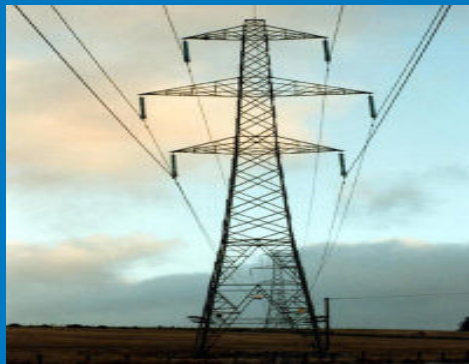


Capacity Allocation and Congestion Management (CACM) Code Overview



JESG – 25 January 2012
CACM Code Update
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Introduction

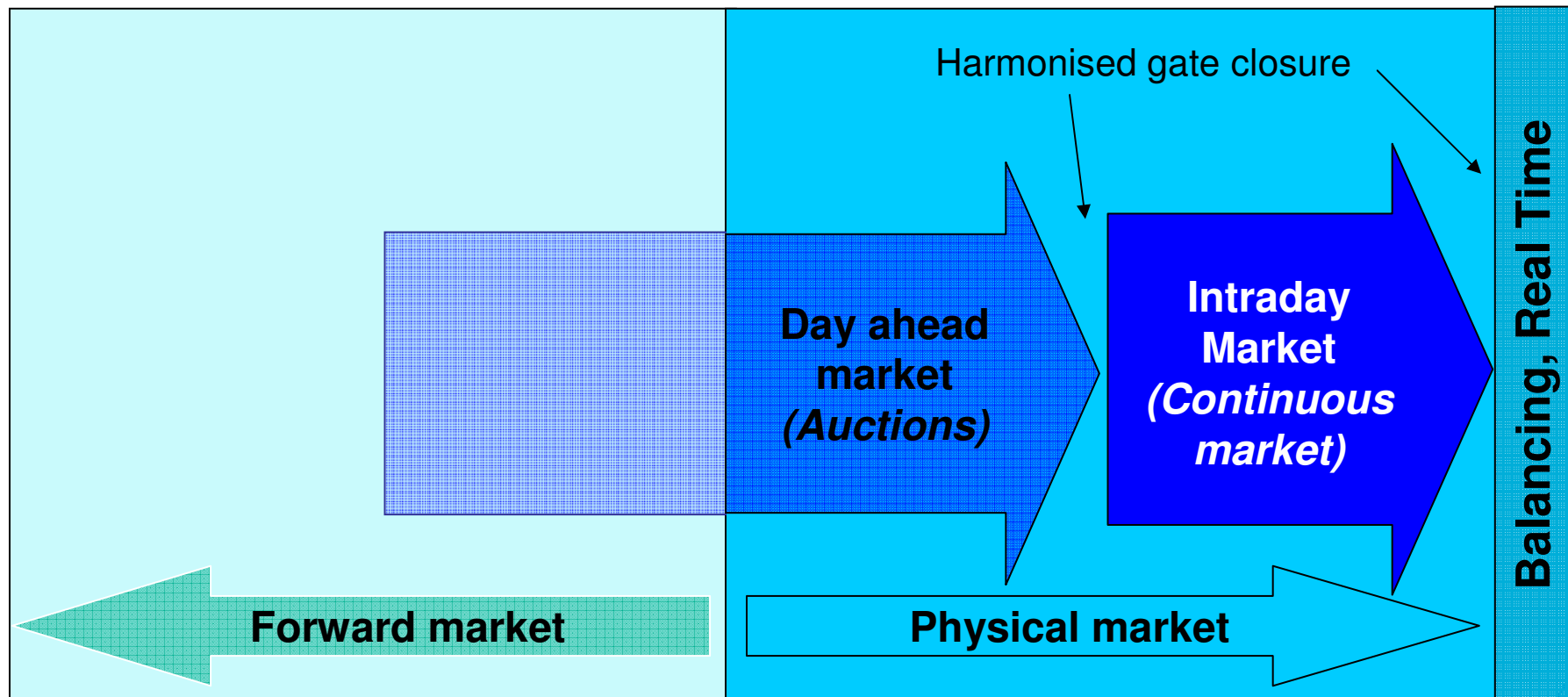
- Background
- Market structure:
 - Day ahead
 - Capacity calculation
 - Intraday
- Impact on GB
- Current topics of discussion
- How to get involved
- NOTE – currently writing the code, therefore can still change...

Speaker Notes

- The presentation is based around the AEP information pack that was send round on the 5th December that contained the draft Day Ahead code and a description of the Capacity Calculation code.
- One note of caution with all of this is that this presentation covers the current state of play, however it is a dynamic environment and things can and do change!

Background

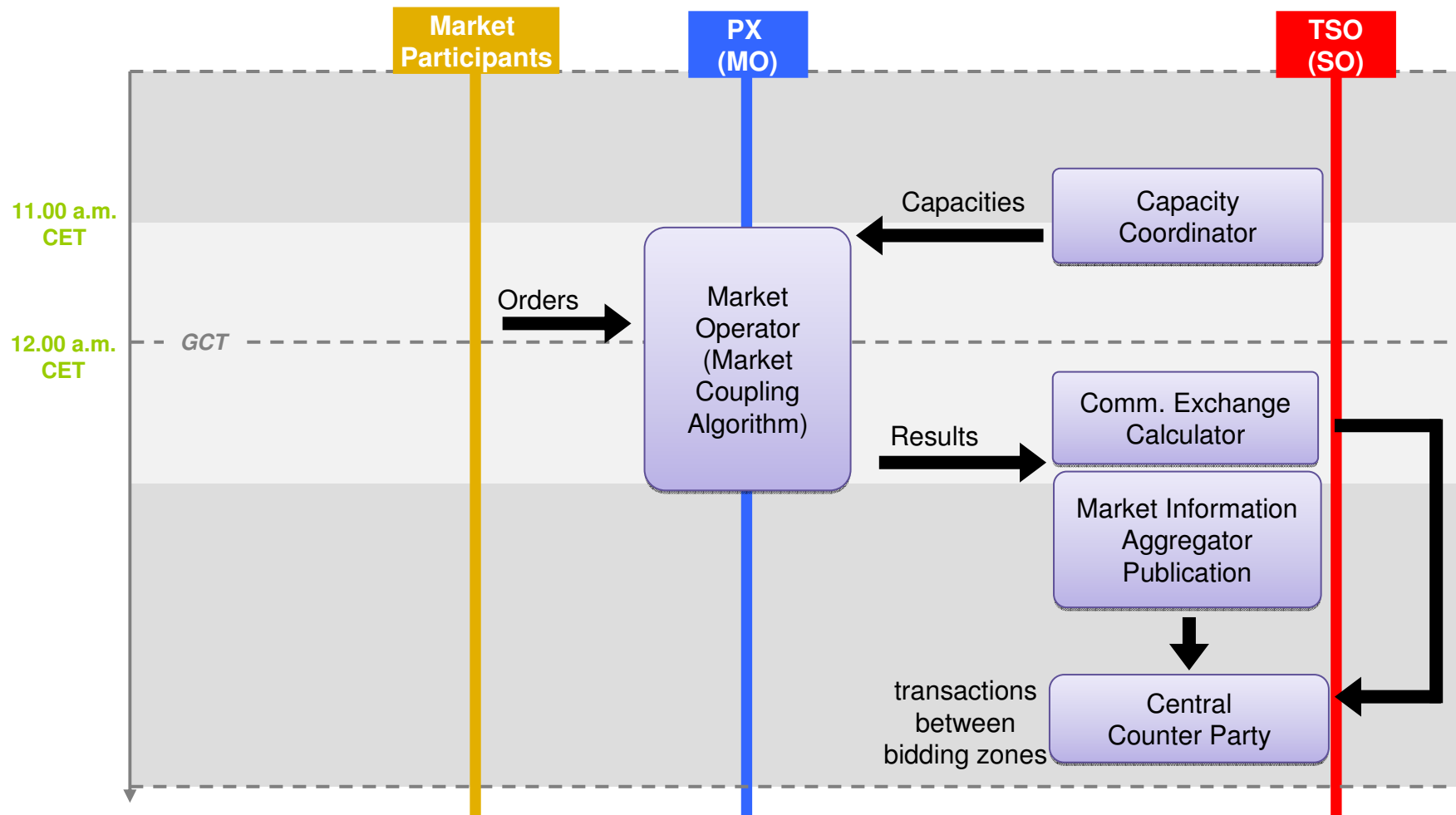
- Create Pan-European electricity market by removing barriers for cross border trading subject to network constraints
- Minimal disturbance to current market rules



Speaker Notes

- Describes background as to why the push to introduce CACM, ie create a single European wide electricity market by trying to remove barriers for cross border trade. This is to be done with minimal disturbance to existing market rules.
- However CACM only impacts the day ahead and intraday markets. The balancing and futures market is to be covered by other codes.
- The target model is that the day ahead market is an auction, but the intraday market is continuous.

Day ahead structure



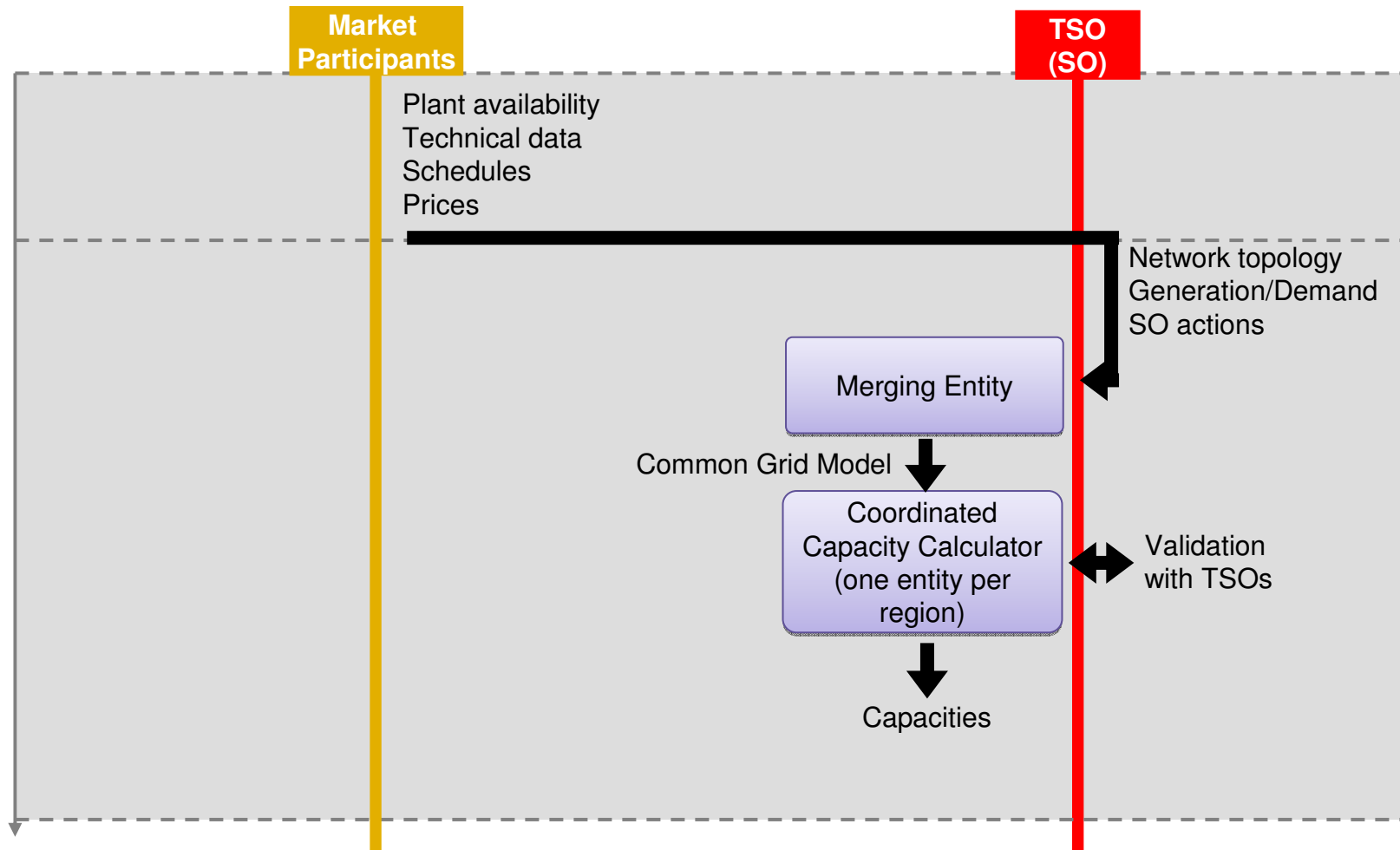
Speaker Notes

- The AEP info pack had draft day ahead network code. The draft network code sets out the structure of the market. This slide shows the structure in diagram form. Down the Y axis you have time, with the closer to the bottom, the closer to realtime. Along the x axis you have the different market entities, ie Market Participants, Power Exchanges (PX) and TSOs. The purple boxes show each function or task that has to be performed and the black lines indicate the inputs/outputs from the task. If the purple box is on the blue line, it denotes that the function is a PX responsibility, if it is on the red line it is a TSO responsibility.

Speaker Notes

- The first task is to calculate the network capacities available between markets. This is done by the Capacity Coordinator function, which is a TSO responsibility. It passes this information to the market operator. The market operator is a function that is assigned to the PXs. The Market operator takes the network capacity information, takes market participants bids and offers (orders) and then following gate closure (12:00 CET/CEST), runs a market coupling algorithm to solve the market. It passes these results (net positions and prices for each bidding area) to the commercial exchange calculator and the market information Aggregator.
- The commercial exchange calculator turns the market positions into flows between market areas. It sends this information to the market information aggregator. The market information aggregator is responsible for publishing to the market all market result data. This is assigned as a TSO responsibility. Finally, both the commercial Exchange calculator and the Market Information Aggregator send their information to the Central Counter Party.
- This is a TSO function that is responsible for securing and facilitating the trades cross border. I.e if a GB customer buys power from the German power market, the Central Counter Party facilitates the trade so the GB party does not need to provide collaterals etc. and it is invisible to the GB party where the electricity is coming from/selling to.

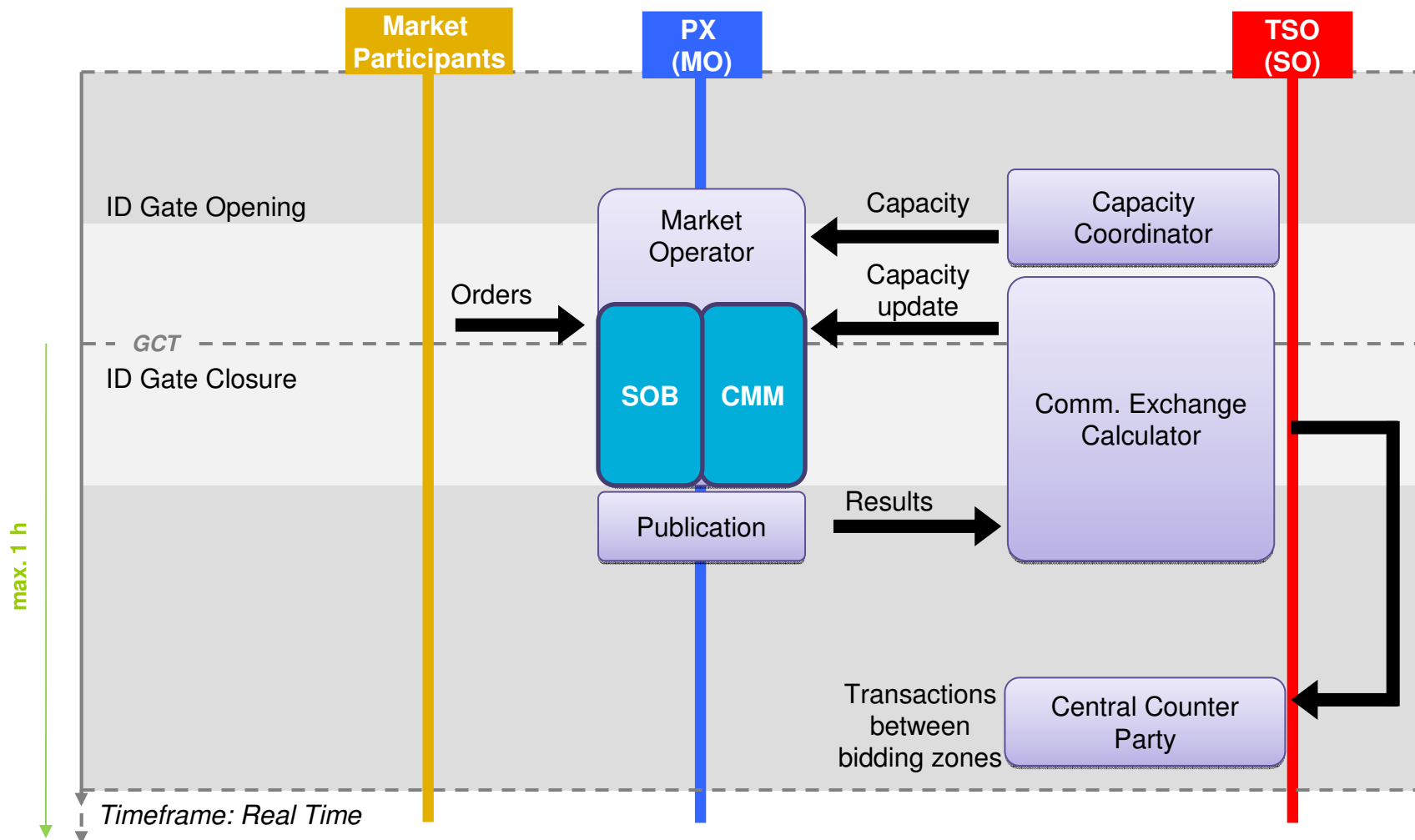
Capacity calculation structure



Speaker Notes

- This slide shows the structure of the capacity calculation function.
- The structure is that market participants supply information to the TSO. (note that within GB, it is not envisaged that this will require market participants to provide any more information than they currently supply).
- TSOs then combine this information with forecast network topology and a generation and demand scenario.
- TSOs then send this combined background to the common European merging entity. This combines the data submissions from all TSOs into a common grid model. The common grid model is then sent to the Coordinated Capacity Calculator.
- The Coordinated Capacity Calculator (one per region), models the network and identifies the capabilities between market areas.

Intraday coupling structure



Speaker Notes

- The first sight of the draft intraday code will be available on 26th Jan in advance of the next ENTSO-E stakeholder meeting.
- The structure is similar to the Day Ahead market and each of the functions have a similar role. However a notable difference between Intraday and Day Ahead is that the responsibility for publishing market results is a market operator function, whereas for the day ahead it was the System Operator.
- SOB and CMM stand for Shared Order Book and Capacity Management Module. These are both contained within the Market Operator function. The Shared Order Book is a European wide list of all cross zonal orders. The CMM is the functionality that stores the capacities available between market areas.

Impact on GB

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- Potential for market splitting
 - Market pan European
 - No day ahead or intraday explicit auctions on interconnectors
 - Implementation of flow based methodology may reduce our interconnector capacities to Europe
 - Minimal impact to market structure and processes

Speaker Notes

- The major impact on GB is that our market could be split. The commission presents a slide which has multiple market areas within the GB.
- If the market were to be split, ultimately the final decision would rest with Ofgem. It would not be split without industry consultation and the zones would be stable across time periods.
- Obviously an impact of the CACM code will be that our market will now be pan European.
- Currently market participants buy and sell capacity on interconnectors using explicit auctions. Under CACM all cross zonal capacity is sold implicitly, therefore these auctions will no longer run and market participants will automatically buy capacity on any links they need through the market structure.

Speaker Notes

- One impact which is not a consequence of the code, but is due to the implementation method, is that the capacity available to the markets on our interconnectors may well decrease. Generally, all the capacity on the link is made available to market participants. This is because the link is treated ATC. However under the interim solution, the link may be modelled as a FB constraint, this will drop the capacity available due to constraints elsewhere in Europe.
- Having said all the above, the actual impact on current market structures and processes is minimal.

Update on previous JESG discussion topics

- Should losses be included in market design?
 - *Yes, at TSO discretion*
- Who is responsible for publishing market results TSO or PX?
 - *Split, Day ahead = TSO, Intraday = PX*
- Should the source code of the market coupling algorithm be publically available?
 - *Yes*
- Who should bear the set up costs/operational costs of running the market?
 - *Everyone (!)*
- How should the code be written? (functional or TSO/PX)
 - *Functional*

Speaker Notes

- At the previous JESG, I mentioned that the following topics were under discussion within ENTSO-E. Here is an update on how the discussions went.
- It was decided that losses should be included within the market design, however only where the TSO decides that it is appropriate. Therefore losses are likely to be only a few DC links between market areas eg IFA, Britned etc.
- Who should be responsible for publishing market results? – as the slides show this has been split between TSOs and PX.
- Should the source code of the market coupling algorithm be publically available. ENTSO-E is still including the requirement to publish the source code in the network code. However this is subject to legal approval.

Speaker Notes

- Who should bear the set up costs/operational costs of running the market? The Network code as a whole section on cost recovery and the parties that pay are the PXs (who would pass it through to market participants) or TSOs through national network tariffs.
- Previously there was a debate within ENTSO-E as to how the code should be written, should it be written in functional form or state that TSOs shall do xyz. As you can see, the code is written in a functional form.

Current topics of discussion

- Should there be a harmonised Intraday gate opening?
- Should the code prescribe a timetable for algorithm development?
- Should there be a fall back for intraday?
- How should capacity pricing be specified within the code?

How to get involved...

- Get in touch with me
- Industry meetings
 - 2nd Feb – ENTSO-E/Stakeholders meeting (Brussels)
 - Ruud Otter* rotter@energiened.nl
 - Anne-Malorie Geron* AMGERON@eurelectric.org
 - Joint European Standing Group (JESG)
- Industry consultations
 - Network code consultation (Spring)
 - We will run CACM briefing meetings during consultation phase.

Any questions?



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