The French capacity market design
Security of supply in France: a real peak-load issue...

- The French electrical demand increases drastically during cold waves
  → need to ensure adequacy (and not “generation adequacy”)

- Extreme volatility of the French peak load
  → need to provide adequate economic signals to ensure investments and retirements (generation and demand response) according to system needs

Evolution of the peak load in France since 2001

20 GW
= 40 CCGT
= 20 nuclear units
... specific compared to other EU countries

Peak power load duration curve expectations (one-in-ten indicator) for all major EU countries
RTE, 2015
A CRM designed to specifically address this situation

A capacity-wide mechanism to avoid distortions

- Strategic reserves would not have been a small adjustment (many GW of capacity under contracts with the TSO) \(\Rightarrow\) fears of important distortive impacts on the energy market and risk of slippery-slope effect

A specific role for demand-response to select the most efficient solutions

- DR is an efficient way to address high-magnitude, low probability peak load events. Design embedded in a comprehensive policy to promote DR: many aspects (product characteristics, timetable, role for DR operators) have been settled accordingly.

A decentralized mechanism to avoid over-procurement

- Risk of a self-fulfilling prophecy (an ever-increasing peak load) if a central buyer is responsible for assessing the need at French level. Choice to base each obligation supplier on its metered consumption.

A “BRP-like” mechanism to comply with the philosophy of EU single energy market

- Compatibility with initial target models assessed from the start, with a desire to faithful to the principles of EU regulations (= responsibility for market players). The French CRM means it is mandatory for suppliers to contract an insurance against peak loads. Market players are financially responsible: no public money to finance the CRM
Core design elements

1. **Market-based**
2. **Capacity-wide**
   - All capacities can compete
3. **Level playing field**
   - (1 RES certificate = 1 therm. certificate = 1 DR certificate)
4. **Forward looking**
5. **Transparency**
6. **Participation of interconnections**
   - (from the 1st delivery year)

**Suppliers**
- **Demand for certificate to hedge their obligation**
- **DR actions**
- **Participation of interconnections**

**Capacities’ operators**
- (complete market coverage)
- **DR participation**

**Offer of certificates**
- **Decentralized market**
- **Each market session starts 4 years in advance**

**Core design elements**
- Public register on the certification process (incl. certified capacities), held by RTE;
- **Transparency on prices and volumes**, given by the Regulatory Authority;
- **National adequacy forecast**, published by RTE (non-binding document);
- **Annual observatory of the capacity market**, published by the Regulatory Authority.
Key questions on the French capacity market design

Is the capacity market designed to systematically address the “missing money” problem?

- Generation and demand-response capacities will be remunerated for the effective service they provide to ensure security of supply. This remuneration is not a subsidy (the French capacity market will not prevent all capacities to be mothballed/decommissioned).

Is the French capacity market really decentralized?

- The State defines a unique security of supply criteria which provides market players with the overall target in terms of security of supply. However, market players are trading certificates as a commodity and hedge against their risk. **There is no capacity target.**

Can the capacity market lead to a technology lock-in effect regarding the energy mix?

- RES generation and demand-response are fully integrated in the capacity market and can compete on a level playing field with conventional generation. The French capacity market should increase the role of demand-response regarding system adequacy.
2009 - 2010

DIAGNOSIS

2010 - 2014

STRUCTURAL SOLUTIONS

1. Target Model enhancement
   - DR participation in all markets
   - Expansion of market coupling
   - Revision of RES support schemes

2. SoS oriented capacity market
   - Designed to ensure security of supply
   - Full DR participation
   - Energy transition ready

2014

FIRST RESULTS

- DR is bouncing back (major role of capacity price signal)
- ~10 DR operators
- Up to 30% of “rapid reserve” provided through DR
Further on-going work on EU integration and assessment of the economic impact of the capacity market

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<td>April</td>
<td>Public consultation</td>
<td>White paper to propose short and long-term evolutions of the capacity market</td>
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<td>May</td>
<td>What kind of evolutions for the French CRM?</td>
<td>Definition of a check-list to assess XB solutions</td>
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<tr>
<td>June</td>
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<td>August</td>
<td>Regional approach</td>
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<td>Sept.</td>
<td>Key principles for regional approach</td>
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<td>Oct.</td>
<td>2nd range of economic studies on the French capacity market</td>
<td>Dynamic studies on long-term effects on consumers and EU energy market</td>
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<td>Nov.</td>
<td>Impact of XB solutions</td>
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Thank you for your attention

RTE’s supporting document on capacity market’s rules is available:
• [in French](#)
• [in English](#)