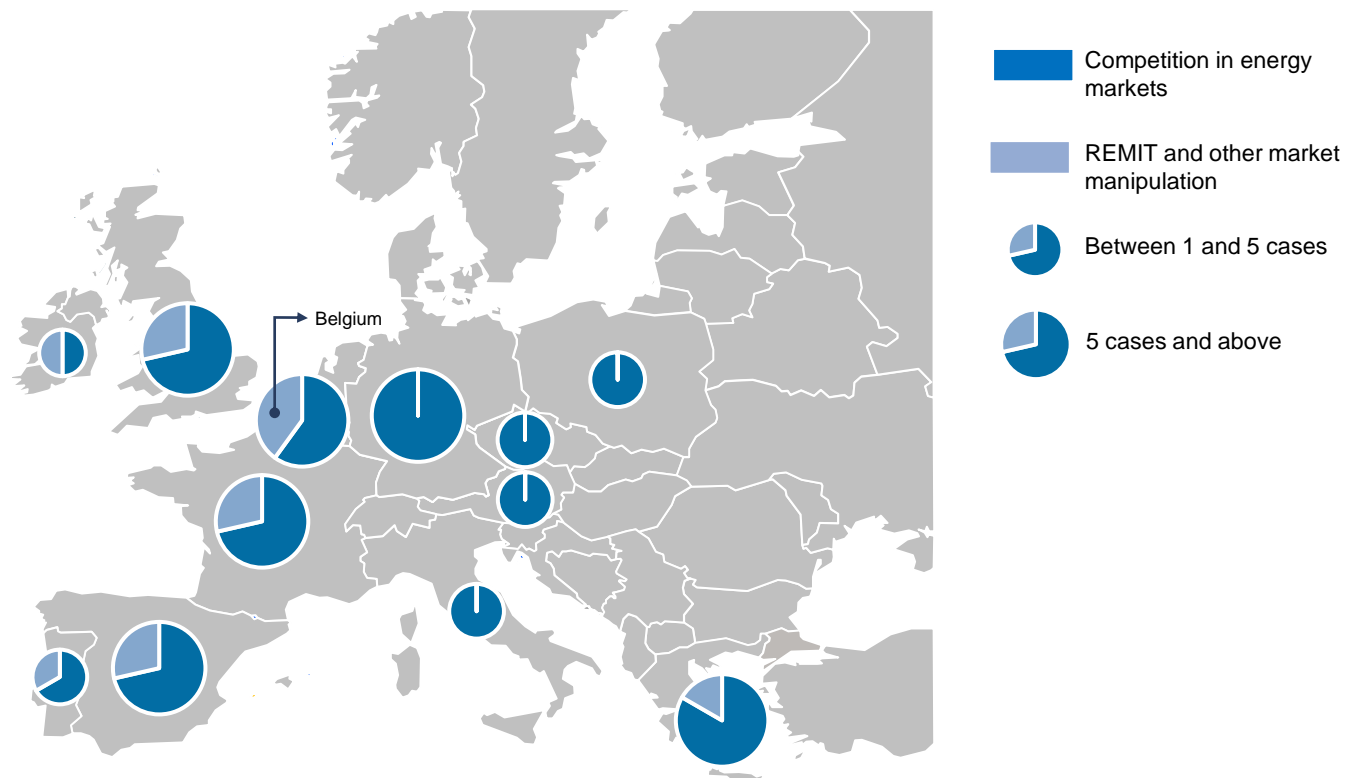
Facts and Figures

500+	Economists	175+	Ph.D. economists
22	Offices worldwide	2	Nobel Prize winners
182	Merger-related matters advised on in the last 12 months	84%	Of the Fortune 100 companies advised
319	Antitrust litigation matters advised on in the last 12 months	90+	Jurisdictions in which we have advised clients



Our team has been involved in a number of cases on competition and REMIT analyses in electricity and energy markets in Europe over the last 10 years

We have been **directly involved in more than 20 missions related to competition investigations and analyses as well as analyses under REMIT and similar market manipulation regulations in electricity markets in Europe.**



Our contributions

- **Investigations of the wholesale market bidding behaviour under competition regulation**
- **Investigation of the inside information disclosure and market manipulation under REMIT and other regulations and licence conditions**
- **Development of market behaviour procedures to ensure compliance with competition and REMIT regulation**
- **Competition analyses in the context of mergers**
- **Competition analyses in the context of other procedures, e.g. EC notification procedure on State aid, third-party access exemption, bidding zone review**

Main requirements under REMIT

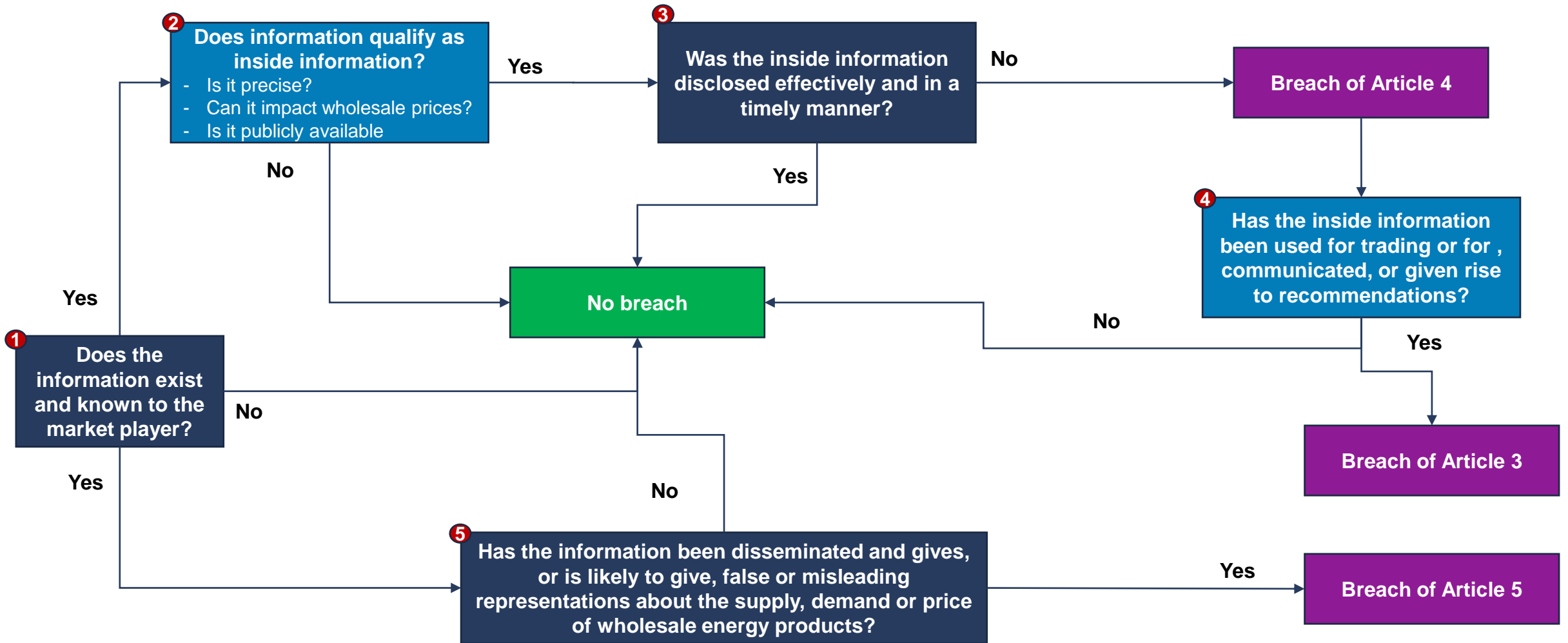
■ Obligation to publish insider information and prohibition of Insider trading – Article 3/4

- Article 4 requires timely disclosure of inside information
 - **Precise information that is not public but can affect prices** of wholesale energy products
 - Typically, unavailability of capacity
- Article 3 prohibits using inside information for trading:
 - **Use of inside information to make transactions** on wholesale energy products
 - **Inducing other parties to make transactions** based on the inside information
- **Ensure market transparency on the fundamentals of the market (e.g. market supply) and create a level playing field**

■ Market manipulation prohibition – Article 5

- Article 5 prohibits **engaging in market manipulation** in wholesale energy markets
 - **False/misleading transactions**
 - **Price positioning**
 - **Transactions involving fictitious devises / deception**
 - Dissemination of **false and misleading information**
- **Prevents market distortions and damage to consumer welfare**

A number of economic criteria need to be verified in establishing potential infringements of Articles 3 and 4 REMIT



What information is considered inside information?

Does production of electricity represent inside information?

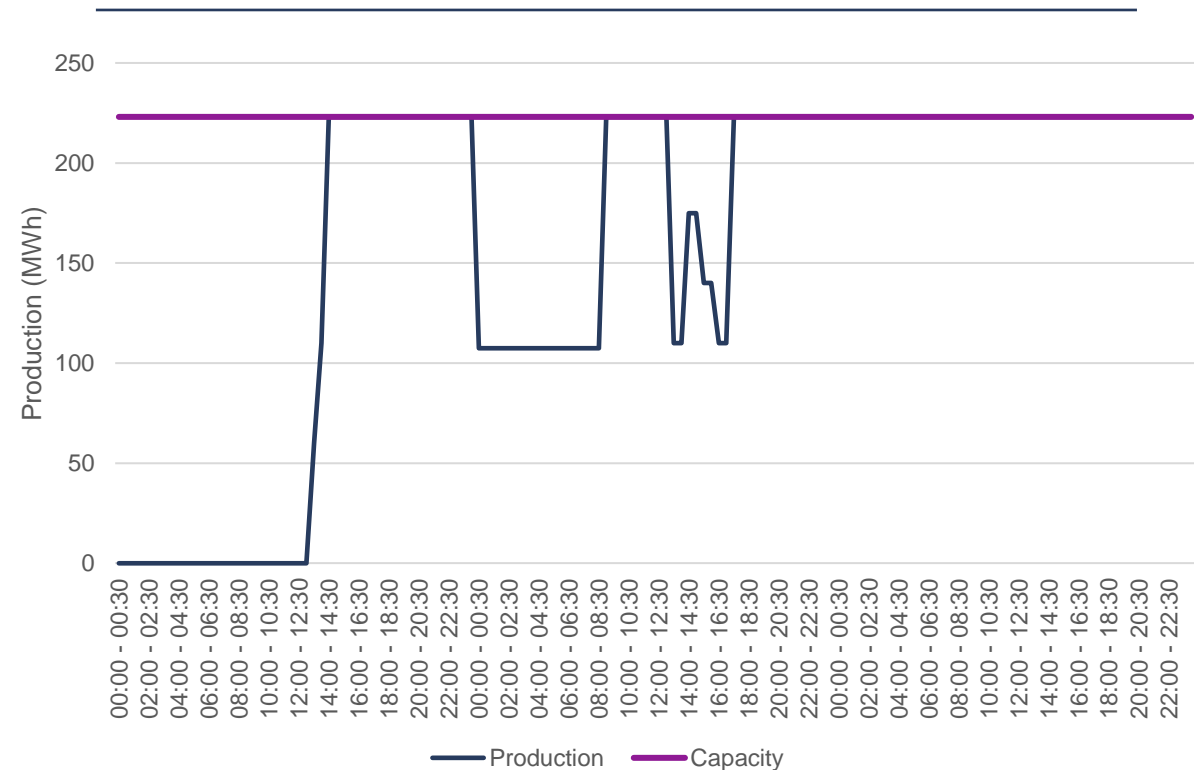
Available capacity

- Is the main focus of the information reported on the REMIT inside information platforms
- Represents the important element of supply that can potentially impact the market price

Production

- Is the result of the market outcome representing the equilibrium between the supply and demand
- Depends on the trading strategies that are out of the scope of the inside information definition
- Can represent the insider information to the extent it is directly driven by the (un)availability of capacity

Available capacity and production of a gas plant



What information is considered inside information?

Unavailability of a plant may have limited impact on the market prices

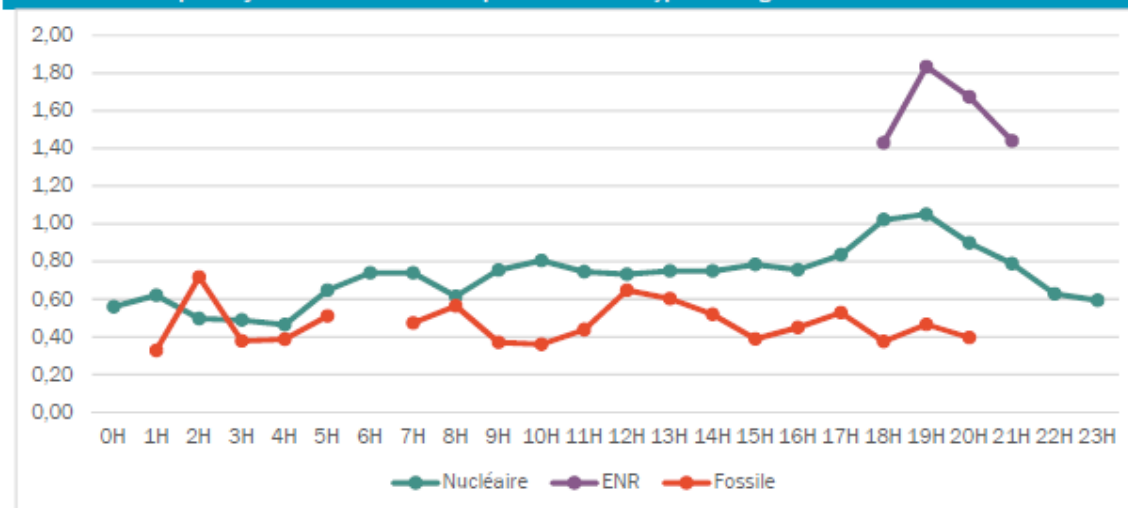
The wholesale market price may be insensitive to (un)availability of capacity

- Because of a significant market depth
- Because of a number of unobserved factors that may make the impact of capacity unavailability statistically insignificant

Impact of outages on intraday prices

- French regulator CRE has performed regression analysis of the impact of different capacity unavailability on the intraday prices in 2021
- The study suggests that the impact of unavailability of thermal plants is small (0.5/GW) and can often be statistically insignificant. This could be the result of thermal capacity not being in the merit to run.

Figure 9 : Comparaison des coefficients significatifs de sensibilité de l'écart entre indice prix intra-journalier d'EPEX SPOT et prix *day-ahead* à l'information publiée selon le type d'énergie. Estimation MLR



Under REMIT and similar regulations, bids above marginal cost can be authorised when they include opportunity costs

In short-term markets, economic theory suggests that in the pay-as-clear markets, competitive generators would submit bid prices at the level of their short-run marginal cost ("SRMC").

The REMIT as well as other related regulations on the wholesale electricity markets consider bids can be "competitive" when including a justified opportunity cost.

However, there are no clear guidelines on what defines acceptable / justified opportunity costs



ACER guidance REMIT – Guidance on capacity withholding cases

- There may be a “**legitimate** technical, regulatory and/or **economic** justification” for not offering available production capacity or has offered it at a price **above marginal cost**.
- For example, in the event of force majeure leading to the unavailability of a power station or transmission constraints.
- **This also includes opportunity costs, ‘the expected value of the most valuable choice that was not taken’.**



GB regulator – guidance on offers to resolve network constraints

- Short-term marginal cost
- Additional maintenance and/or production stoppage costs.
- **Opportunity costs**, for example, pumped storage power stations may include the opportunity costs associated with the reservoir.
- Additional costs associated with the provision of ancillary services may also be included.
- Other elements such as operational risk, environmental obligations, etc.



German regulator – Guidance on how to handle bidding from hydro/ storage assets

- Fuel and transport costs,
- Operating costs,
- Emission costs
- **Opportunity costs**, particularly for batteries and pumped-storage.
- The risk premium for financial protection against power plant breakdowns can also be taken into account.



According to REMIT regulations and those in force in other European countries, a bid considered to be "competitive" should be made at short-run marginal cost, but could also include opportunity cost.

The opportunity cost may include components related to costs and revenues of an alternative use of the power plant

According to REMIT, the opportunity cost "represents the expected value of the most profitable choice that was not made"

- Value that a power plant gives up when it decides to use its resources (energy, fuel, hydraulic stock) to produce at a given moment rather than at a later moment at a potentially higher value.

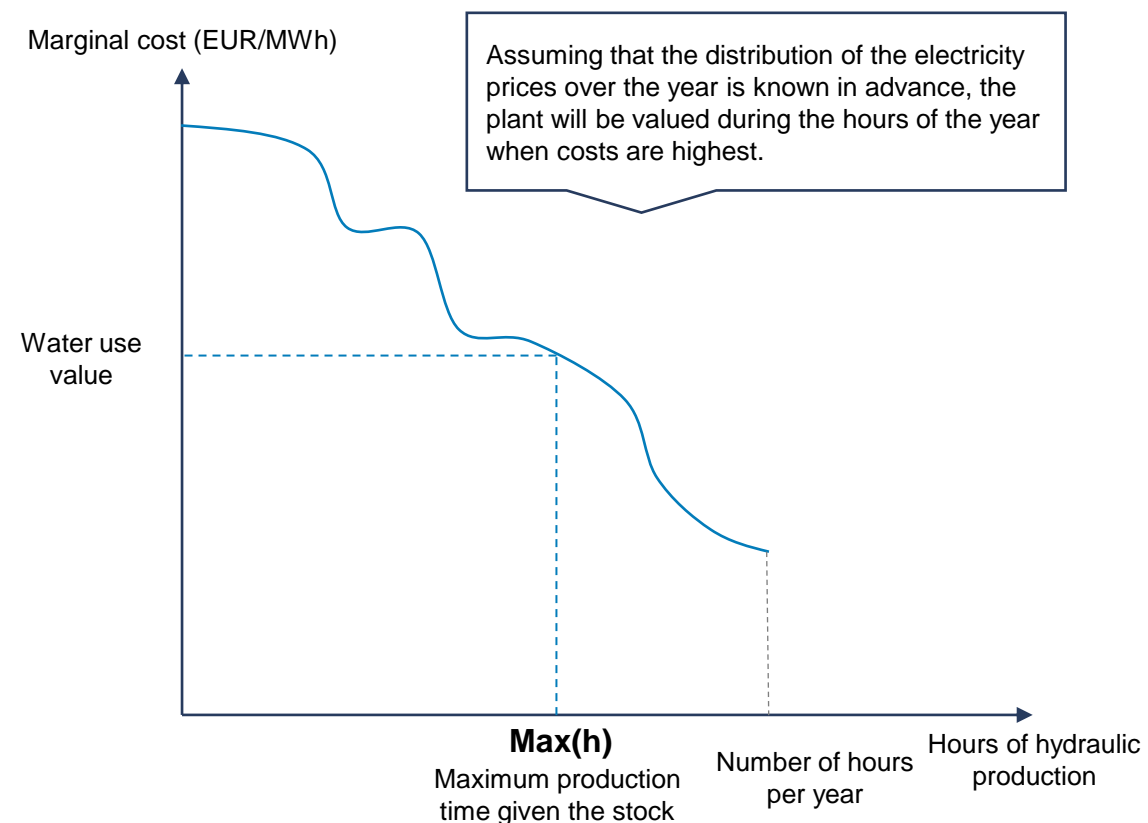
Hydro stock is a straightforward example of the opportunity cost

- Power plants with a limited stock of water bid based on opportunity cost to maximise their economic value.
- Opportunity cost is estimated as the value of the deferred use of the plant. The plant will therefore only be used if its market value exceeds this opportunity cost.
- Despite very low marginal cost of water, the price of the bids based on the opportunity cost can be very high, the exact value would depend on reservoir levels, the expected market price, the price on other markets and technical constraints.

Other examples of opportunity costs

- Sequential markets (e.g. intraday, ancillary services, re-dispatch)
- The cost of CAPEX related to running hours or start-ups
- Other intertemporal constraints, such as minimum run and minimum down times

Illustration of the marginal cost monotone and the use value of water from a hydropower plant



Case study - Intertemporal opportunity cost of hydropower plants in 2013

Iberdrola case

According to REMIT, bids of hydroelectric power stations should be made on the basis of marginal costs, including opportunity costs.

- The marginal cost of water used to produce electricity is close to zero. Consequently, any bid higher than €0/MWh could be considered to be in breach of Article 5 of REMIT.
- In reality, competitive bid prices for hydropower should be based on the intertemporal opportunity cost. Indeed, it may be more or less profitable to sell at a period $t1$, compared to a period $t2$.
- This cost is generally non-zero. However, it is volatile and depends on many factors, including reservoir levels, seasonal water supplies, expected market prices, trade-offs between markets and various technical parameters and constraints.
- Nevertheless, a power plant submitting bids above its opportunity cost would be in breach of Article 5 of the REMIT if the value of the opportunity cost is not sufficiently justified.

For example, the Spanish regulator found that Iberdrola had submitted bids above its opportunity cost in December 2013 and concluded that there had been market manipulation to drive up wholesale prices.

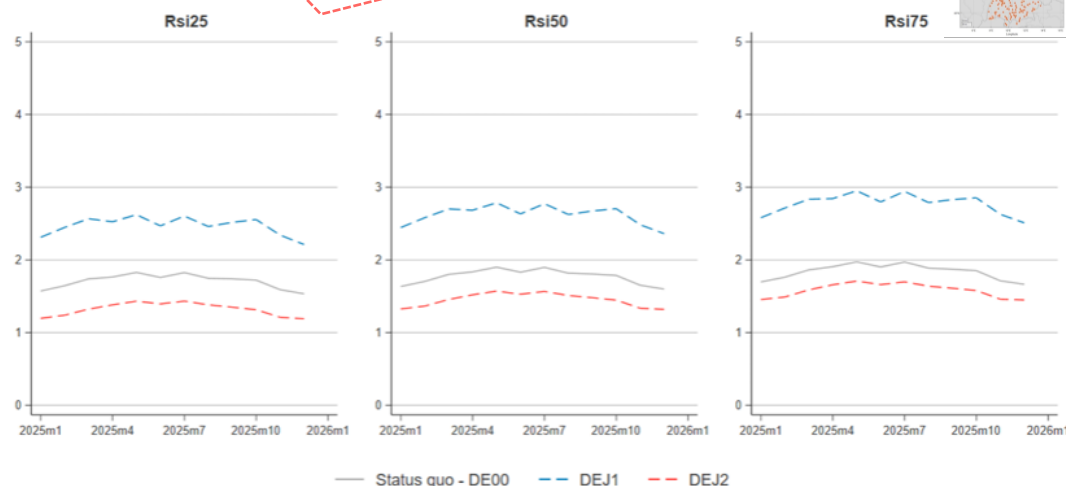
- To determine whether Iberdrola had overestimated its opportunity costs and thus withheld capacity under REMIT, the regulator carried out an opportunity cost analysis.
 - Iberdrola has reduced its production offered for sale on the daily market for 3 of its hydroelectric plants, even though its reserves were sufficient. The regulator considered that the level of Iberdrola's reserves did not justify the reduction in its sales.
 - Nor was Iberdrola's strategy justified by higher expected future prices, as forward contracts were indicating lower prices than the daily market.
- The regulator concluded that Iberdrola's strategy was to induce the entry of higher-priced CCGTs into the daily market. This had the effect of increasing the market price (by around €7/MWh).

 The Iberdrola case clearly illustrates that opportunity costs are relevant component of a competitive energy pricing when intertemporal trade-offs are necessary.

Learnings on market definition and results from European BZ-review

1 Monthly average of hourly market concentration given by the RSI in the status quo and alternative configuration 2

3% of hours with values below 1 for DEJ2 = south zone under



- European BZ-review study on liquidity and competition shows **changes in RSI of German bidding zones.**

Markets	Typical approach so far: <u>relevant market = bidding zone</u>	Possible future approach?
Short-term markets (DA, ID)	<ul style="list-style-type: none"> ▪ So far, short-term and long-term markets have been considered as one relevant market ▪ Most of the time national bidding zones set the relevant market 	<ul style="list-style-type: none"> ▪ DA and ID markets are coupled, so the relevant market changes hour by hour (or 15 minutes) and can be equal to a BZ or larger.
Long-term markets (Forwards, Futures, PPAs, ...)	<ul style="list-style-type: none"> ▪ Import capacities have typically been included in the market 	<ul style="list-style-type: none"> ▪ LT-markets are not coupled, so the definition used for ST-markets is not longer suitable

- Two issues came up:
 - The **ownership situation** of renewable capacities is not well-documented
 - **Market definition** has to be reconsidered (see box 2)



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