Firmness

- Cross border transmission capacity rights should be **firm**, **maximised** and **tradable** in secondary markets.

- Firm capacity rights means that if capacity is curtailed, compensation is paid at the full market spread (unless in cases of tightly defined force majeure).

- Firmness is important and feasible because:
  - It is **essential for proper market functioning**
  - **TSOs are the only natural sellers** of transmission capacity.
  - Offering firm capacity **does not significantly increase TSO businesses risk**.
Market functioning

- It is vital to ensure firms can hedge their (primarily) long-term positions through buying firm capacity rights.
- Capacity rights must be contractually binding and span months to several years to become truly tradable.
- In practise, market participants cannot hedge risks only through financial solutions (e.g. CFDs or FTRs) because:
  - No market participant (apart from the TSOs) can manage the risks involved in issuing such hedges for transmission risks.
  - Most market participants need to buy hedges, not sell them. This creates a one sided market (only buyers and no sellers).
  - A primary supply is needed so trading of financial contracts take place on the back of physical contracts.
  - Nordpool is an example of the financial solution not working.
TSOs are natural sellers

- TSOs are the only players in the market that can offer hedges through fully firm cross border transmission capacity
- TSOs are natural sellers of transmission capacity, because:
  - Income is proportional to congestion and potential costs if there is a need to curtail (TSOs are long transmission while all other market players are short transmission)
  - TSOs have other ways to manage the risks
Firmness does not significantly increase TSO business risk

- TSOs receive revenues from selling (long term) capacity that can be used to buy back capacity short term if required
- TSOs only need to buy back capacity if they curtail or misjudge capacity availability
- Revenue is proportional to potential curtailment costs (increases if a border is more congested)
- TSOs have other ways of managing the risks
- TSOs would only bear a small residual risk of the market significantly mis-pricing congestion
Example using real 2002-2005 data

- If a TSO sells fully firm capacity one year ahead...
  ...and then buys back 100% of that capacity for 100% of the days over the whole coming year

⇒ A net result of a small profit to the TSO

- Of course this simple example contains very cautious approximations:
  - TSOs only need to buy back a small fraction of the capacity for a small part of the year
  - Re-dispatch instead of curtailment may be cheaper
  - Other technical options may be available to manage the congestion rather than automatically curtailing cross border capacity
  - The TSO can build new lines to manage long term congestion

- If capacity available increases then the price differentials and spikes will also be reduced
Example using real 2002-2005 data

Average price of capacity (2002-2005) per border (€/MWh)

- Yearly
- Monthly
- Daily
Example using real 2002-2005 data

Average price of capacity (NI-D, NI-B, Dk-D, F-UK) per year (€/MWh)

- Yearly
- Monthly
- Daily

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<th>Daily</th>
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</table>
Example using real 2002-2005 data

Average price of capacity (NI-D, NI-B, Dk-D, F-UK) per year (€/MWh)

$P_Y \approx P_M \approx P_D$
Capacity maximisation
Capacity maximisation

Average profit / loss versus percentage capacity buyback (2002-2005)

Profit / Loss of total annual auctions revenue vs. Buy Back

-1.5 -1 -0.5 0 0.5 1 1.5 2 2.5 3

Green line: Monthly
Red line: Daily
Capacity maximisation

- Revenues should (in priority order) be used to
  1. Ensure firmness
  2. Manage congestion (i.e. rescheduling or buying back capacity sold to the market)
  3. Upgrade lines

- Revenues should **only as a last resort** be used to reduce grid fees

- Incentives regulation **must** allow TSO’s to benefit from doing a good job
Rough financial incentive scheme

Net TSO revenue [€ million]

TSO incentive payment [€ million]

-10
-8
-6
-4
-2
0
2
4
6
8
10

0 20 40 60 80 100

Incentive scheme A

Incentive scheme B
Concluding remarks

- TSOs have a vital role in facilitating market functioning and competition by ensuring firmness and maximisation.
- Some issues can be progressed immediately – e.g. implement a priority order for use of auction revenues and publish detailed information about how auction revenues have been used.
- Others issues require discussion between TSOs and regulators (e.g. incentives).
Thanks for your attention

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