PRESENTATION FOR OECD / NEA

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International workshop on Advanced Reactors Systems and Future Energy Market Needs

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THE EU ELECTRICITY MARKET
CONTRADICTORY TRENDS

Demand-side
- Energy efficiency
- Economic trends / crisis
- Self-generation
- Heating / cooling
- Transportation
- Digitalization

Improved markets
Large variety of products from long term to very short term
EU Market coupling at all time frame
Improved interconnection management

Offer
- Aging conventional generation
- Massive non market-driven investment (RES)
- Variability
- Storage solutions
- Commodity markets
- ETS and more...

Overcapacity (and low market prices) as an average
But still persisting concerns regarding security of supply (short / long term)
EU “CLEAN ENERGY PACKAGE” PROPOSAL AND STATE AID GUIDELINES

• **Increased market integration of Renewables**
  - But still subsidized

• **Focus on short-term market and scarcity management**
  - Energy-only markets (capacity funded on infra-marginal rent)
  - Uncapping wholesale markets (spot, day-ahead, balancing,...)
  - Enforcing spot-based retail prices (for all suppliers)
  - Promoting independent aggregators (flexibility service providers)

• **Common adequacy assessment**
  - Annual adequacy assessment (ENTSO-E)
  - Common methodology approved by ACER (how about VoLL?)

• **Price zones**

An adequate answer to the investment challenge? Effect of risk / uncertainty on long term financing conditions?
**United Kingdom of Great Britain**

- **Objectives**
  - Developing emission-free capacities (nuclear / off-shore wind)
  - Ensuring security of supply

- **Challenges**
  - Aging baseload capacity
  - Flexibility
  - Peak load remuneration

- **Solution**
  - Contract of difference
  - Strengthening emission market
  - Capacity market (TSO centralized)

**Germany**

- **Objectives**
  - Massive RES development
  - Nuclear + coal / lignite phasing out

- **Challenges**
  - Managing disinvestment
  - Flexibility and short term adequacy
  - North / south network constraints
  - Financing economic / social transition

- **Solution**
  - Strategic reserve
    - Box 1: adequacy
    - Box 2: network
    - Box 3: coal / lignite

**Other Member States** (DG COMP sector inquiry)

28 existing or planned capacity mechanisms in 11 Member States
Including Italy, Spain, Poland, Sweden, Belgium, Denmark...
AND HOW ABOUT FRANCE?

Objectives
- Peak demand adequacy
- Competition

Capacity remuneration mechanism
- Market-based
  - Capacity providers vs suppliers
  - Cross-border capacity (implicit)
  - Up to 4 years ahead
- Decentralized
  - Responsibility on suppliers
  - Depending on portfolio profile and contribution to risk
- Technology neutral
  - Generation, demand-side management, ...
  - Based on contribution to adequacy

Challenges
- Thermal gradient (2400MW/°C)
- One dominant producer

Regulated access to nuclear energy
- Facilitate alternative suppliers’ entry on the retail market
  - Access to nuclear energy “at cost” price
  - Retail regulated prices contestable
- Designed to incentivize generation investments / co-investments
  - Regulated volumes (100TWh/an max)
- Target partially missed
  - Improved market opening
  - But very limited generation investments
  - Inadequate mechanism in inverted price squeeze

Further steps
- Explicit cross-border participation
- Longer anticipation (~7 years ahead)

Further steps
- Periodic report on mechanism
- Proposal for adjustments / cancellation