CAM network code development
- Stakeholder Joint Working Session 2 -

Brussels – 21st April 2011

SJWS 2 – Opening and Introduction

CAM concepts to be discussed

- ERGEG's CAM framework guideline is basis for ENTSOG concepts
- Launch documentation published on 21st of March 2011

⟹ Discussion with market and drafting of the network code

#	Date	Remarks	Topic to be tackled
1	6th April 2011	SJWS 1	Bundling and platforms
2	21st April 2011	SJWS 2	Auctions
3	4th May 2011	SJWS 3	Within-day allocation and interruptible capacity
4	19th May 2011	SJWS 4	Wrap-up

SJWS 2: Auction design

SJWS 2 – Opening and Introduction

SJWS 3

- Meeting clashes with Commission' infrastructure package and another industry meeting
  - Both on the afternoon of the same day

#	Date	Remarks	Topic to be tackled
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3	4th May 2011	SJWS 3	Within-day allocation and interruptible capacity
4	19th May 2011	SJWS 4	Wrap-up

- Suggestion to shorten the agenda:
  - Start at 9.30
  - Finish at 13.00

Wrap up of SJWS 1

Organisational aspects

- Identification of participants
  - Name signs
  - Introduction of every of everybody who speaks

Explored in more detail during SJWS 4

- Concerns raised on bundling
  - ENTSOG asked to provide alterantive option
  - Flange should be allowed
- Single nominations preferred
- EU-wide booking platform preferred
  - Where are bundled products sold after NC becomes binding?

SJWS 1 – Opening and Introduction

Agenda

No.	Description	Time
2.	ERGEG expectation – Bundesnetzagentur	10.45-11.00
3.	Standard products and auction calendar	11.00-11.30
4.	Open discussion	11.30-11.45
	Coffee Break	11.45-12.00
5.	Bidding window and auction process	12.00-12.30
6.	Open discussion	12.30-12.45
	Lunch Break	12.45-13.45
7.	View of the Prime Movers	13.45-14.15
8.	Stakeholder consideration – OGP	14.15-14.45
9.	Open discussion	14.45-15.15
	Coffee Break	15.15-15.30
10.	Summing up and conclusion	15.30-16.00

Part 1

1. Standard Products
2. Auction principles
3. Auction Calendar

Standardised Products

Framework Guideline:

The network code shall define a small set of standardised firm capacity services of different durations and starting dates, which covers market needs

ENTSOG

A Product is understood to mean a capacity volume over a certain duration.

Framework Guideline:

The consultation must include yearly, quarterly, monthly, daily and intra-day products.

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Yearly product: duration of 1 year; 1st October or 1st January

Quarterly product: duration of one 1/4; 1st Jan, 1st April, 1st Jul, 1st Oct

Monthly product: duration of 1 month; first Gas Day of such month

Daily product: duration of 1 Gas Day; 05:00 a.m. UTC

Within-day product: duration at least one hour; balance of Gas Day.

Long term vs. Short term

Regulation (EC) 715/2009 Art. 2

a) Long Term refers to Services with a duration longer or equal to one year
b) Short Term refers to Services with a duration of (strictly) less than one year

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- **Consistent definition of long term and short term definition will be necessary when specifying the availability of capacity for each auction**
- **A combination of products (at booking time) with a possible total duration of more than 1 year will be considered as long-term**
- **A combination of products (at booking time) with a possible total duration of up to 12 months will be considered as short-term.**

General Auction Principles (1/2)

Window-based mechanism

- At a given point in time a defined product is marketed for a specific capacity nature (Firm, interruptible, …)
- The availability of a product can influence the bidding strategy, depending on the allocation algorithm. It is therefore a requirement to indicate the availability of each product beforehand

Auctions do not allow overlapping allocation of different but competing durations

- Generally speaking, the shorter the product, the shorter the lead time
- Products covering longer durations are first offered; subsequently the next shorter duration is marketed etc.
- Ensures optimal use of available capacity, avoiding a scenario of a single day being booked in the future which would block a possible LT contract.

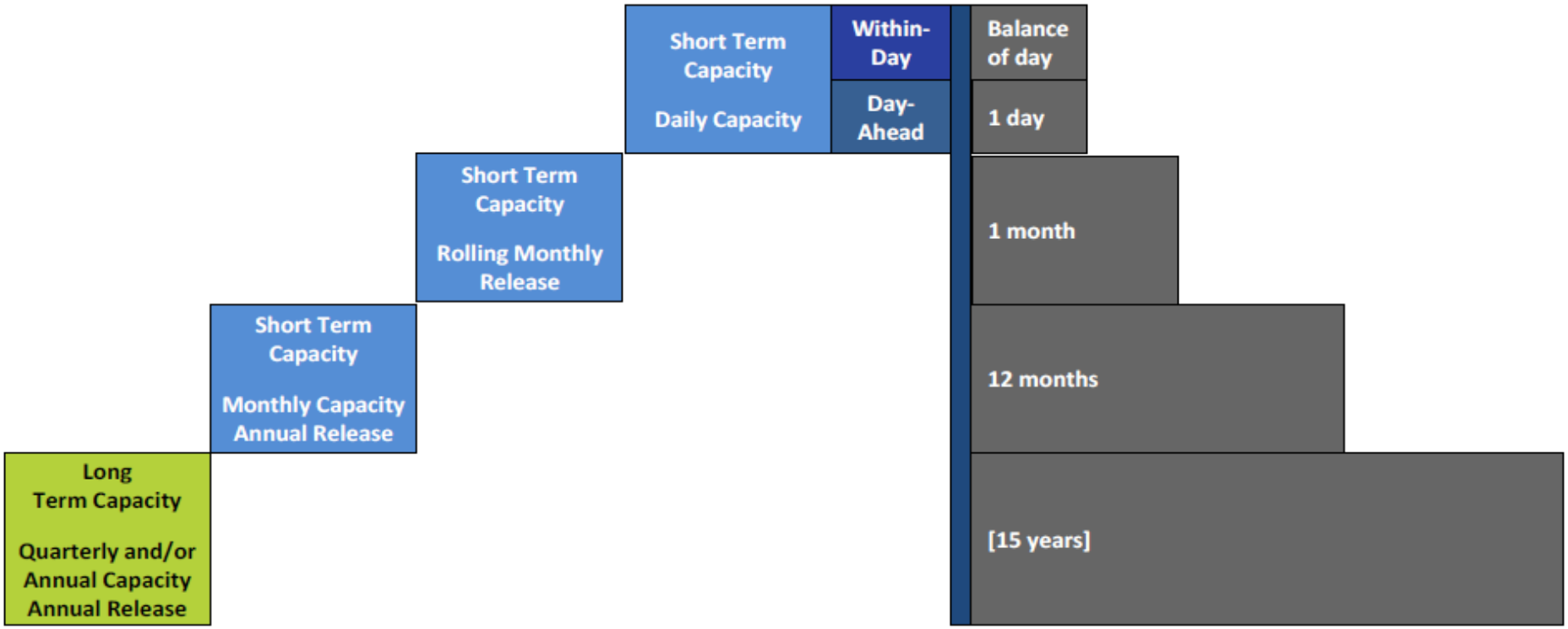
General Auction Principles (2/2)

Auctions do not allow overlapping allocation of different but competing durations

- Parallel sales of overlapping durations would imply a distribution of availability over competing products
    - E.g. Impossible to market 1st of July and full month of July at the same time
- Different products (of similar or different durations) covering different transportation periods can be marketed simultaneously
    - E.g. Several consecutive years can be sold simultaneously allowing the formation of a long term contract
    - This allows combining at that one point in time, products to shape different durations

General Auction Principles

- Avoid auctioning competing products
- Longer durations are first offered
- Next shorter durations are marketed



Standard Auction Package

	Type of Auction		Possible Maximum "Service Duration"	Standard Capacity Product	Share of total calculated capacity
Long Term	Alt 1	Annual Quarterly Auctions	From 1 Quarter up to [60] consecutive Quarters	Quarterly	Maximum 90% of calculated available long-term firm capacity
	Alt 2	Annual Yearly Auctions	From 1 Year up to [15] consecutive Years	Yearly	Maximum 90% of calculated available long-term firm capacity
	Alt 3	Annual Quarterly & Yearly Auctions	From 1 Quarter up to [15] consecutive Years	Quarterly + Yearly	Maximum 90% of calculated available long-term firm capacity
Short Term	Annual Monthly Auctions		From 1 Month up to 12 consecutive Months	Monthly	Total calculated available short term firm[13] capacity minus allocated quantities from previous firm auctions
	Rolling Monthly (Month-Ahead) Auctions		One month	Monthly	Total calculated available short term firm capacity minus allocated quantities from previous firm auctions plus any surrendered capacity
	Rolling Daily Day-Ahead Auctions		One day	Daily	Total calculated available short term capacity minus allocated quantities from previous firm auctions
	Within-day[14]		Remainder of the day	Daily (or balance of day)	Any remaining available capacity

[1] According to Revised Pilot Framework Guideline, Within-day capacity (firm and interruptible) can alternatively be allocated using auctions or on a FCFS basis.

General Timing of an Auction

Assumption on the Bidding Window Opening time

- Available quantity must be known in order to allow for price setting
- Available quantity shouldn't be modified during the bidding window

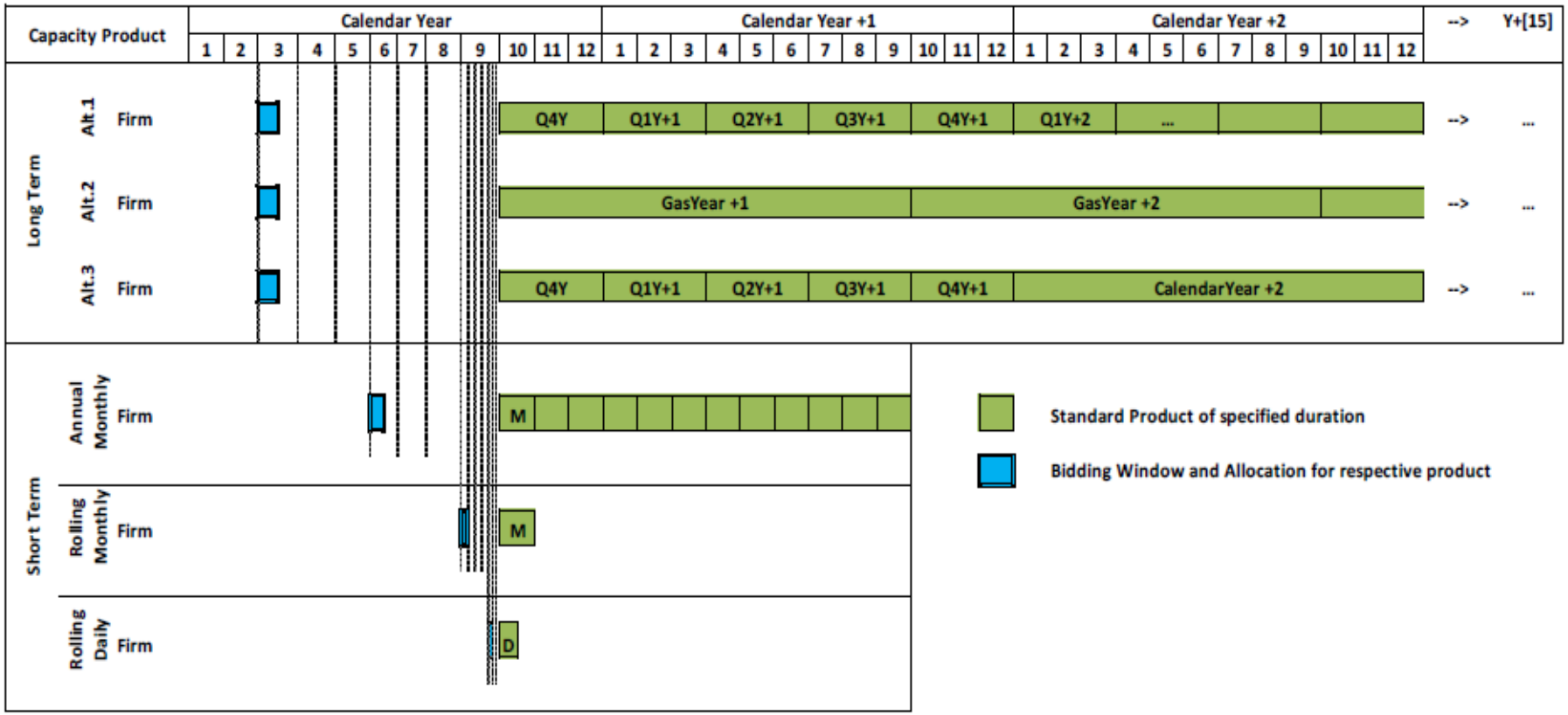
Implications

According to CAM FG, the capacity to be allocated is the sum of

- The calculated available capacity for the envisaged product,
- The previously unallocated capacity,
- Reserved quotas (if applicable),
- Surrendered capacity (for inclusion in short- term rolling monthly capacity auction),
- Re-released capacity resulting from the application of the CMPs.

All elements have to be evaluated by the time the bidding window is opened

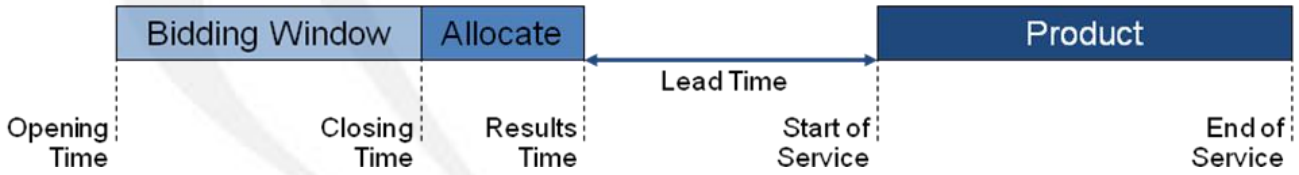
Auction Calendar



[1] The actual calendar will be published each year and coordinated between adjacent TSOs taking bank holidays and previous allocations into account.

Auction Calendar

Service	Start of Bidding Window[18]	Duration of Bidding Window	Allocation
Long-term	1st Monday of March	[10] business days	[5] business days after closing bidding window
Annual Monthly	1st Monday of June	[10] business days	[5] business days after closing bidding window
Rolling Monthly	2nd Monday of proceeding month	[3] business days	[2] business days after closing bidding window
Rolling Daily Day-Ahead	Everyday	6-12h	13h
Within-day	Every hour	[day-ahead/] 6-2h	Every hour within-day or directly before the day[19]



Part 2

1. Auction Process
2. Bidding Window

Auction Process & Bidding Windows

Several Auction types or algorithm exists and could be used for capacity auctions

- First-Price Sealed-Bid (FPSB)
- Second-Price Sealed-Bid (Vickrey Auction)
- Pay-as-Bid Sealed-Bid
- Open Ascending – Bid Auction (English Auction / Ascending Clock)
- Open Descending – Bid Auction (Dutch Auction / Descending Clock)

Major differences

- The organisation of the bidding window: one or several rounds
- The price assigned to each successful bidder: a uniform or differentiated price
- The impact of others behavior on shippers' bidding strategy

Conclusion: Tight link between auction type, capacity valuation by bidder and practical organisation of the process

Bidding Window Structure

Bids can be freely submitted, amended and removed during Bidding Window

- Single round: one Bidding Window for one auction process
- Single tranche: 100% of availability auctioned at once
- Sealed-Bid: bids are submitted individually and independently

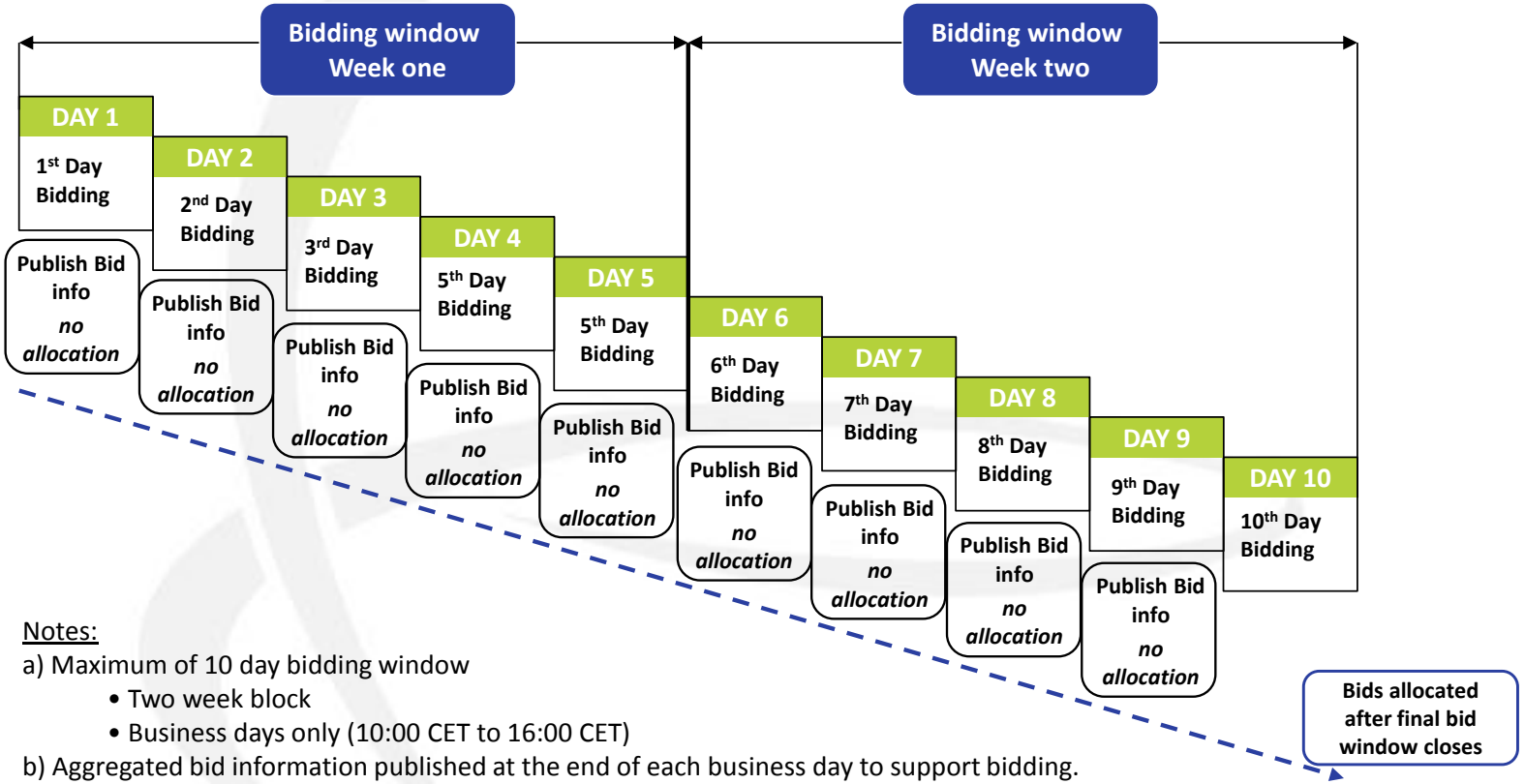
Price formation support during bidding window

- Aggregated interim information without allocations will be published during bidding window
  - Information should display current market valuation of the products
  - This would enable steering of the bid price/quantity
- Early price formation mechanism (from 1st day of BW) could be encouraged
  - Constraints on upwards or downwards revision of bid-price and/or bid-quantity.
  - BW could be shortened, if the bid price would display stability over a

Alternatives based on multiple tranches or multiple rounds (ascending clock) are more complex to manage

Bidding Window Structure

- Information & Price Discovery bidding window structure



Notes:

a) Maximum of 10 day bidding window
- Two week block
- Business days only (10:00 CET to 16:00 CET)

b) Aggregated bid information published at the end of each business day to support bidding.

c) Bids may be modified and withdrawn throughout the 10 days bid window.

d) Bids are allocated only after the final bidding window closes and TSO assessment.

Auction process in details

Relevant information is published before the auction

- Invitation including T&Cs, Auction detailed calendar
- Available quantity per auctioned product

Bids are submitted during bidding window

- 1 or several inclusive bids may be submitted (amended or removed) during BW
- 1 bid comprises a unit price, a requested quantity and a minimum quantity
- A reserve price applies to all bids: bids below reserve price are not accepted

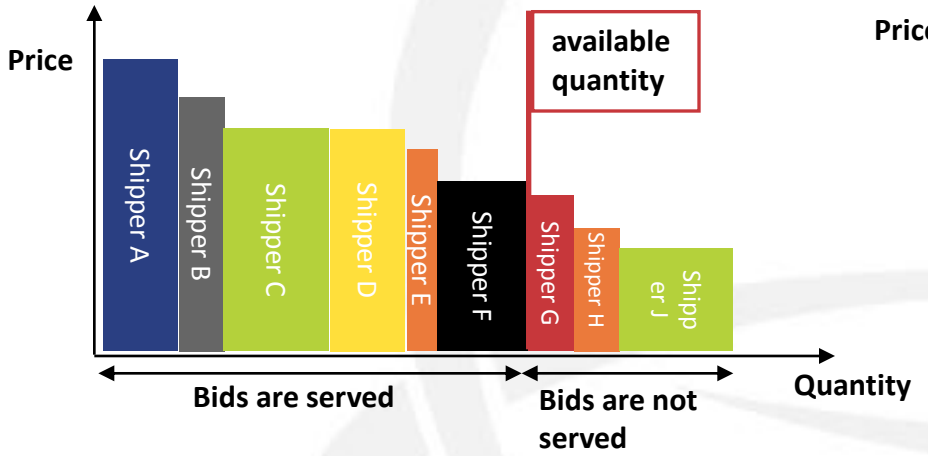
Bids are allocated after the closure of Bidding Window

- Allocations and price confirmation takes place a number of days after closure
- All bids & allocations are subject to Financial Security and other relevant checks
- Unallocated capacity is carried forward into the next shorter duration capacity auction.

Auction Algorithm
Allocation and Price setting

Short-term

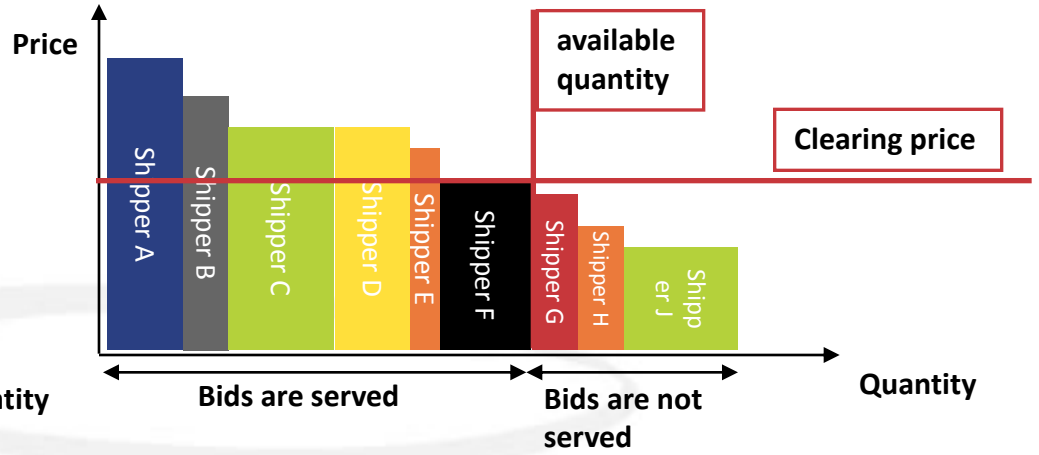
Pay-as-bid-auction



Successful bidders pay the price which they actually bid in the Auction (above the reserve price).

Long-term

Cleared-price-auction



Successful bidders pay a uniform unit, called the clearing price, equal to the lowest winning bid price, regardless of their actual bid price (above the reserve price).

Auction algorithm details

Bids are ranked per unit price

- The higher the unit price, the higher the rank

Available quantity is allocated to highest price ranked bids

- The highest in ranking gets the capacity up to its bid quantity
- Next in ranking gets remaining capacity up to its bid quantity
- Last bid is allocated the remaining quantity*

Bids of equivalent rank are pro-rated

- If the available quantity is lower than the sum of bid quantity for a similar unit price, all bids are allocated such available quantity pro-rata*

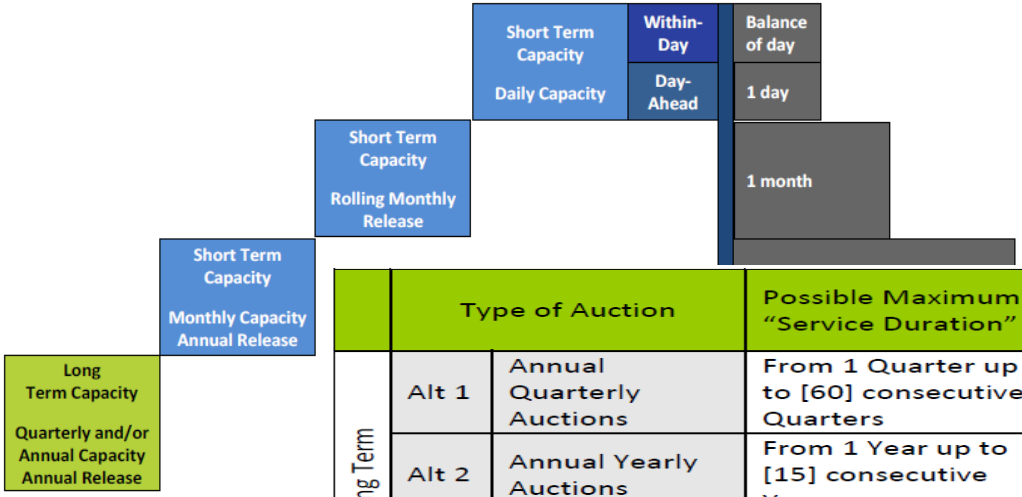
Price setting

- If Cleared-Price: all bids will pay the bid price of last winning bid rank
- If Pay-as-Bid: all bids will pay their respective indicated bid price

* Bids are removed if allocated quantity is under indicated minimum allocated quantity

Summing up and conclusion

Summary of auction products and calendar



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Summary of auction products and calendar

Key characteristics of concept

- Standard Products
  - Auctions do not allow overlapping allocation of competing durations
  - Different products can auctioned simultaneously can build long-term services
  - Longer durations are offered first
- Auction “Calendar”
  - Describing the definite timing of an auction
  - Published way in advance

Standard products, process, and timing

apply at all IPs throughout Europe

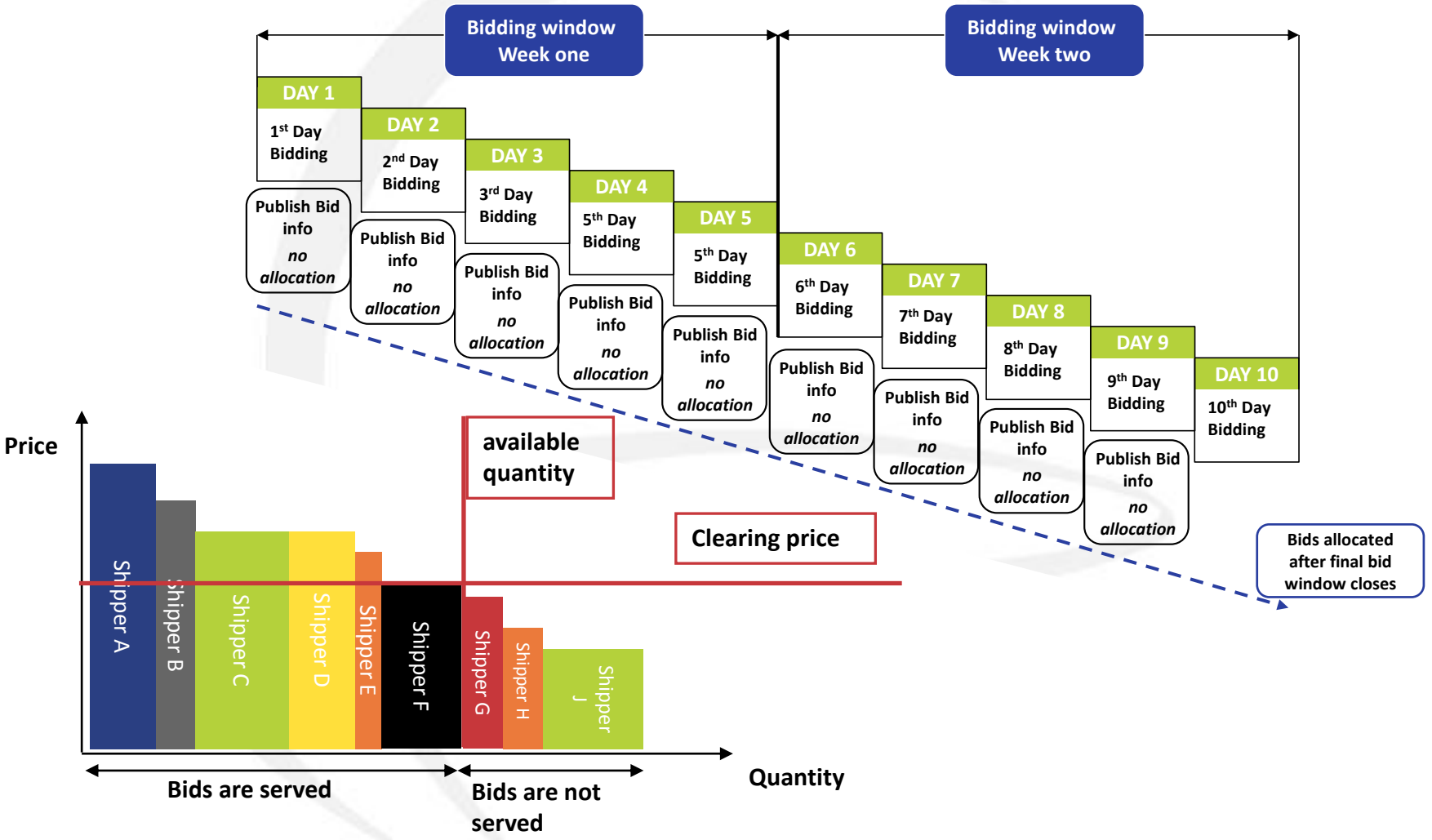
Conclusion of debate on products and calendar

Main points of discussion

Support for the presented products and calendar

- Long term vs short term distinction meets industry requirements
- Quarterly product for long-term services, as the only standard products
- Lead-times and bidding-window seems to be consistent and acceptable
- EU-wide simultaneous auction calendar supported
- Interest has been raised for the harmonized definition of Firm

Summary of bidding window and auction process



Summary of bidding window and auction process

Key characteristics of concept

- Sealed-Bid Auction,
  - Bids can be submitted and amended throughout the bidding window
  - Price discovery supported by aggregated interim information publication
- Relevant Information published before the auction
- Unallocated capacity is moved to next shorter duration
- Price ranked bids, cleared-price and pay-as-bid price allocation

Transparent process at all IPs that does not allow strategic bidding.

Conclusion of debate on bidding window and auction process

Main points of discussion

- Assuming that regulated tariff is used as reserve price for all short-term products, some stakeholders would favor the application of cleared-price auction
  - Pays-as-Bid would have certain merit otherwise

  → tight coupling between auction design and tariff FG (over-and under recovery)
- Requirement by PM to include incremental capacity, although recognizing the overall framework is not set yet
  - The LT process might be improved to be compatible with volume based allocation, based on price range → NRAs will provide a view on this subject
- The information released throughout the bidding-window should give the bidders the opportunity to review the own position
  - Tranches, multiple rounds or price range could help price formation, although no common view yet on most effective mechanism

Simplicity and consistency all over the product range should drive the design

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