Does the Energy Union need Capacity Mechanisms to keep the lights on?

EEF dinner-debate, Brussels, 22 March 2017
Capacity mechanisms, what is it all about?

Ralf Wezel, EUGINE Secretary General

EEF dinner-debate, Brussels, 22 March 2017
The Voice of the European Reciprocating Engine Power Plants Industry

Turbine

Engine(s)

Gas

From 0 to full load in 2-5 min

Efficient

CHP up to 95%

Clean

Biogas

Reliable

Dispatchable and stable

Responsive

Modular from 0.5 to 600 MW
What is the challenge?

1 - Capacity challenge
Will the total capacity be able to match the total peak demand?

2 - Flexibility challenge
How to ensure that at any moment demand can be balanced by supply?

Could capacity mechanisms be a solution?

EU climate & energy targets

More & more (variable) RES

Overcapacities = depressed wholesale market prices

Pressure on marginal producers, closure of some plants, disinvestment
Capacity mechanisms – A ‘patchwork’ of national measures

- Capacity kept outside the market
- Keeping existing plants operational
- Rarely dispatched
- e.g. in BE, FI, DE, PL, SE

■ Centrally set price of capacity
■ Mostly targeted, limiting to certain technology
■ e.g. in ES, PT, IE

■ Auctions for defined capacities
■ Capacities remain on the market
■ e.g. in UK, IT
How to set the right incentives for keeping the lights on?

Marcel Zürn, EUGINE / Rolls-Royce PS

EEF dinner-debate, Brussels, 22 March 2017
Capacity mechanisms: Experience from EU Member States

Source: EUGINE based on original map from ACER-CEER: 5th Annual Report on Monitoring the Electricity and Natural Gas Markets (2016)
Germany is committed to the ‘Energy-Only Market’ and its Energy Minister said in 2014 that ‘being paid while not working, it’s not possible’ but…

Strategic reserves:
- Least distortive type of CM
- However, any ‘safety net’ has a negative impact on investors’ decisions

Problems:
- No tender to select the plants
- Coal for flexibility is nonsense
- Climate measure (not for energy)
- € 1,6 billion

Network reserve
Network stability installations
Capacity reserve
‘Security readiness’ (‘lignite reserve’)
Capacity mechanisms: British example - capacity market

**Breakdown of Awarded Capacity by Type**

- 622 MW
- 3,413 MW
- 2,342 MW
- 173 MW
- 44 MW
- 1,367 MW
- 44,464 MW

**52.43 GW**

- Existing Generating CMU
- New Build Generating CMU
- Pre-Refurbishment CMU
- New Build Interconnector CMU
- Existing Interconnector CMU
- Proven DSR CMU
- Unproven DSR CMU

**£453m for dirty coal...**

#CMAuction payments to coal power plants = £453m across 4 auctions.

Time for some changes...

<table>
<thead>
<tr>
<th>Plant</th>
<th>Owner</th>
<th>2017/18</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drax</td>
<td>Drax</td>
<td>£8</td>
<td>£24</td>
<td>£22</td>
<td>£25</td>
<td>£78</td>
</tr>
<tr>
<td>Ratcliffe</td>
<td>Uniper</td>
<td>£6</td>
<td>£35</td>
<td>£32</td>
<td>£41</td>
<td>£114</td>
</tr>
<tr>
<td>West Burton</td>
<td>EDF</td>
<td>£12</td>
<td>£26</td>
<td>£0</td>
<td>£29</td>
<td>£67</td>
</tr>
<tr>
<td>Cottam</td>
<td>EDF</td>
<td>£12</td>
<td>£34</td>
<td>£0</td>
<td>£0</td>
<td>£46</td>
</tr>
<tr>
<td>Aberthaw</td>
<td>RWE</td>
<td>£10</td>
<td>£29</td>
<td>£27</td>
<td>£33</td>
<td>£99</td>
</tr>
<tr>
<td>Fiddlers ferry</td>
<td>SSE</td>
<td>£9</td>
<td>£26</td>
<td>£0</td>
<td>£0</td>
<td>£35</td>
</tr>
<tr>
<td>Eggborough</td>
<td>EPH</td>
<td>£13</td>
<td>£0</td>
<td>£0</td>
<td>£0</td>
<td>£13</td>
</tr>
<tr>
<td><strong>TOTAL COAL</strong></td>
<td></td>
<td>£70</td>
<td>£173</td>
<td>£81</td>
<td>£128</td>
<td>£453</td>
</tr>
</tbody>
</table>

Source: Sandbag, Twitter account, message posted on 6 February 2017

Source: National Grid, provisional auction results, T-4 Capacity Market Auction 2020/21

Source: The Telegraph, 13 March 2017
Spain has ‘targeted capacity payment’ schemes since market liberalisation (1996):

- national regulator sets the price of capacity
- the market chooses the amount provided

Growing overcapacities but still numerous CMs:

- 3 capacity payment schemes since 2007
- Interruptibility scheme, i.e. DSR (strategic reserve)

Targeted capacity payments:

- High costs (oversized, not enough competition)
- No technology neutrality

High costs for society:

~ € 1 billion per year, 11% of Spanish electricity bills
Capacity mechanisms & Energy Union

Capacity mechanisms
- national schemes
- state aids distorting competition
- to existing, less efficient, more polluting plants
- for simply being available

The Energy Union
- solidarity between Member States
- free flow of energy within internal market
- increase efficiency & reduce pollution
- promote innovative technologies

> EU decision-makers have to choose between Capacity Mechanisms & the Energy Union

European Engine Power Plants Association
Our recommendations / market design
Building on a very good proposal

- Wholesale price caps removed
- Balancing responsibility for all
- Forward hedging products
- National regulatory distortions removed

- Imbalances settled at a price reflecting the real time value of energy
- European resource adequacy assessment
- Energy storage defined & use by DSOs/TSOs restricted
- Further harmonisation (network codes & guidelines)

- Imbalance settlement period reduced to 15 min.
  > Why not 5 min.?
- Priority dispatch removed (except <500kWel)
  > Aggregators?
- Design conditions for capacity mechanisms
  > Phasing-out?
- EPS of 550g CO2/kWh
  > Calculation?

- ‘shorter than or equal to 15 min’
- ‘shall not be granted to aggregators’
- phasing-out:
  - after a specific period of time;
  - when concerns were addressed
- Need for:
  - a delegated act
  - A smart & stable methodology

Page 12
The 5 Take-Aways

- Solve the **Flexibility Challenge** via a functioning inclusive market:
  - Allow scarcity prices for clear investment signals
  - Don’t create unnecessary exemptions – let the market work
  - Neutrality on technology (flexible generation, demand response, storage)

- **All Capacity Mechanisms distort market conditions and need to be minimised**

- If Member States insist on „belt and braces“: **Strategic Reserves are the least distortive** mechanism (outside of the market, limited period of time)

- Ensure **Phasing-out** of all capacity mechanisms

- A smart and stable calculation methodology for the **Emission Performance Standard** (EPS)
  - A delegated act for the ‘550g CO2/kWh’ calculation methodology
  - Flexible gas-fired power plants should not be affected