

Capacity Allocation and Congestion Management (CACM) Code Overview



TCMF – 15th March 2012

Day Ahead and Intraday Update

William Kirk-Wilson William.kirkwilson@uk.nagrid.com

Introduction

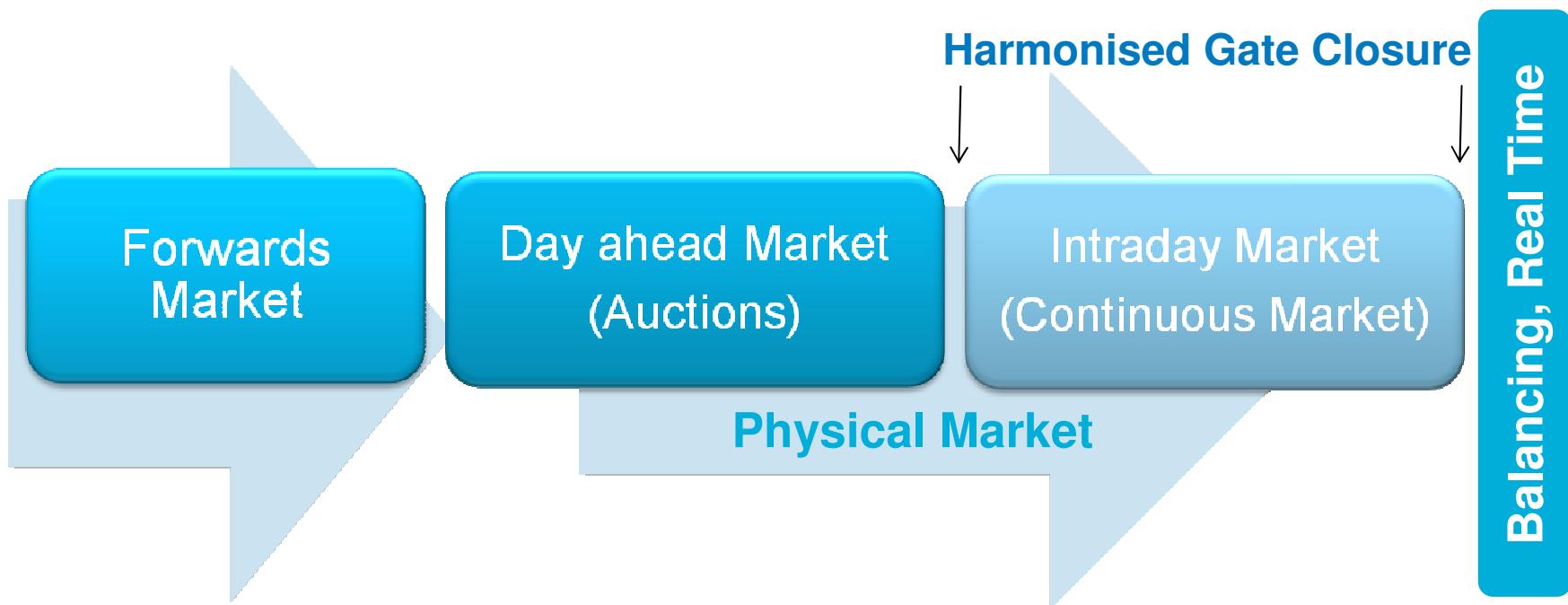
- Background
- Timetable
- Market structure layout:
 - Day ahead
 - Intraday
 - Post coupling
- Impact on GB
- More information...

Speaker notes

- The presentation is based around the draft code releases that ENTSO-E have issued.
- <https://www.entsoe.eu/resources/network-codes/capacity-allocation-and-congestion-management/>
- 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



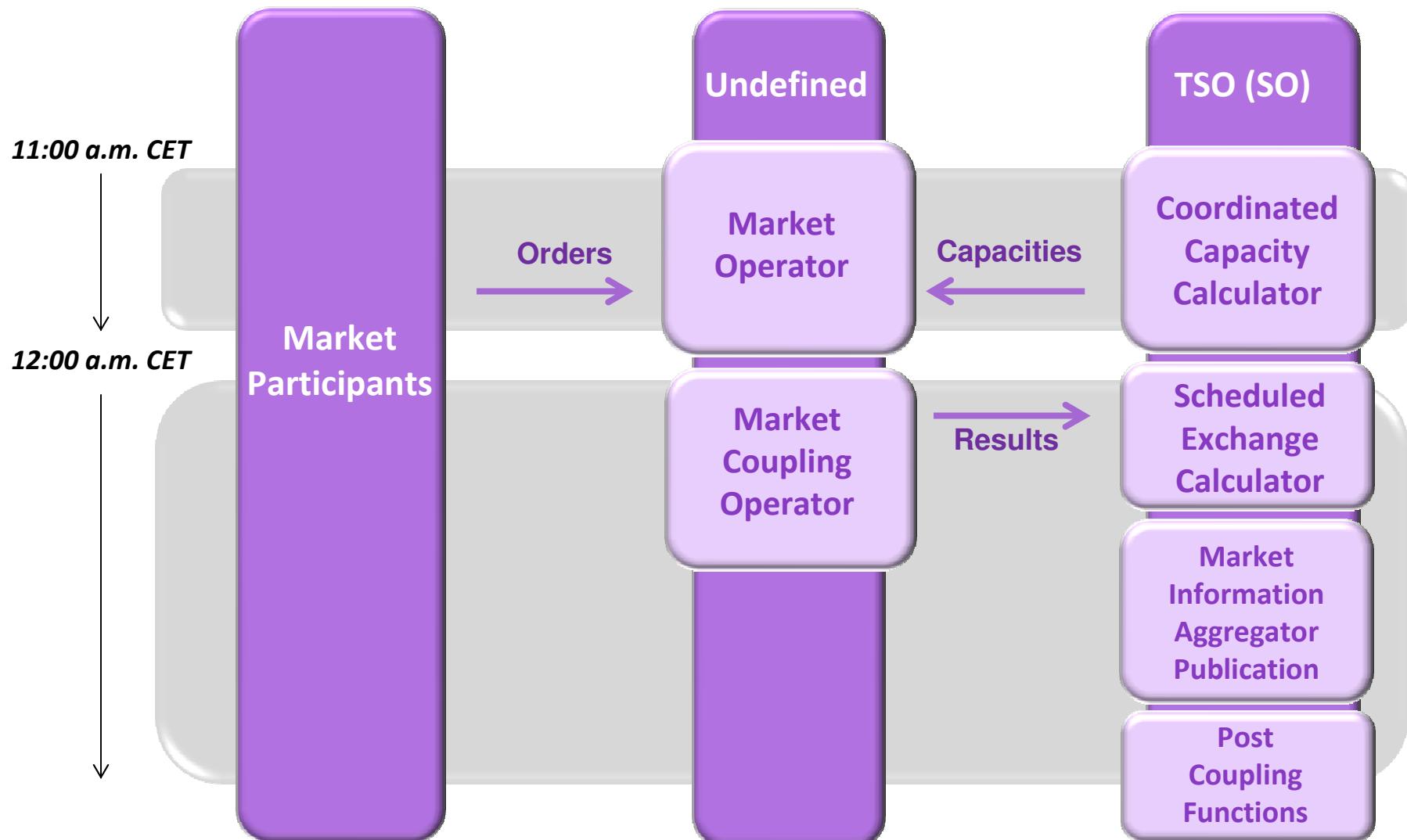
Speaker Notes

- Describes background as to why the push to introduce CACM, i.e. create a single European electricity market by removing 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.

Timetable

- 2012
 - Mar – ENTSO-E Assembly code approval
 - Apr – Formal stakeholder consultation
 - Sep – Final code submitted to ACER for review
- 2013
 - Jan – Code submitted to comitology
- 2014
 - Sep – Code becomes active...

Day-ahead Structure

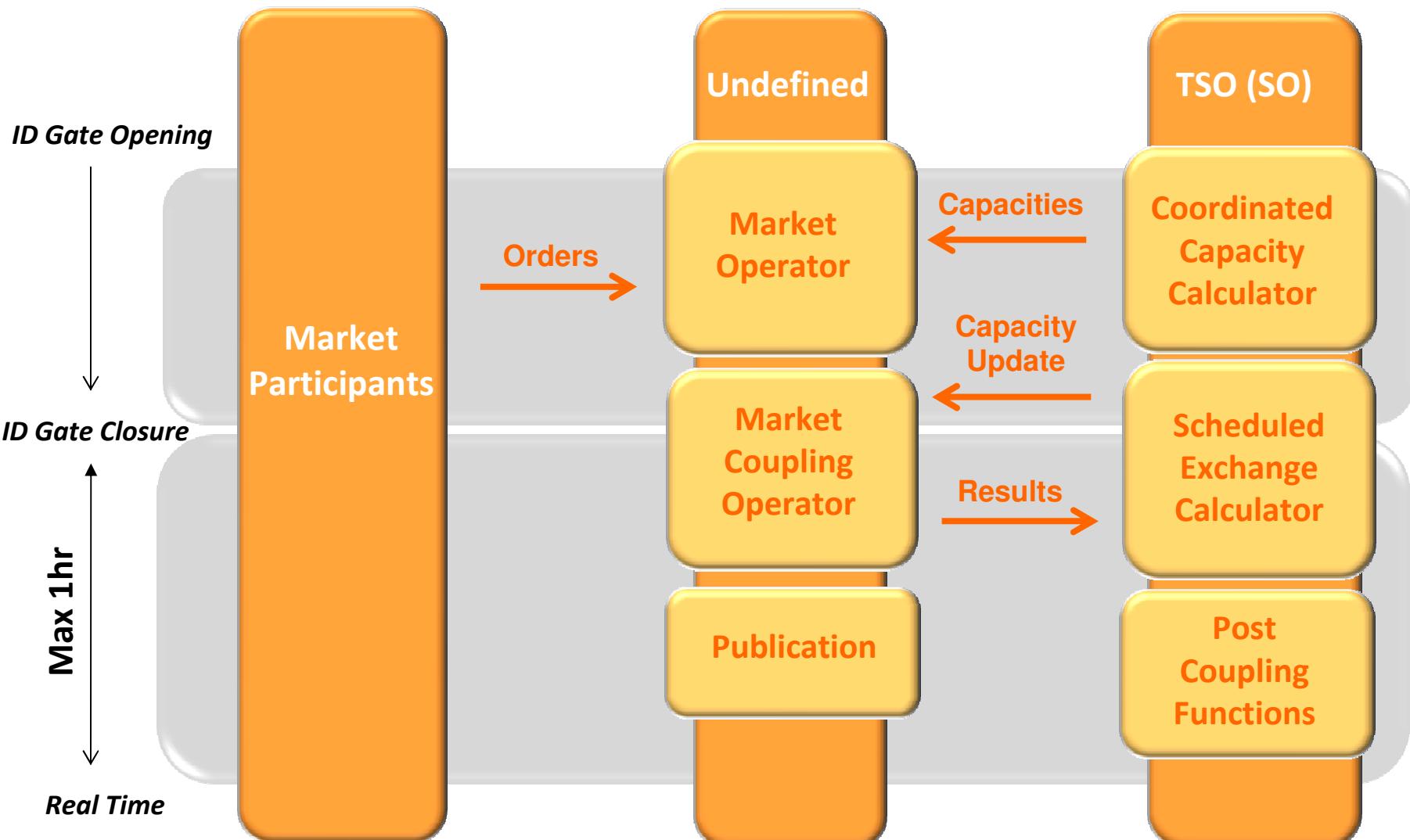


Speaker notes

- ENTSO-E have published a draft day ahead and intraday network code which 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 real time. Along the x axis you have the different market entities, ie Market Participants, Undefined and TSOs. The boxes show each function or task that has to be performed and the arrows indicate the inputs/outputs from each task. The responsibility for a function is indicated by which vertical line the box is on.

- The first task is to calculate the network capacities available between markets zones. This is done by the Coordinated Capacity Calculator function, which is a TSO responsibility. It passes this information to the market operator. In this country the Market Operator is a PX, however the code leaves it unassigned. The market operator takes the network capacity information, 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 scheduled 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 Scheduled Exchange calculator and the Market Information Aggregator send their information to the post coupling functions. The post coupling functions are explained in more detail in a later slide.

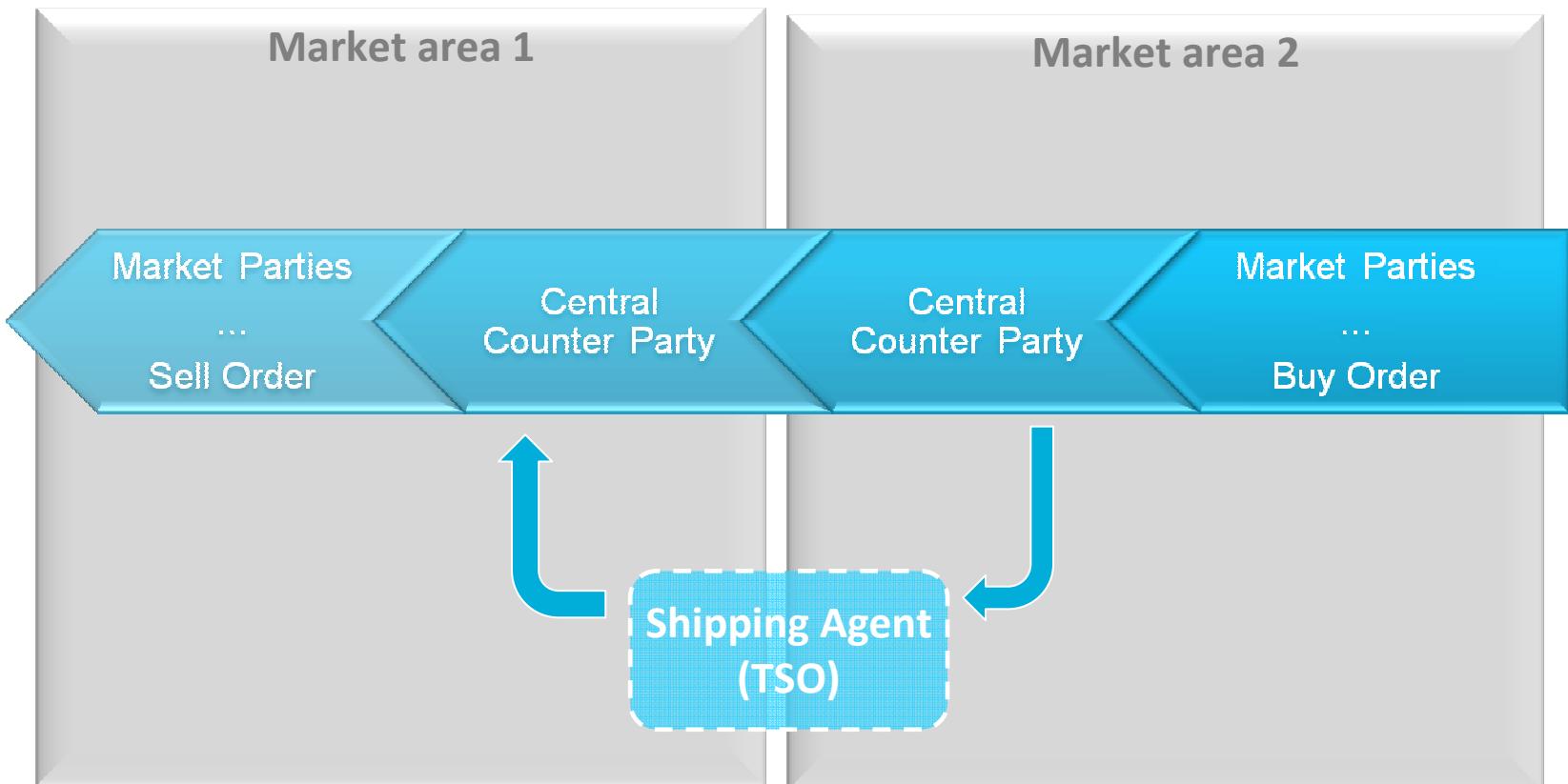
Intraday Coupling Structure



Speaker notes

- 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 undefined, whereas for day ahead it was the System Operator.
- Gate closure is specified as being a maximum of 1 hour ahead of real time (ie it can be less than 1 hour).

Post coupling cash flows



*Shipping Agent (TSO):
Optional function, replaces interface between Central Counter Parties*

Speaker notes

- Market coupling across multiple markets allows Market Parties' trades to match with counterparties across the whole of the interconnected market. The aim of the post coupling processes is to facilitate these cross border trades without requiring Market Parties to be members on multiple Power Exchanges or hold collaterals with multiple Clearing Houses. Market Parties will only require a single membership at their local exchange as the mechanics and processes of cross border exchanges will be handled by the Power Exchanges and TSOs.
- The post coupling process for both day ahead and intraday are identical.
- The cash flows between market parties and the central counterparties (ignoring congestion rents) are shown on the diagram above. Market Parties have a contractual relationship with their local Power Exchange and Central Counter Party. Their Central Counter Party will perform the clearing and settlement of their trades within the market. This clearing and settlement role will be the responsibility of Power Exchanges, although the role is normally carried out by a Clearing House. Where energy flows between market areas, Central Counter Parties act as counterparties to each other to transfer the financial liabilities and the Market Parties are not part of this relationship. In certain circumstances TSOs can facilitate this cross zonal transfer and will act as an intermediary between Central Counter Parties. However these occurrences are subject to appropriate agreements being in place between TSOs, Power Exchanges and the regulatory authorities.
- TSOs will be responsible for managing the power flows between zones consistent with market results. For zones where nominations are required, this function will be carried out by the Cross Zonal Scheduling Agent.
- A direct result of the clearing and settling of cross border trades is that Congestion Income will be collected by Central Counter Parties and Shipping Agents. This Congestions Income will be sent to the Congestion Revenue Distributor who will then pass it to the appropriate System Operators.

Other points to note

- Transitional Arrangements:
 - Irish derogation until 2016
 - Explicit allocation for intraday capacity are permitted (Fr-G)
- Regional Auctions allowed in permanent solution (Italy)
- Market results are firm, unless force majeure

Speaker notes

- The Irish market has a derogation to comply with this regulation until 2016 as currently they don't have an intraday market, so it would be infeasible to introduce CACM by 2014.
- Explicit allocation of capacity is allowed in intraday where permitted by the relevant NRA. This is a carve out for France/Germany where the existing intraday products are not sufficient for their market needs. This carve out will be removed when "sophisticated products" have been developed sufficient for market participant needs, however at latest 2016.
- Complementary Regional Auctions are allowed subject to NRA approval in the enduring regime. This is a carve out for Italy to allow them to carry on running explicit auctions within their country as they have multiple internal zones. I am not sure how this aligns with the target model.
- Market results are firm and market participants held whole (e.g. if an interconnector trips, TSOs are liable for costs which they can pass as agreed with NRA). However in force majeure, all bets are off in the need to secure system security.

Impact on GB

- 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
- Extra data submissions from market parties at D-2
- 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, although TSOs would be central to the process. It would not be split without significant 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 intraday and day ahead is sold implicitly, therefore these auctions will no longer run and PXs/TSOs will manage cross border flows with market participants invisible to the whole process. Auctions can still be run in the futures markets.
- 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 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 may drop the capacity and/or allocation 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 topics of discussion

- **Should there be a harmonised Intraday gate opening?**
Left open, but with a commitment to harmonise
- **Should the code prescribe a timetable for algorithm development?**
Yes, but timetable can be altered subject to regulatory approval
- **Should there be a fall back for intraday?**
No requirement specified
- **How should capacity pricing be specified within the code?**
Capacity pricing required, subject to regulatory approval

How to get involved...

- Get in touch with me
- Industry meetings
 - ENTSO-E/Stakeholders meeting (Brussels)
[\[https://www.entsoe.eu/resources/network-codes/capacity-allocation-and-congestion-management/\]](https://www.entsoe.eu/resources/network-codes/capacity-allocation-and-congestion-management/)
Ruud Otter rotter@energined.nl
Anne-Malorie Geron AMGERON@eurelectric.org
 - Joint European Standing Group (JESG)
- Industry consultations
 - Network code consultation (April)
 - We will run CACM briefing meetings during consultation phase

Any questions?



Will Kirk-Wilson

01926 655424

07554 225984

William.kirkwilson@uk.ngrid.com