'EU Electricity Market Design Reform”

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Overview

• (1) the EU electricity market design: the basics

• (2) Russian weaponization of gas supply: the transformative shock

• (3) The current reform of EU Electricity Market Design
1- Existing EU EL M-D is “light handed”

- EU M-D does not operate central dispatch for individual plants. The Generators bid for all their “portfolio of plants” in a given zone of the market.

- EU M-D does not do “nodal pricing”, but “zonal pricing”; and costs of intra-zonal congestion are socialized.

- EU Market sets a “marginal price” paid to all bidders needed to supply the load. EU Marginal Price = most expensive plant needed to supply.

2- Europeanization of EU EL M-D too comes from rules:

- Europeanization is made by “Market Coupling”: the basic units of pricing in EU are the “zones”.

- These many EU zones are ‘coupled’ by “available transmission capacity” guaranteed by the TSOs.

- When & where TRSM capacity is said congested, EU zones “decouple”.

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3- Investment in “Renewables Capacity” is not built on EU Market Price

- Most of the renewables investors receive a payment outside the EU Wholesale Market, which comes from national “Renewable Support Schemes”.

- The EU Wholesale Market does give economic incentives to select the marginal plant generating each ½ hour; but does not drive capacity and technology adequacy.

4- Investment in “Reliability Adequacy” is not built on EU Market Price

- Renewables with low marginal costs are pushing out dispatchable technologies from Wholesale Market equilibrium.

- T. System Operators can find too little “dispatchable plants” in a given zone’s portfolio, and create a “Capacity Remuneration Mechanism” to incentivize investors for such type of plant.
5- EU Carbon Price links “Coal to Gas” in arbitrage via the Elec Wholesale Pricing

EU Carbon Price:
EU sets a quantity of carbon emission permits, and a target of renewables generation.
EU Carbon Permit Traders anticipate a resulting carbon price.

Plants generating with fossil fuels look at:
* gas price vs coal price in the national fuels markets (fuel gas-coal cost margin)
** current carbon price in the EU carbon market (carbon margin)
*** and at Wholesale marginal prices
5- **EU EL M-D is light**
- Based on “portfolio bidding” by zones of marginal prices
- The many zones of prices in the EU are “coupled” or “decoupled” according to transmission capacity guaranteed by the many T. System Operators
- The definition of these EU zones are controlled by national authorities (France, Germany 1 zone; Sweden 4 zones; Norway 6 zones)

2- **EU Wholesale pricing**
- is a powerful incentive to select each ½ hour the marginal plant among dispatchable plants
- but does not control carbon price to arbitrage between coal and gas
- but does not play the key role to finance renewables investors or reliability adequacy investors
(2) Russian weaponization of gas supply: a transformative price shock?

**Brown** Weekly TTF gas spot price in Euro per MWh (2019 52W High was 25 Euro!)

**Blue** Weekly Day Ahead electricity price in leading EU markets

Russia was EU first energy supplier: gas, oil, coal, uranium fuel
(3) Current reform of EU EL Market Design: the beginning

1. EU Commission authorized quasi all types of exceptional emergency measures
   - Capping Wholesale Prices (Spain, Portugal halve the price of gas)
   - Capping Retail Prices (France blocked retail prices for Households & Small Businesses)
   - Giving direct subsidies to the consumers (Germany)
   - Storing price surge in a consumer debt (Denmark)
   - Taxing energy companies profits

2. EU Council asked EU Commission a permanent Market Design reform (end 2022)
   - EU Commission is not the “Head of State” of the European Union. The political Head is the European Council.
   - Commission issued a reform proposal the 14th of March 2023
   - Still to be voted by both EU Parliament & Council of MS Ministers; + re-agreed by EC
3 axes in EU Commission Market proposals 14 March 2023

1. To protect consumers from fossil fuels’ volatile **prices** (4 key items)

2. To support stability and previsibility of energy **prices** and protect EU competitiveness (4 key items)

3. To accelerate **investments** in renewable energy (4 key items)

= All 3 axes aim at changing the market outcomes by changing the rules being applied
1- To protect consumers from fossil fuels’ volatile prices

1- Each consumer’s right to fixed price contract, to dynamic price contract, and to multiple contracts

2- When an “EU electricity crisis” is identified (*very high prices in wholesale electricity markets at least two and a half times the average price during the previous 5 years which is expected to continue for at least 6 months; ** sharp increases in electricity retail prices of at least 70% occur which are expected to continue for at least 6 months) prices can be blocked or regulated

3- Energy Sharing: Right for prosumers (individual RES producers) to share their own generation with other consumers

4- Hedging is made mandatory for suppliers and last resort suppliers

To protect consumers from fossil fuels’ volatile prices
2. To support stability, previsibility of energy prices; protect EU competitiveness

1. To support PPA, give them public guarantees against risks, to welcome them in Calls for Tenders

2. To use 2ways CfDs as basic support for new low carbon investments (renewables, nuclear, flexibility); to use their excess funds (if any) to the benefits of consumers, proportional to their consumption

3. To create regional virtual Hubs to increase the Long Term markets liquidity; permitting to book cross-border capacity > 1 year duration

4. To authorize T. System Operators to prepare “peak shaving” tools able to limit price spikes
3. To accelerate investments in renewable energy

1- To ease the financing of renewable investments with appropriate LT contracts (as PPAs and CfDs)

2- To create adequate “Capacity Mechanisms” to increase “low-Carbon” flexibility, and to create new support schemes if needed

3- To undertake “national flexibility needs” assessment with indicative targets & to include them into National Energy & Climate Plans NECPS

4- To increase transparency about the actual grid connection capacity for new renewable investments
To be voted by both EU Parliament & Council of Ministers, and re-agreed by EU Commission

- Parliament voted 19 July and Tuesday 12 of September at midnight > ready or not to negotiate with Council
- Council has not formalized yet all its will

- Both Chambers have to meet EU Commission for a final Trilogue.
- Usually the “rotating Presidency plays a role): Spain, till end Dec 2022 – Belgium from Jan 2023
My Handbook on Electricity Market, with Paul Joskow (MIT) and Michael Pollitt (Cambridge U.), last edition Jan 2023, reduced from 650 pages in a Digest of 60 pages in FREE ACCESS at ECECP.EU PDF, Kindle, e-book in English and Chinese

Digest of the Handbook on Electricity Markets NEW | EU-China Energy Cooperation Platform (ececp.eu)
The two reference books on EU electricity market and regulation

*Electricity Network Regulation in the EU
**The Evolution of Electricity Markets in Europe

Both published by Edward Elgar
Reforming the EU internal electricity market will not suffice to deliver EU aims
26 July 2023  BY: Jean-Michel Glachant

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