



# International examples of market abuse regulation

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# The European example

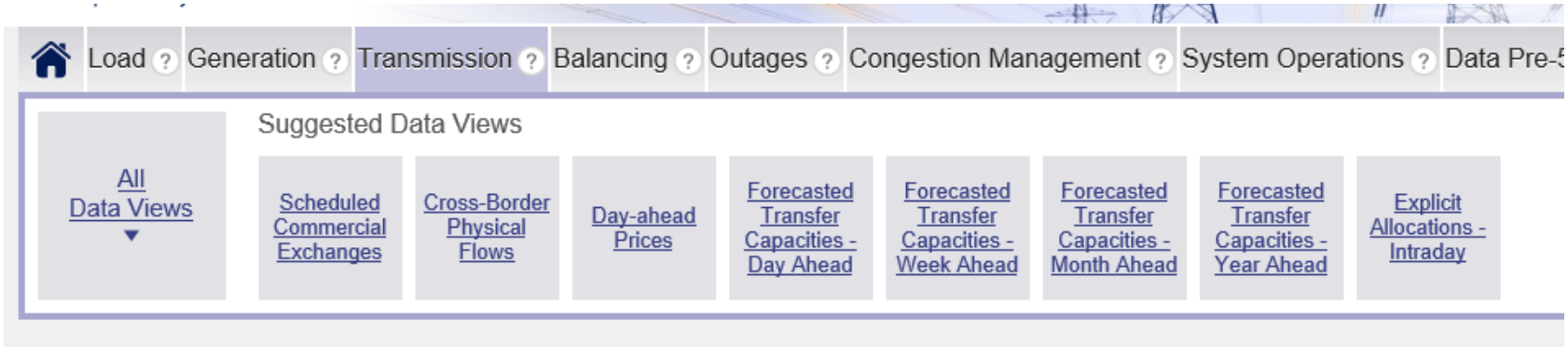
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- With a restructured market in Europe transparency is key
- Two separate regulations have been implemented
  - Transparency regulation (EU) No 543/2013
  - Regulation on wholesale energy market integrity and transparency (REMIT) (EU) 1227/2011
- Both regulations are applicable to all transmission operators and market participants in the European Union
- The regulations are EU wide but enforced by the National Regulators

# Transparency regulation

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- The less enforceable of the two regulations
- Member states are responsible for laying down the rules on penalties
- Under the transparency regulation the ENTSO-E transparency platform is established
- All data is publically available via the transparency platform
- Prices, flows, generation, actual/expected transmission etc.
- The TSO's provide the majority of the data to the transparency platform



The image shows a navigation menu for the ENTSO-E Transparency Platform. The menu is a horizontal bar with a light blue background and a darker blue border. It contains several items, each with a question mark icon: Home (house icon), Load, Generation, Transmission (highlighted in a darker blue), Balancing, Outages, Congestion Management, System Operations, and Data Pre-5. Below the menu is a section titled "Suggested Data Views" with a light blue background and a darker blue border. It contains eight buttons: "All Data Views" (with a dropdown arrow), "Scheduled Commercial Exchanges", "Cross-Border Physical Flows", "Day-ahead Prices", "Forecasted Transfer Capacities - Day Ahead", "Forecasted Transfer Capacities - Week Ahead", "Forecasted Transfer Capacities - Month Ahead", and "Forecasted Transfer Capacities - Year Ahead", and "Explicit Allocations - Intraday".

Home Load ? Generation ? Transmission ? Balancing ? Outages ? Congestion Management ? System Operations ? Data Pre-5

Suggested Data Views

- All Data Views ▼
- Scheduled Commercial Exchanges
- Cross-Border Physical Flows
- Day-ahead Prices
- Forecasted Transfer Capacities - Day Ahead
- Forecasted Transfer Capacities - Week Ahead
- Forecasted Transfer Capacities - Month Ahead
- Forecasted Transfer Capacities - Year Ahead
- Explicit Allocations - Intraday

# REMIT regulation

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- Regulation on wholesale Energy Market Integrity and Transparency (REMIT)
- REMIT is much more broad than the transparency regulation
- REMIT establishes rules prohibiting abusive practices affecting wholesale markets, coherent with the rules applicable in financial markets
- REMIT sets out requirement for cooperation between
  - National Regulatory Authorities (NRAs)
  - European Securities and Market Authority (ESMA)
  - Agency for the Cooperation of Energy Regulators (ACER)
  - National Financial Regulators
  - Where relevant National Competition Authorities

# The responsibility lies with the market participants

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- “Market participants shall publicly disclose in an effective and timely manner inside information...”
- Inside information is defined as “Information of a precise nature which has not been made public, which relates directly or indirectly to one or more wholesale energy products, if it were made public would be likely to significantly affect the prices...”
- In a marginal bidding market, any generators on the margin, no matter the size should in principle disclose outages and the like
- The regulation is equal to financial regulation, meaning that penalties can be anything from fines to jail time
- In order to monitor trades, market participants are required to submit trade information to a central REMIT registry






# Example of enforcement of REMIT regulation

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- In March 2018 the Danish Utility Regulator transferred a case of suspected market manipulation to the State Prosecutor for Serious Economic and International Crime
- The case concerned capacity hoarding
- Two Danish utilities were accused of booking capacity on an interconnector between two price zones, by trading with themselves, excluding other market participants from trading and thus hampering competition
- On March 22<sup>nd</sup> 2018 ACER published a guidance on capacity hoarding, in order to clarify what could constitute market manipulation
- The two Danish utilities ended up paying a fine

# Disclosing inside information

- In the Nordics the exchange has setup a platform to publish outage information
- In the future it is also required that the TSO hosts such a platform
- Below is an example of unavailability of both a transmission line and a gas fired plant
- The transmission line between Lithuania and Latvia is unavailable in one direction and reduced in the other
- A gas fired plant in the DK1 price zone in Denmark is out for almost 4 months

Event	Infrastructure ↕	Available ↕	Unavailabl...↕	Event Start ↕	Event Stop ↕	Duration	Fuel Type	Assets
Unavailability... Transmission	 LT →  LV  LV →  LT	0 MW 852 MW	860 MW 498 MW	from 15.07.2019 06:00	to 23.07.2019 10:59	8 days 4 hours		Liksna-Ignalinos AE 451
Unavailability... Production	 DK1 Skærbækværket - SKV3	0 MW	427 MW	from 08.05.2019 11:56	to 06.09.2019 23:59	3 months 29 days	Fossil Gas	

# REMIT versus MAR

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- Another regulation applicable to market abuse is the Market Abuse Regulation (MAR (EU) 596/2014)
- Deals with very similar issues as REMIT such as inside information
- Applicable to the financial industry as a whole including power and gas markets
- MAR is enforced by the financial regulators while REMIT is enforced by Energy regulators
- In several places MAR refers to REMIT with regards to wholesale energy products



# Financial regulation expanded to energy MIFID II

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- Markets in Financial Instruments Directive (MIFID) is traditionally regulation for banks and other organisations trading stocks, currency and other financial instruments
- MIFID was updated in it's second version MIFID II to include power derivatives
- The overall goal of MIFID II is to strengthen investor protection and improve the efficiency of the financial markets
- MIFID II only applies to large organisations who will have to apply for a financial license when going above a predetermined trading volume
- MIFID II also places limits on the share of net position a single company can have in a financial contract, in order to enable efficient markets
  - Limits are typically set as 25 % of average annual open interest
- On products deemed illiquid the position limits are set differently in order not to kill the market
  - Absolute lot sizes are used in stead of percentages

# Market Abuse Regulation in the US

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- Regulators have increased oversight and enforcement of potential market abuse following the Western Energy Crisis of 2000-2001
- Primary oversight of physical wholesale markets through the Federal Energy Regulatory Commission ("FERC")
  - Ongoing enforcement of anti-manipulation and fraud statutes
    - Increased Financial Penalties for Civil Violations up to \$1m per day per violation (Energy Policy Act of 2005)
      - \$149 million in civil penalties and profit disgorgement received in fiscal year 2018
    - Merger control for electric power generation and transmission (Section 203 of Federal Power Act)
- Oversight of financial energy products through Commodity Futures Trading Commission ("CFTC")
  - Memorandum of understanding with FERC to address information sharing and potential overlapping jurisdiction
- Mergers and competition oversight also by US Department of Justice ("DOJ") Antitrust Division (Section 7 of Clayton Act) and Federal Trade Commission ("FTC")

# FERC Approach – Merger Control

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- Prescribed test of market concentration using Herfindahl-Hirschman Index (“HHI”)
  - HHI is a calculation of the squares of the shares of each market participant
    - For example, a market of 4 sellers with shares of 40, 30, 20 and 10 percent would have an HHI of 3000
      - $(40^2 + 30^2 + 20^2 + 10^2) = (1600 + 900 + 400 + 100) = 3000$
  - FERC’s dispatch model defines relevant product and geographic markets by season and load conditions (super peak, peak and off-peak for summer, winter and shoulder seasons)
    - Markets are defined at balancing authority or RTO level unless a submarket is defined by persistent historical transmission constraints (PJM East, MISO South)
  - Safe harbour below HHI thresholds
    - For an unconcentrated market (post-merger HHI < 1000), any change
    - For a moderately concentrated market (post-merger HHI between 1000 and 1800), change of  $\leq 100$
    - For a highly concentrated market ( post-merger HHI  $\geq 1800$ ), change of  $\leq 50$
  - Violation of the HHI screens can be remedied through divestiture

# FERC Approach – Structural

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- Triennial review of authorization to participate in wholesale markets (“Market-based rates”)
  - Pivotal supplier - if applicant’s uncommitted capacity is greater than net uncommitted supply of market, then applicant must sell at cost-based rates (or rely on mitigation program)
  - Market share - if share of available capacity (taking into account load obligations) is above 20% in destination market, then applicant must sell at cost-based rates or rely on FERC approved mitigation program (common in RTO markets)

# FERC Approach – Pivotal Supplier Analysis

- For Southern Company June 2017 filing covering study period of Dec 2014-Nov 2015
- Southern Company is a large, vertically-integrated utility in the Southeastern US
- Southern controls ~66 percent of generation and is responsible for approximately 83 percent of loads in the SOCO market area
- The pivotal supplier test shows that total net uncommitted supply in the market is 21,152 MW and the company's uncommitted supply is 20,580 MW. Since the total supply is larger than the company's, Southern passes this test

## Part I – Pivotal Supplier Analysis

Applicant-> **Southern Companies**  
 Market -> **SOCO**  
 Data Year -> **Dec 2014-Nov 2015**  
 As filed by the Applicant/Seller

### Row

#### Generation

##### Seller and Affiliate Capacity (owned or controlled)

A	Installed Capacity (from inside the study area)	41,394
A1	Remote Capacity (from outside the study area)	0
B	Long-Term Firm Purchases (from inside the study area)	8,006
B1	Long-Term Firm Purchases (from outside the study area)	404
C	Long-Term Firm Sales (in and outside the study area)	1,487
D	Uncommitted Capacity Imports	50

##### Non-Affiliate Capacity (owned or controlled)

E	Installed Capacity (from inside the study area)	22,900
E1	Remote Capacity (from outside the study area)	0
F	Long-Term Firm Purchases (from inside the study area)	1,257
F1	Long-Term Firm Purchases (from outside the study area)	688
G	Long-Term Firm Sales (in and outside the study area)	8,864
H	Uncommitted Capacity Imports	3,817

I	Study Area Reserve Requirement	1,969
J	Amount of Line I Attributable to Seller, if any	1,616

K	Total Uncommitted Supply (A+A1+B+B1+D+E+E1+F+F1+H-C-G-I-N)	34,312
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#### Load

L	Balancing Authority Area Annual Peak Load	45,044
M	Average Daily Peak Native Load in Peak Month	31,884
N	Amount of Line M Attributable to Seller, if any	26,171

O	Wholesale Load (L-M)	13,160
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P	Net Uncommitted Supply (K-O)	21,152
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Q	Seller's Uncommitted Capacity (A+A1+B+B1+D-C-J-N)	20,580
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Result of Pivotal Supplier Screen (Pass if Line Q < Line P) (Fail if Line Q > Line P)		Pass
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# FERC Approach – Market Share Analysis

- For Southern Company June 2017 filing covering study period of Dec 2014-Nov 2015
- Applicant's uncommitted supply must be below 20 percent of total uncommitted capacity in each season to pass the test
- Applicant's shares are between 44 and 58 percent, thus failing the market share test
- The Commission has agreed to a tailored mitigation program for Southern Company that requires them to operate a day-ahead and real-time auction ("Energy Auction") in which they must offer all available capacity at cost-based caps

## Part II -- Market Share Analysis

Applicant-> **Southern Companies**

Study Area-> **SOCO**

Data Year-> **Dec 2014-Nov 2015**

As filed by the Applicant/Seller

Row	Winter (MW)	Spring (MW)	Summer (MW)	Fall (MW)
<b>Seller and Affiliate Capacity (owned, controlled or under LT contract)</b>				
A	41,394	41,394	39,903	41,394
A1	0	0	0	0
B	8,006	8,006	8,006	8,006
B1	404	404	404	404
C	1,487	1,487	1,447	1,487
D	5,683	7,352	763	4,833
E	47	44	20	37
<b>Capacity Deductions</b>				
F	30,986	28,025	39,064	28,257
G	25,485	23,368	32,191	23,657
H	5,501	4,657	6,873	4,600
I	1,941	2,073	1,768	1,798
J	1,596	1,729	1,457	1,505
K	345	344	311	293
<b>Non-Affiliate Capacity</b>				
L	22,900	21,747	19,130	20,203
L1	0	0	0	0
M	1,257	1,257	1,217	1,257
M1	688	737	738	738
N	8,864	8,864	8,864	8,864
O	0	0	0	0
P	9,035	6,926	3,847	5,748
<b>Supply Calculation</b>				
Q	19,170	16,802	8,884	14,189
R	15,600	15,912	12,475	18,359
S	34,770	32,714	21,359	32,548
<b>T Seller's Market Share (R÷S)</b>				
	44.9%	48.6%	58.4%	56.4%
Results (Pass if < 20% and Fail if ≥ 20%)				
	Fail	Fail	Fail	Fail

# FERC Approach - Behavioural

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- Anti-Fraud and manipulation
  - Enforcement
    - Types – uneconomic trading, physical and financial withholding, gaming, tariff violation
    - Sources of investigations – majority of cases originate from referrals by ISO/RTO market monitors
      - Other referral sources include FERC offices, other federal agencies, self-reports or calls to enforcement hotline
  - Surveillance
    - Day to day monitoring of energy markets
    - Screens to detect possible anomalous activity and identify potential investigative subjects
  - Ex ante regulation
    - In PJM, generation offers cannot exceed \$1,000/MWh unless validated by cost data
    - Capacity market offers capped at estimate of net cost of new entry

# Example of FERC Anti-Manipulation Enforcement

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- Barclays Bank (FERC Docket No. IN08-8-000)
  - Traders engaged in loss-making trades of next-day, fixed-price energy at locations where the firm held significant leveraged financial positions that settled against the index of next-day trades
  - A typical example – Barclays was net long approximately 2000MW of financial swaps at the Mid-Columbia hub for March 2007. This swap settled against the ICE index, which is a weighted average of next-day physical trades
    - Each morning during this month, Barclays traders aggressively bought contracts for physical power in order to push the index price up at Mid-Columbia. While these trades lost money against the daily index, they helped “prop up” the index against which their financial swaps were settling
  - Enforcement staff conducted review of trading data and communications and deposed Barclays staff and third-parties between 2009 and 2011
  - FERC commissioners approved order requesting \$435 million civil penalty and \$34.9 million in disgorgement of profits in 2012
  - Barclays refused to pay the penalties, FERC went to district court to enforce
  - Ultimately the two parties settled in 2017 for \$105 million



# Department of Justice Approach

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- Instead of focusing on classic concentration measures like HHI, DOJ has focused on measures of upward pricing pressure in electric power markets since issuing its 2010 merger policy statement
  - Commercial dispatch models (PROMOD, AURORA) are used to test hypothetical pricing strategies that might be employed by the merging parties
  - These models produce estimates of profits and revenues for pre- and post-merger cases
  - Gross Upward Market Pricing Pressure index ("GUMPPI") is the ratio between the increase in profits from one of the merged party's assets (**incentive** units) to the decrease in revenues from the other merging party's units (**ability** units) when compared to the pre-merger case

$$GUMPPI = \frac{\text{Net Change in Profit to Incentive Units}}{\text{Net Decrease in Revenues to Ability Units}}$$

- High GUMPPIs indicate potential for market power abuse
- Divestitures can reduce the GUMPPIs to acceptable levels in order to approve the transaction
- Behavioural remedies can also be proposed – i.e. commitment to join a **regional transmission** organization

# Example of Department of Justice Behavioural Remedy

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- DOJ began an investigation in 2010 into Entergy for exclusionary conduct against rival generators who sought access to Entergy's transmission system
- DOJ agreed to close the case upon Entergy joining an RTO which would control the operation and planning of Entergy's transmission system
  - DOJ statement in November 2012 - "The division has been examining allegations that Entergy has engaged in exclusionary conduct in its four-state utility service area spanning parts of Arkansas, Louisiana, Mississippi and Texas. That investigation remains open. The conduct investigation has focused on whether certain of Entergy's power generation dispatch, transmission planning and power procurement practices constitute exclusionary conduct under Section 2 of the Sherman Act. If Entergy follows through on its transmission system commitments, the Antitrust Division's concerns will be resolved."
- Entergy joined the MISO RTO in December 2013

# Department of Justice and FERC Merger Review

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- Overlapping jurisdiction and competing standards raise obstacles to proposed mergers
- Department of Justice screen failures usually require divestiture of specific types of units, i.e. price-setting units, to gain approval
- FERC screen failures can usually be remedied with any economic unit
- The FERC and DOJ tests might require different levels of divestiture
- Remedying the screen failure with one regulator can create new issues with other – problem may be unsolvable

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