

# Capacity Remuneration Mechanism

General Info Session 28/02/2025



# Disclaimer

This document constitutes a commercial presentation for the Belgian Capacity Remuneration Mechanism (CRM) and is to be considered as an educational document facilitating understanding of all other CRM documents that together form the official legal and operational framework. As an introduction to the CRM, the commercial presentation sets out the wide range of principles governing the mechanism as a whole, focusing on the outlook for the operational rollout for the CRM 2025 and further, based on the current regulatory framework and purposely simplifying some items to facilitate understanding. Elia refers any readers wishing to gain a complete understanding to all relevant legal and explanatory references:

## The Law and its implementing Royal Decrees

<https://economie.fgov.be/nl/themas/energie/bevoorradingserheid/capaciteitsremuneratiemechanis>

## The Functioning Rules, as approved by the CREG on 13/09 2024

[https://www.elia.be/-/media/project/elia/elia-site/users-group/ug/wg-adequacy/2024/20240913/20240913\\_crm\\_functioningrules\\_en\\_amended.pdf](https://www.elia.be/-/media/project/elia/elia-site/users-group/ug/wg-adequacy/2024/20240913/20240913_crm_functioningrules_en_amended.pdf)

## The Capacity Contract, as approved by the CREG on 21/08/2024

[https://www.elia.be/-/media/project/elia/elia-site/public-consultations/2024/20240402\\_crm-capacity-contract-for-public-consultation\\_version\\_clean\\_en.pdf](https://www.elia.be/-/media/project/elia/elia-site/public-consultations/2024/20240402_crm-capacity-contract-for-public-consultation_version_clean_en.pdf)

This commercial presentation is based on the current understanding and state of play, which may evolve as certain regulatory (Functioning Rules, Capacity Contract) and legal (Royal Decree, Law) documents still need to be formally approved and/or adopted or might evolve over time. This document has no legal value and if it is in any way inconsistent with existing legal or regulatory documents, then the latter shall prevail. The main objective of this document is to highlight the customer's obligations and opportunities within the Capacity Remuneration Mechanism.

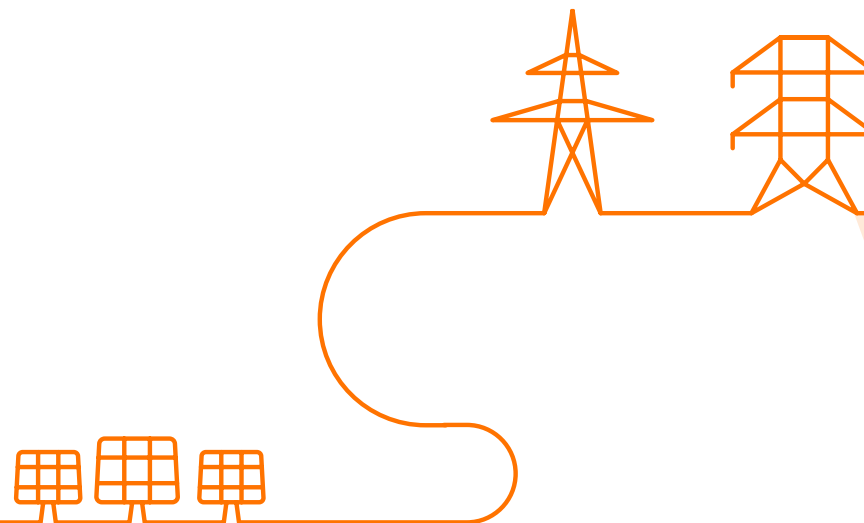
All illustrative cases are fictive and are meant as relatable examples. Any similarities with real market parties are coincidental and unintended.



# Disclaimer

This presentation represents the current design of the Belgian Capacity Remuneration Mechanism. At this time, the State Aid Decision of the EC (SA114003) is being transposed into the Belgian regulatory framework (Electricity Law, Royal Decrees governing the CRM). At the time of this presentation these changes have not entered into force, but are expected to do so in the coming months.

This presentation has been prepared targeting Belgian Market Actors and does not dive into the specificities for the Cross-Border participation to the Belgian CRM. A dedicated session is planned for foreign Market Actors to elaborate on the Cross-Border specificities.



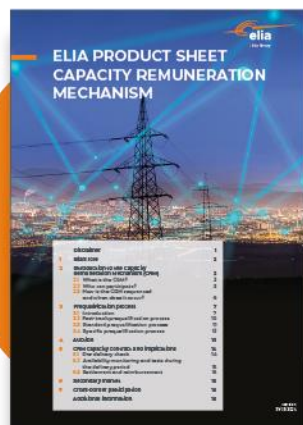


# Where can I find more information?

Elia has a dedicated webpage containing relevant information for CRM participation:

[Capacity Remuneration Mechanism](#)

## CRM Product sheet



## CRM Design notes



## CRM Functioning Rules



## Evolutions in the CRM's modalities are discussed in Elia's Working Group Adequacy and are publicly consulted before formalisation and submission to CREG for approval



### Working Group Adequacy

Platform\* where Elia, Government, CREG and Market Parties meet and discuss Adequacy Topics

[elia.be/en/users-group/adequacy-working-group](https://elia.be/en/users-group/adequacy-working-group)



### Formal Public Consultations

Consultation of Elia's proposed changes for the CRM, open to market parties and the general public.

[elia.be/en/public-consultation](https://elia.be/en/public-consultation)

\* The platform was formerly known as 'Taskforce CRM', which can be consulted on Elia's website as well.

[elia.be/en/users-group/crm-implementation](https://elia.be/en/users-group/crm-implementation)



# The ‘simplified’ CRM lingo

TERM	EXPLANATION
<b>CMU</b>	Capacity Market Unit, A Capacity (« Individual CMU ») or several associated Capacities (« Aggregated CMU»).
<b>Additional Capacity</b>	The Capacity for which, at the time of Prequalification File submission, no representative Nominal Reference Power can be calculated based on quarter-hourly measurements or that is subject to a technical agreement.
<b>Existing</b>	The Capacity for which, at the time of Prequalification File submission, a representative Nominal Reference Power can be calculated based on quarter-hourly measurements.
<b>New Build</b>	A capacity for which the connection has not yet been commissioned or which does not have all the necessary permits yet.
<b>Opt OUT Volume</b>	The (part of) the (Declared) NRP of a CMU for which the CRM Candidate formally indicates prior to the Auction for which it does not want to submit a Bid during an Auction.
<b>Payback obligation</b>	The obligation to pay back an amount to Elia is the reference price exceeds the strike price (i.e. the reliability option).
<b>Availability Monitoring</b>	The process under which Elia confirms the contracted capacity is delivering its obligation.
<b>NRP</b>	The maximal nominal power that a capacity can provide to the system at any given moment, as declared by the CRM Candidate or as determined by ELIA or by the DSO the Prequalification Process.



# Today's General Session

## 1. Context

## 2. What is the CRM?

## 3. Getting to a contract:

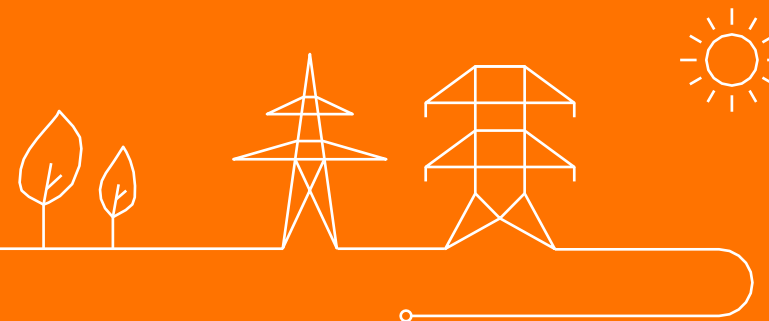
- Types of Contracts
- Eligibility & Participation Assessment
- Prequalification
- Financial Security Obligation
- Auction
- Contract

## 4. Preparing for Delivery: Pre-Delivery Monitoring

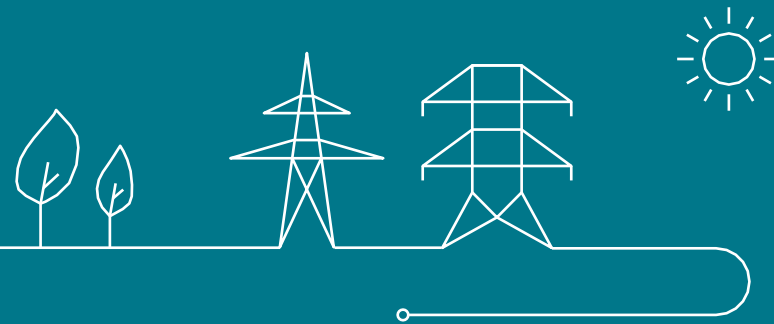
## 5. Delivery Period:

- Availability Obligation
- Payback Obligation
- Secondary Market
- Settlement

## 6. Final notes



# 1. Context





CONTEXT

‘Adequacy’ refers to the system’s ability to meet the demand for electricity at all times.

CRM Auctions  
(Y-4/Y-2/Y-1)

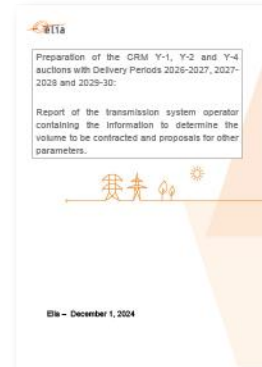
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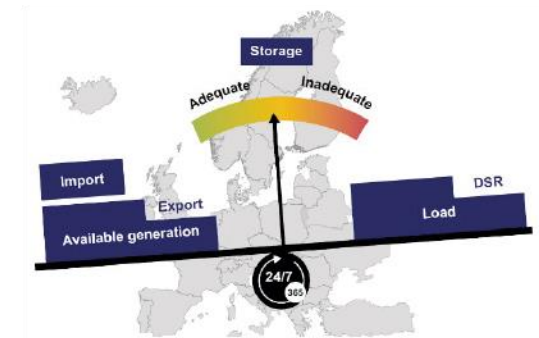
Long term  
NRAA & ERAA



Mid term  
CRM Calibration



Seasonal  
Winter & Summer  
outlook



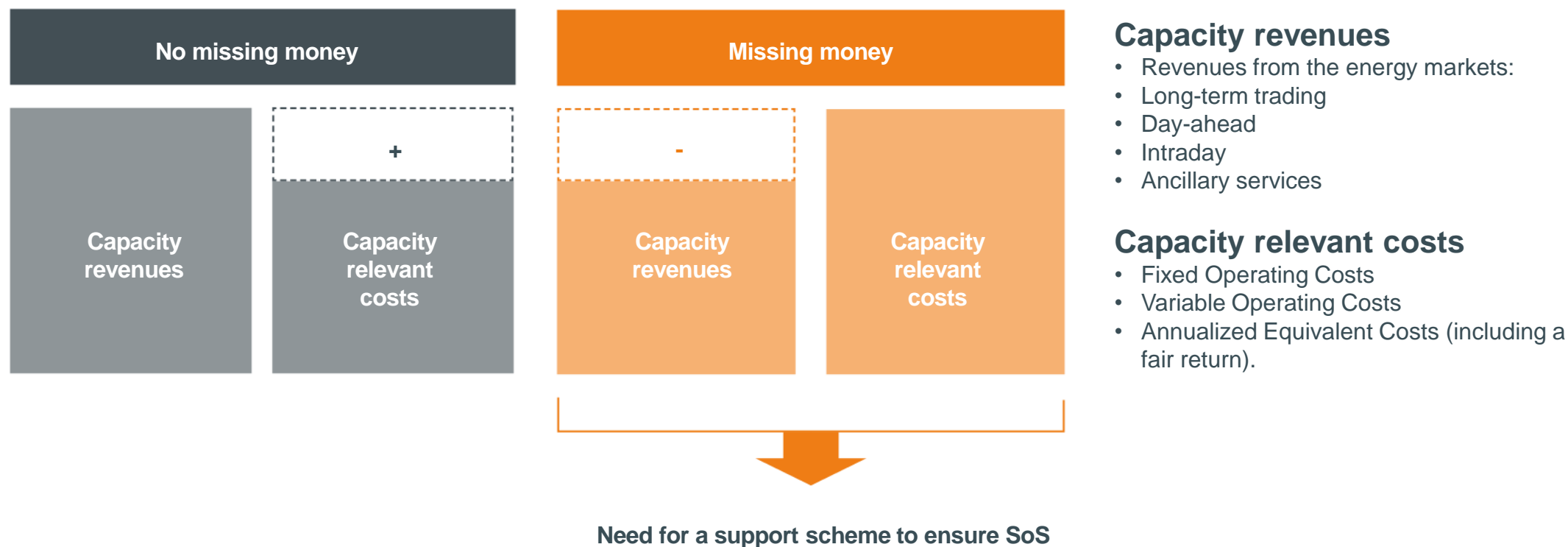
Real time  
Balancing

Elia supports the Belgian Government in identifying adequacy need to ensure the reliability standard of 3 hours LOLE is met



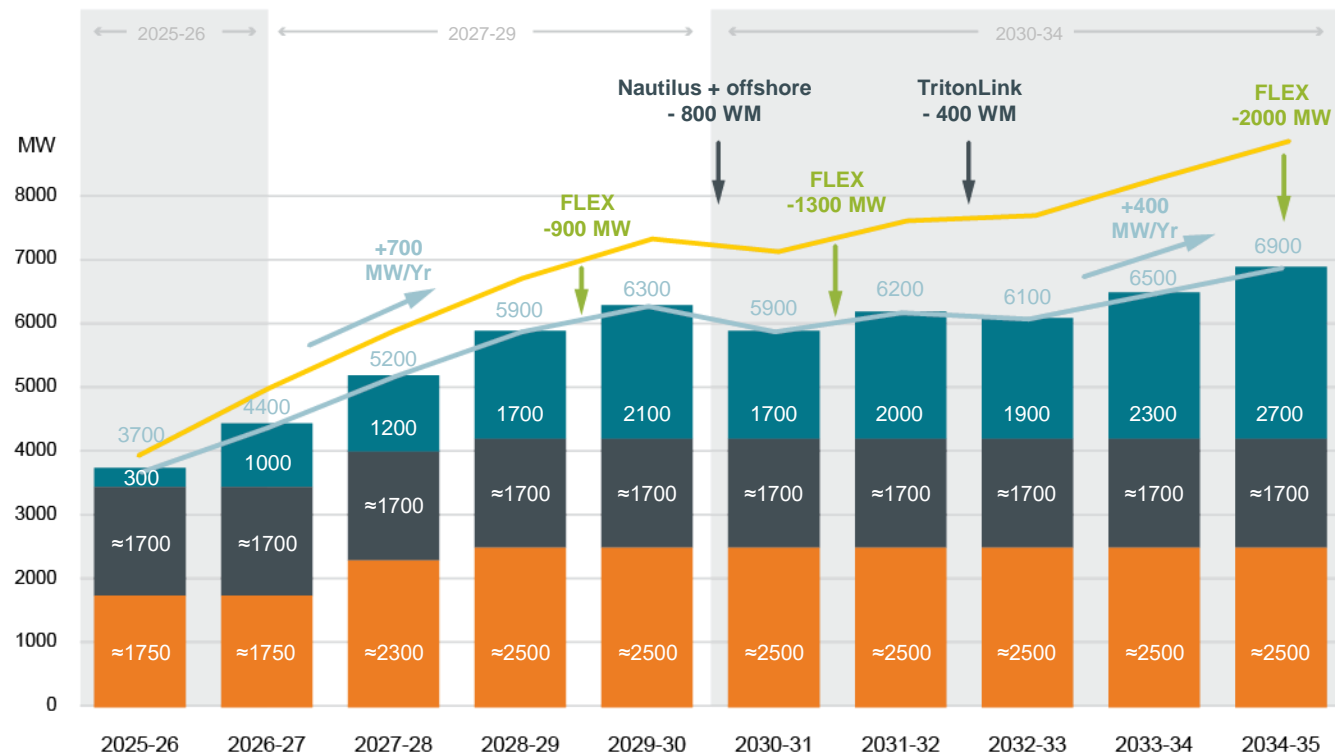
## CONTEXT

Many capacity holders lack a positive business case to enable current and new capacities to be available on the market and to contribute to the Belgian security of supply.



## CONTEXT

Due to predicted higher energy offtake, renewables objectives and lower amounts of steerable capacity, Belgian authorities introduced the CRM with a view to maintaining the required level of security of supply for Belgium.



**Additional GAP if low flex in industry and residential/tertiary sectors**

**GAP in EU-SAFE (FR-NUC 4)**  
**New capacity to be found on top of all existing units and already contracted in a CRM auction**

**Nuclear extension D4/T3 as from 2025-26**

**New capacity contracted in previous CRM auctions (Flémalle, Seraing, Vilvoorde batteries)**



## CONTEXT

# A Capacity Remuneration Mechanism: organizing “competition for the market” to ensure Security of Supply (SoS) in line with the Energy Trilemma objectives

A Capacity Remuneration Mechanism (CRM) has several beneficial characteristics for ensuring SoS



### SoS:

Security of supply is guaranteed in a stable, robust manner and forward auctions assure time for new investments (no boom-bust, no scarcity prices).



### Impact on capacity mix:

market-based, technology-neutral mechanism yet enables steering based on decarbonisation targets (e.g. CO<sub>2</sub> thresholds).



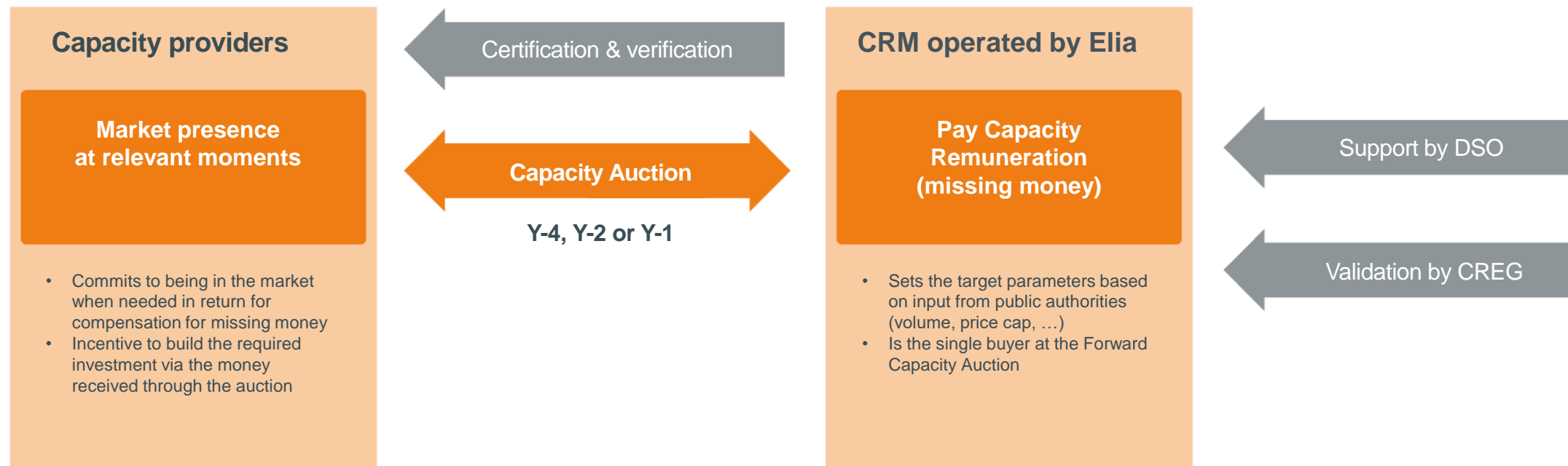
### Partially de-risks investment decisions

lowering required WACC and hence overall system costs/costs for consumers. Avoidance of windfall through reliability options.



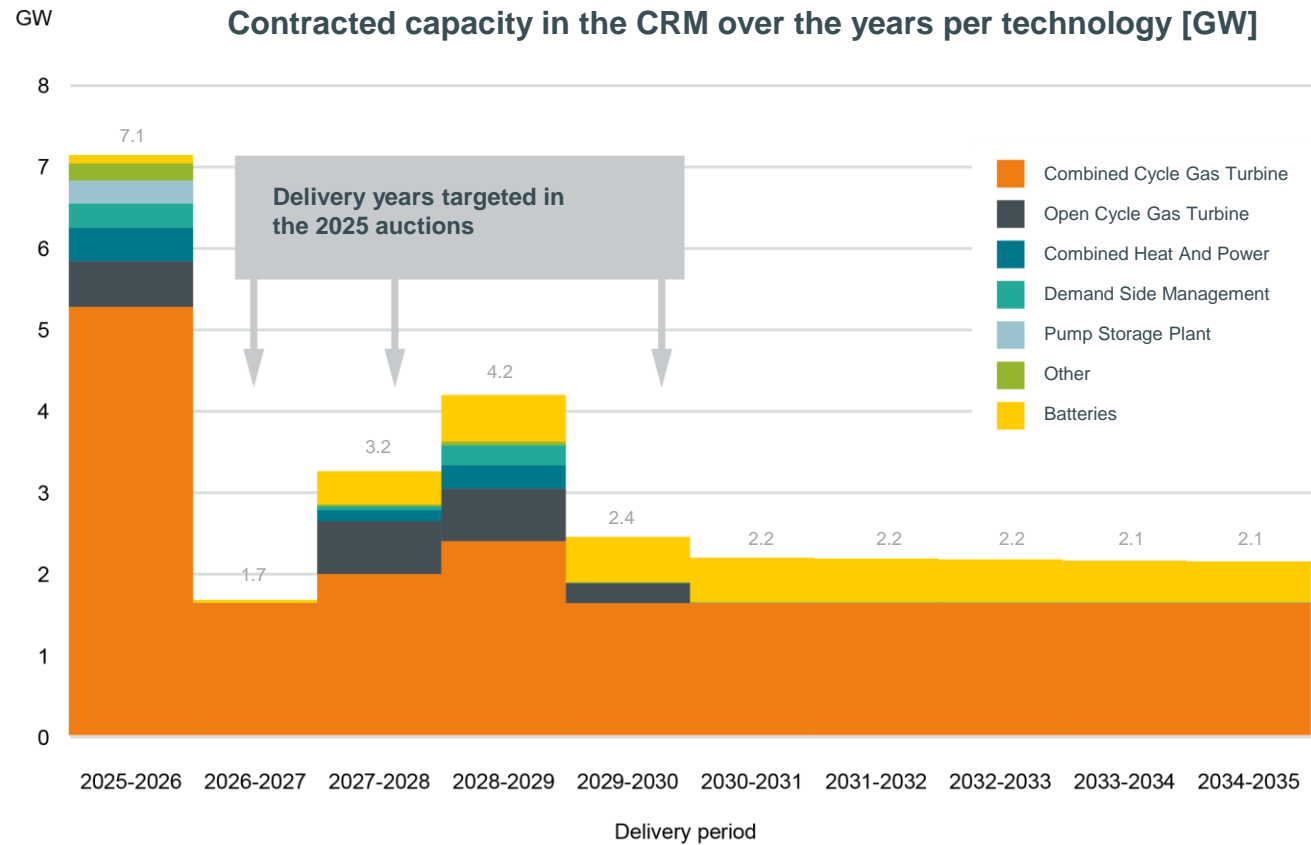
## CONTEXT

The CRM aims to support existing capacity to remain in the market and attract new capacity by supporting investments, in order to reach the reliability standard.



## CONTEXT

# The CRM has delivered new capacity to the system and ensures SoS



- 2,5 GW of new derated capacity delivered to the system. Including 2 new CCGT and 1 GW of BESS (nominal)
- Long term contracts extend beyond the 10 year approval window
- Total cost for the CRM for the first delivery year is ~180 M€





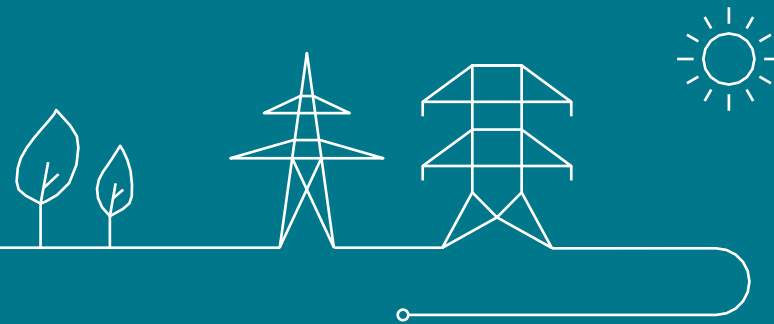
# Overview of clearing prices in previous CRM auctions

		25/26 Y-1	25/26 Y-4	26/27 Y-4	27/28 Y-4	28/29 Y-4
Weighted average bid price [€/MW/year]	Existing (subject to IPC)	15.695	19.893*	-	25.825	25.832
	New capacities (Not subject to IPC)	-	37.167*	-	53.403	46.778
Clearing Price (Highest Bid Price) [€/MW/year]		26.499	49.993*	-	69.900	74.950

\* Prices have not been updated after the re-run



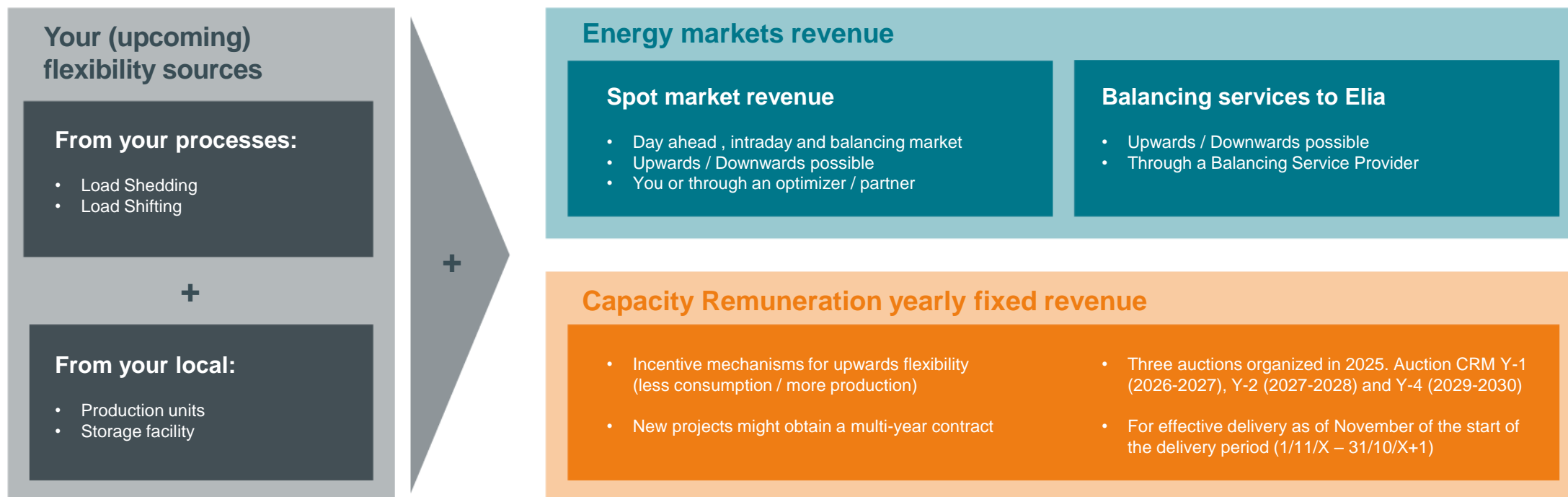
# 2. What is the CRM?



## WHAT IS CRM?

# How does the CRM fit in the energy market?

As the CRM is a support mechanism for missing money assets, it works on top of regular market operations, without impacting them.



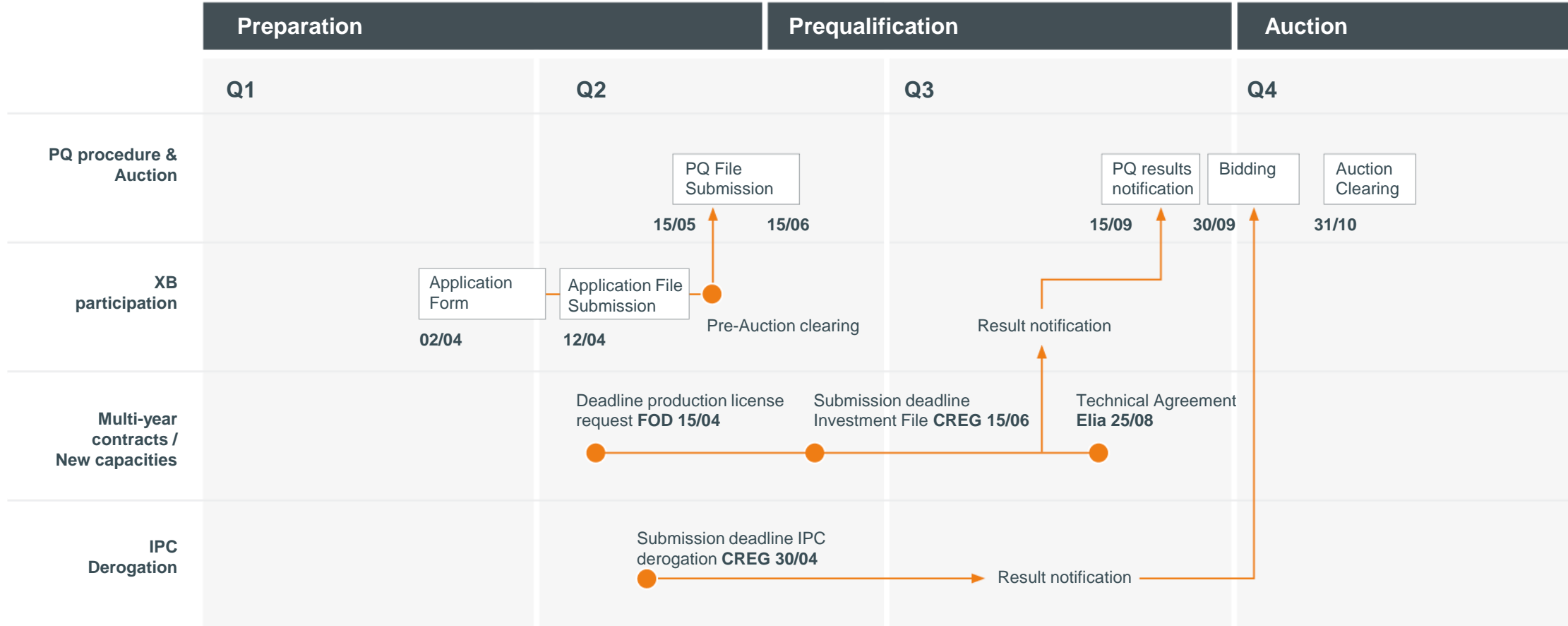
## WHAT IS CRM?

# The capacity contract strikes the balance between rights (capacity remuneration) & obligations (availability & payback)



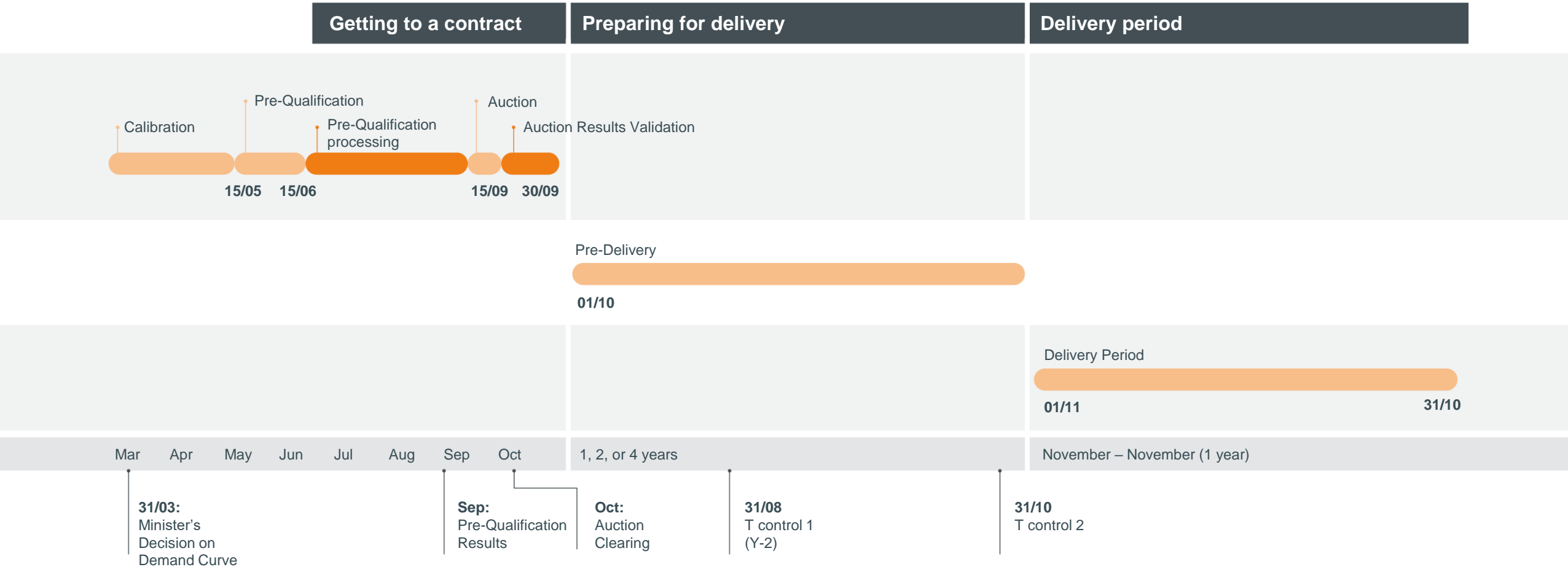
## WHAT IS CRM?

# High level view on the CRM process



WHAT IS CRM?

# When does it all happen?





## WHAT IS CRM?

# When does it all happen?

## What does it entail?

1

### Getting to a contract:

#### Types of Contracts

In what ways can I engage with the CRM?

#### Eligibility and Participation Assessment:

Can and should I participate?

#### Prequalification:

Administration for possible participation to the CRM.

#### Financial Security Obligation:

Financial Securities are needed to hedge for the risk of deficiency.

#### Auction:

Bidding to get selected.

#### Contract:

Formalisation of participation.

2

### Preparing for delivery:

#### Pre-Delivery Control

If a Capacity Market Unit (CMU) does not exist yet, the development progress needs to be monitored to estimate the risk of deficiency.

3

### Delivery period:

#### Availability Obligation

In return for a capacity remuneration, CMU's are required to be present in the market at adequacy relevant moments. Elia will monitor (or test) CMU's to see if they live up to their part of the bargain.

#### Payback Obligation:

The purpose of the remuneration is to cover missing money. If a CMU makes windfall profits, excessive captured remunerations need to be paid back.

#### Secondary Market:

The Secondary Market is a risk management tool in which CMUs can trade their capacity excesses or shortages, in order to conform to their availability obligations.



## WHAT IS CRM?

Throughout the presentation, we'll use three recurring, fictive example cases.

1

### OCGT

#### Technology & Capacity

Gas turbine with a capacity of 100 MW

#### Market activity

Commodity Markets

#### Status

The unit has been active for the last 7 years.

2

### Demand side management

#### Technology & Capacity

A large factory that can shut down their processes for up to 3 hours to reduce their energy demand with up to 5 MW.

#### Market activity

Ancillary services

#### Status

They have been doing DSM with 5MW for 5 years.

3

### Large-scale storage

#### Technology & Capacity

A large-scale battery project with a capacity of 30 MW for 2 hours.

#### Market activity

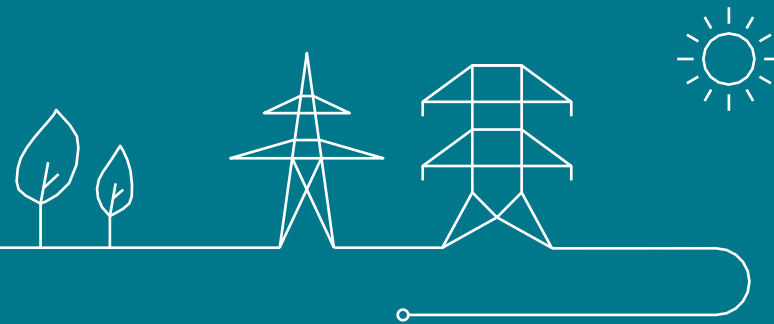
Ancillary services

#### Status

Intention to go live by next year.

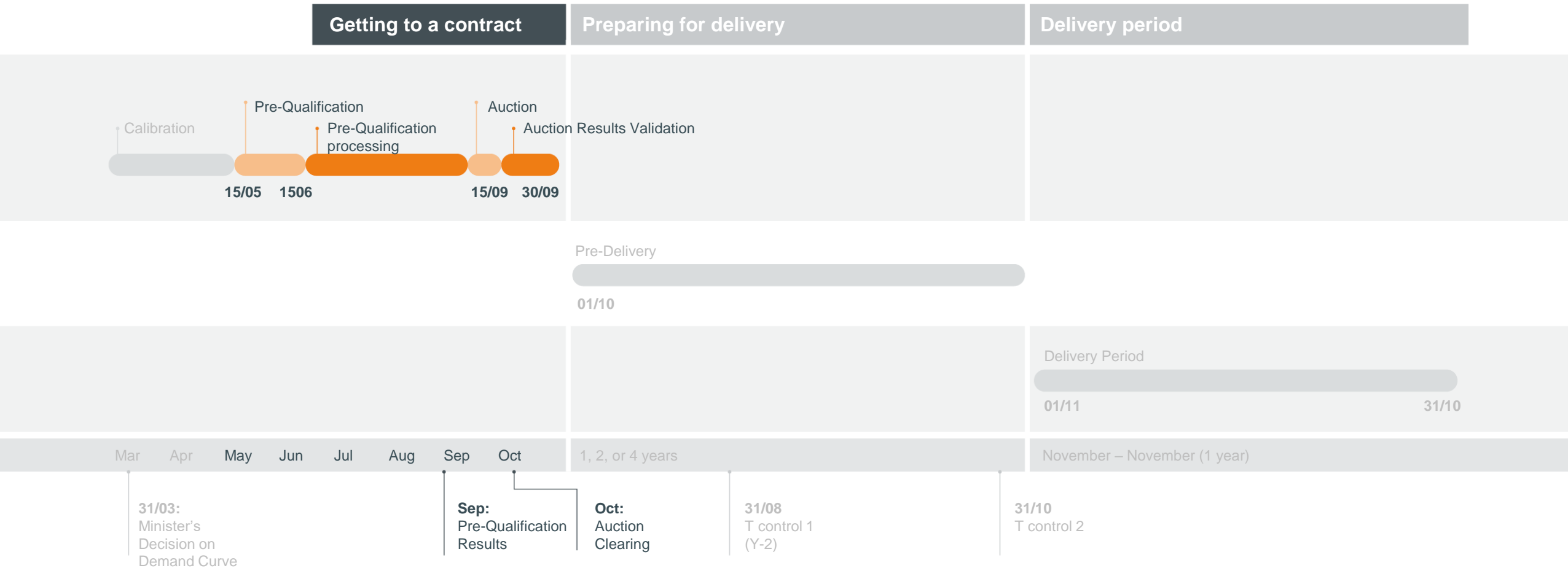


# 3. Getting to a contract



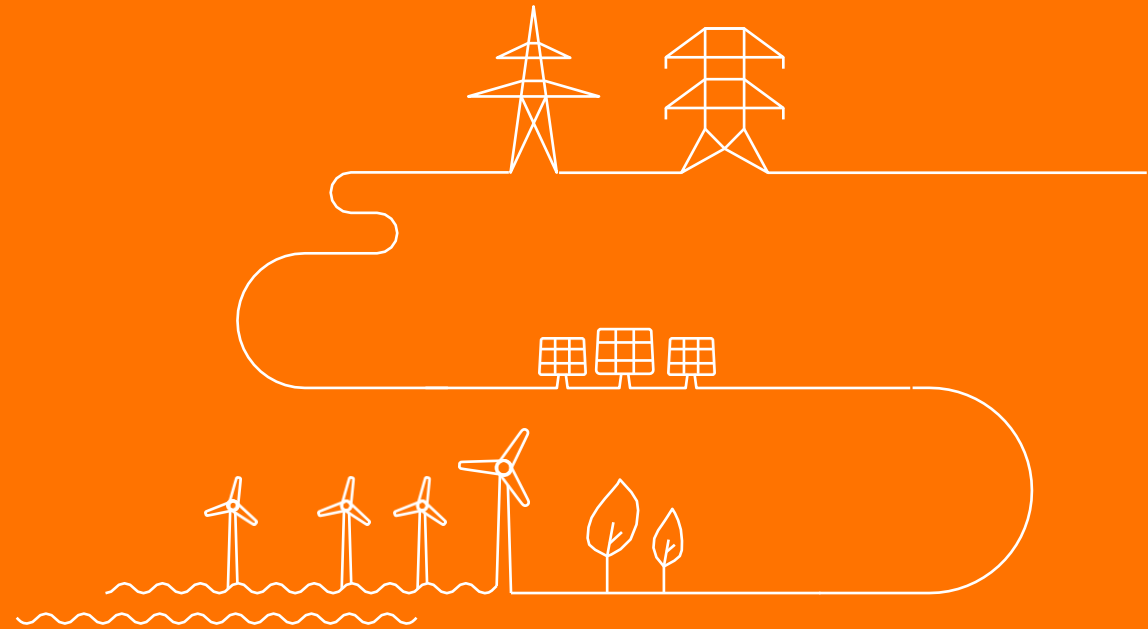
GETTING TO A CONTRACT

# When does it all happen?



# Types of contracts

In what ways can I engage with the CRM?



# In what ways can I engage with the CRM?

There are multiple ways to engage with the CRM: single year & multi-year contracts with Elia, or Secondary Market Trades.

## Primary Market: Auctions

### Single year Capacity Contract:

#### Contract with Elia

- Lasts for a single delivery period November Y to October Y+1 included
- Possibility to bid up to the Intermediate Price cap
- No investment file required
- But possibility to request intermediate price cap derogation to CREG

### Multi-year Capacity Contract:

#### Contract with Elia

- Lasts for a maximum of 3, 8 or 15 delivery periods depending on the investment.
- Required to submit Investment file to CREG
- Possibility to bid up to the Global Auction Price Cap for new capacities
- Multi-year contracts possible for existing capacities

## Secondary Market

### Secondary Market Contract

#### OTC agreement, notification to & contract with Elia

- Higher granularity of contract durations (15minutes up to 1 years)
- Extra terms & conditions can be discussed bilaterally by CMUs
- Continuous market.





# Requirements for obtaining a multi-year contract

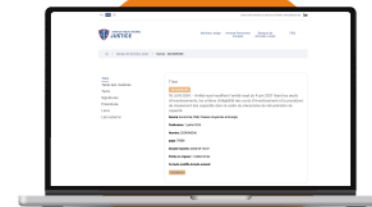
The Investment Files process allows Capacity Providers to obtain a multi-year contract from the CREG:

1. For new capacities multi-year contract can be obtained for **up to max. 15 years**
  - Different CAPEX thresholds for different contract durations (max. 3/8/15 years)
  - List of eligible costs available on the CREG website
  - Bidding up to the global auction price cap
2. Existing capacities can obtain a multi-year contract of **up to 8 years**
  - Single CAPEX threshold linked to recurrent and non-recurrent investment
  - Derogation needed to bid above the IPC

## Key sources:



1. RD Investment Thresholds ([link](#))



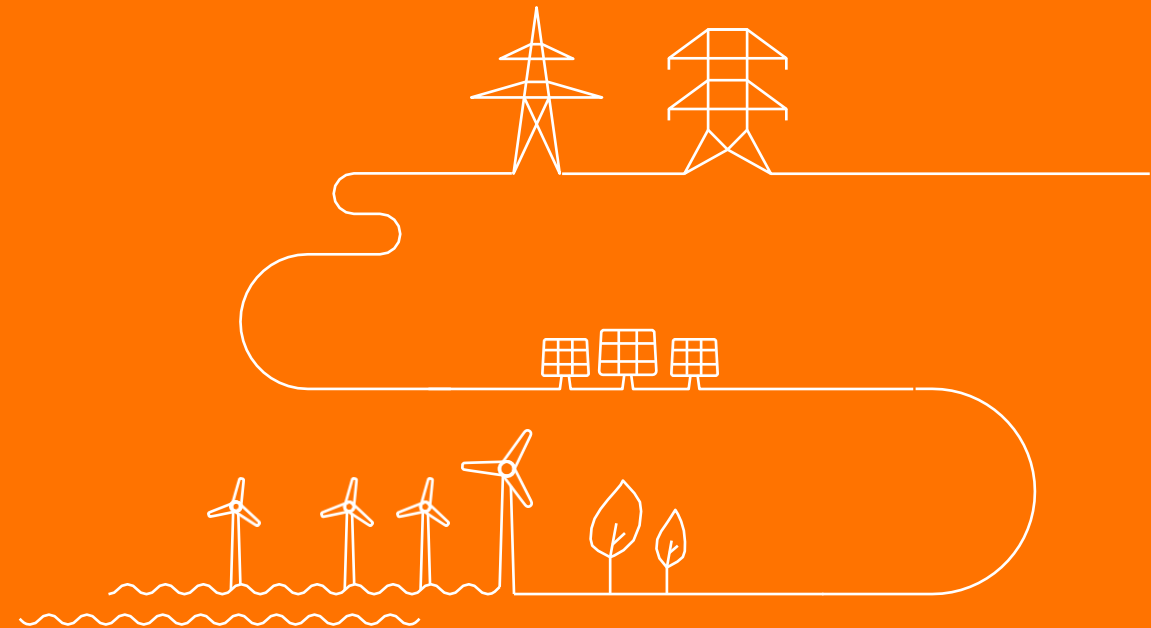
2. CREG website ([link](#))

Deadline for the Investment File is 15/06.



# Eligibility

Can I participate?



# Can I participate?

**Participation to the auctions is market wide: open to all TSO and DSO connected capacities over 1MWd and below the emission limit set for the auction.**

	CRM
<b>Minimum Capacity</b>	Minimum volume requirement of <b>1 MW after derating</b> <ul style="list-style-type: none"> <li>• Individually or aggregated with other capacities (without daily schedule obligation)</li> <li>• Derating depends on adequacy contribution of technology: e.g. you would need 100 MW of installed solar PV ↔ 1,5 MW of 4 hour batteries to reach the threshold*</li> </ul>
<b>Connection Type</b>	For <b>TSO- and/or DSO-connected</b> capacities, including <b>low-voltage</b> flexibility
<b>Emission limit</b>	emission limit of <b>550 g CO<sub>2</sub>/kWh</b> Or 306kg CO <sub>2</sub> /kW/y (only if <600 g CO <sub>2</sub> /kWh)*
<b>CMU status constraints</b>	<b>No constraint (market-wide mechanism)</b>
<b>Operational Aid</b>	No combination with operational aid (e.g. green certificates)

Reminder: Existing production and storage units without ongoing variable subsidies during the Delivery Period with a capacity above 1MW measured at the delivery period during the Prequalification process, are obligated to prequalify for the CRM, not to offer in the auction (possible to opt-out).



# Do I need to participate?

## Certain capacities have the obligation to prequalify in the CRM

The obligation to submit a prequalification file stems from the electricity law (7undecies § 8 al. 2).

### No obligation to prequalify:

- Non-eligible capacity, i.e., capacity that already benefits from other operating aid (green certificates, etc.), small units, ...
- Demand side management
- Unproven capacity
- Emergency generators that can work in island mode

These capacities are **still allowed to participate** to the Standard Prequalification process if they meet the eligibility criteria

### Obligation to prequalify:

#### For existing units:

- Derated capacity > 1MW
- Production or storage capacity

#### For additional units:

- Signed Technical Agreement
- Production or energy storage permit

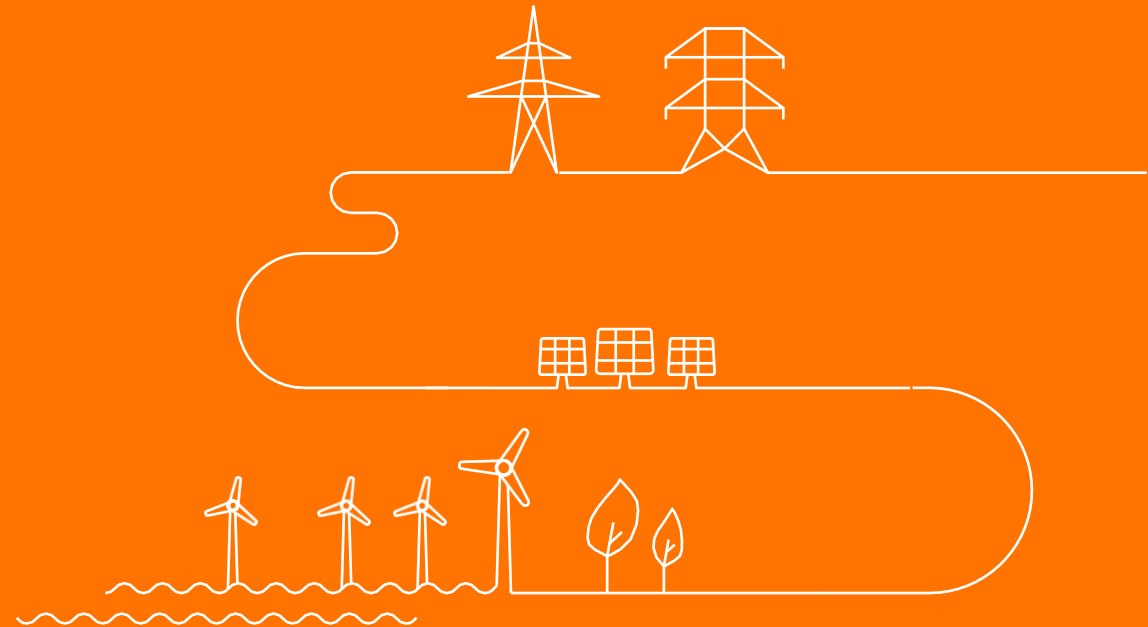
OR

- Signed Connection Contract



# Prequalification

- What purpose does Prequalification serve?
- How can I participate?
- What's the amount of capacity I can participate with?
- What are the first administrative steps?



# During prequalification, CMU's data is collected and processed to determine the Eligible Volume the CMU can offer in the Auctions.

## Three objectives

1. Collecting adequate and correct data related to each CMU
2. Determining the max volume of a CMU for an Auction (Eligible Volume)
3. Ensure that all capacities are correctly accounted for SoS

In order to fulfill these objectives a prequalification obligation is in force

## Standard Process

For CRM actors that are considering to **offer volumes** in the auction and already have delivery points (Existing or Additional CMU's)

## Specific Process

For CRM actors that are considering to **offer volume** in the auction but have **no delivery points (yet)**. ('Virtual CMU')

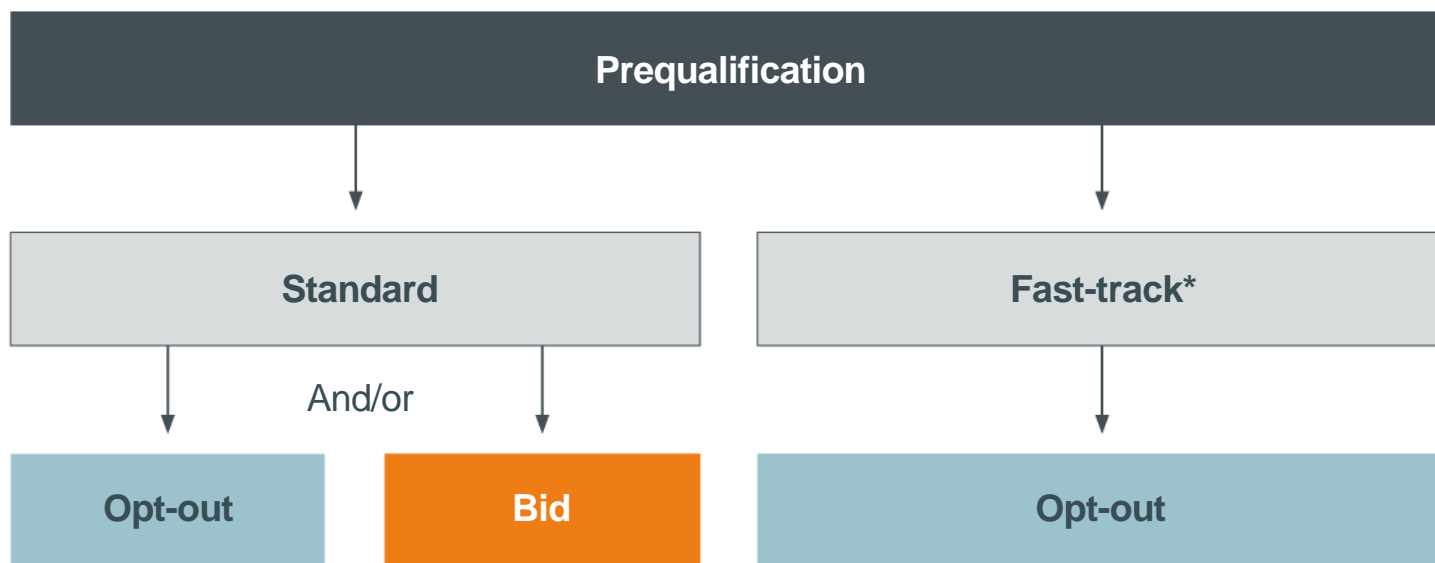
## Fast Track Process

For market parties who are **obligated to prequalify** but have **no intention of participating in the auction**





# Depending on the information which is submitted, Elia will classify the volumes



\* Only possible for units that have a PQ obligation



Elia classifies the Opt-out volume as either “IN” or “OUT”

- Opt-out IN: the volume of the capacity is contributing to security of supply
- Opt-out OUT: the volume of the capacity is not contributing to security of supply



# Classification of the Opt-out Volume

The capacity provider includes the reason behind the Opt-out notification

- Elia will classify the Opt-out volume based on this reason, accompanied by other information when relevant.
- **Volumes are only considered as “OUT”** when linked to very specific reasons:

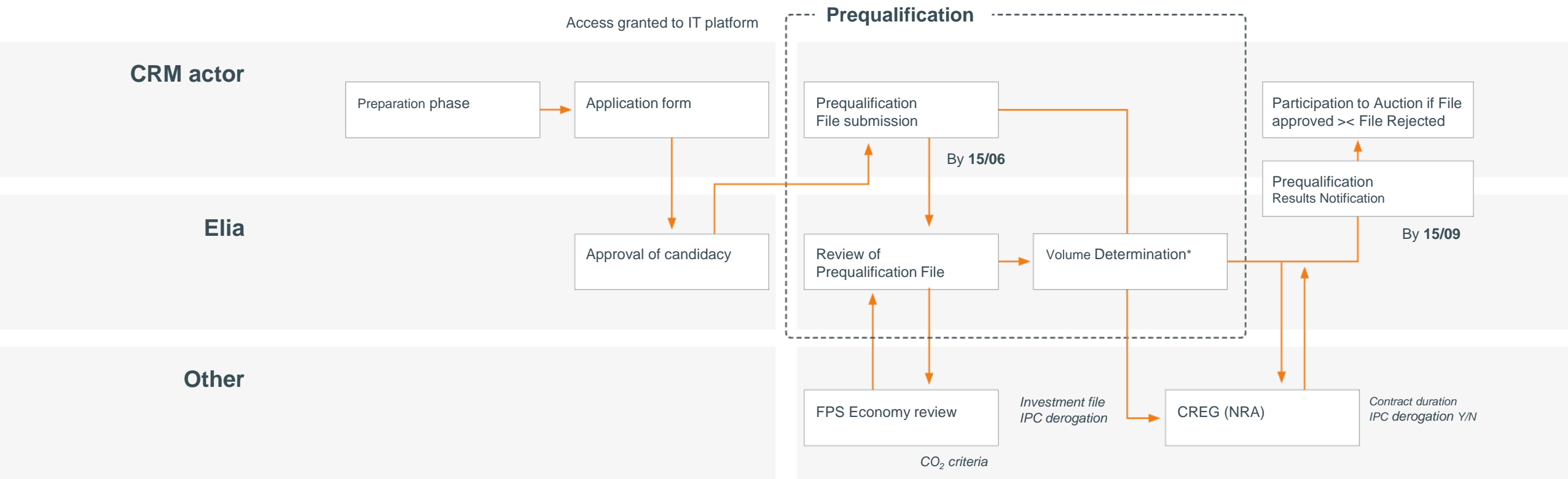
Y-4 / Y-2	Y-1
Art4bis. Structural reduction of capacity	
Art4bis. temporary reduction of capacity	
Capacity is connected to the grid with a flexible connection	
Grid connection not commissioned in time	
Capacity not commissioned in time	
New build capacity	
Capacity has no obligation to prequalify	
	Motivational letter (if accepted)

Opt-out volumes related to **any other reason** are classified as “IN”



# How can I participate

Every CMU is subject to a sequential Prequalification Process, interacting with Elia, FPS Economy and CREG.



\*in case of DSO-connected points, Volume Determination is done by the DSO



# Are there limitations to participation?

The Maximum Capacity a CMU can offer in auction (Eligible Volume) is limited by a derating factor, which represents the degree to which it contributes to Security of Supply.

All technologies are subject to the application of a **derating factor** representing the degree to which the technology contributes to security of supply.

**Derating factors are classified in 5 Categories:**

- whether the CMU is Energy Constrained or not,
- has a Daily Schedule (>25 MW) or not

Split by technology are possible within a category.



# Are there limitations to participation?

## CRM – Derating Factors\* of the Capacities (1/2)

The Demand Side Response can choose their SLA (hours / day)

*(the same for local thermal productions and batteries, ...)*  
**< 25MW**

Category I: SLA

Sub-Category	Derating Factor (%)
SLA 1h	19
SLA 2h	35
SLA 3h	48
SLA 4h	57
SLA 5h	65
SLA 6h	71
SLA 7h	76
SLA 8h	81
SLA 9h	86
SLA 10h	89
SLA 11h	93
SLA 12h	95
SLA Unlimited	100

Applies to the 'Pmax' of the local Capacity ('NRP'). This is to be considered as a max potential in the Auction. Could be lowered by an Opt-Out.

\* Derating Factors proposed by Elia for the 2024 Y-4 Auction with Delivery Period 2028-2029



# Are there limitations to participation?

## CRM – Derating Factors\* of the Capacities (2/2)

### Derating Factors of other Capacities

Category II: Thermal technologies with daily schedule	
Sub-Category	Derating Factor (%)
CCGT	94
OCGT	92
Turbojets	90
IC gas engines	92
IC diesel engines	90
CHP/biomass/waste	94
Nuclear	80
Coal	90

Category III: Energy-limited technologies with daily schedule	
Sub-Category	Derating Factor (%)
Storage 1h	22
Storage 2h	38
Storage 3h	50
Storage 4h	57
Storage 5h	62
Storage 6h	65
PSP	52

Category IV: Weather-dependent technologies	
Sub-Category	Derating Factor (%)
Offshore wind	9
Onshore wind	7
Solar	1
Hydro run-of-river	48

Category V: Thermal technologies without daily schedule	
Sub-Category	Derating Factor (%)
Aggregated thermal technologies	64

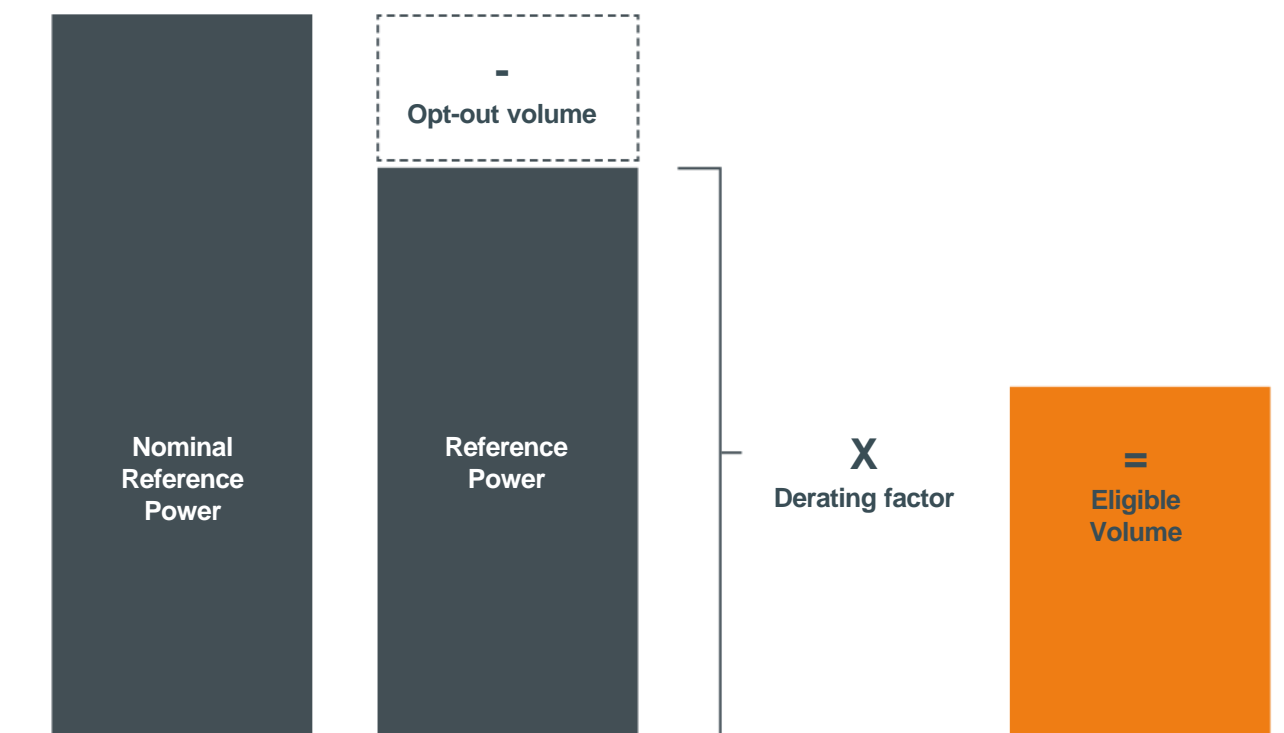
Applies to the 'Pmax' of the local Capacity ('NRP'). This is to be considered as a max potential in the Auction. Could be lowered by an Opt-Out.

\* Derating Factors proposed by Elia for the 2024 Y-4 Auction with Delivery Period 2028-2029



# What's the amount of capacity I can participate with?

The maximum volume that can be entered into auction (**Eligible Volume**) gets determined during the Prequalification, by derating the **Reference Power**



The **Nominal Reference Power (NRP)** gets determined using 1 year of historical data, if available.

Subtracting the **Opt-out Volume** (volume the CMU does not want to enter in auction) from the **NRP** results in the **Reference Power**.

Multiplying the **Reference Power** with the **Derating Factor** results in the **Eligible Volume**, which is the maximum that can be bid into auction\*.

**As a reminder:**

Derating factors differ **per technology** and whether the CMU is **Energy Constrained** and/or has a **Daily Schedule** (~ >25 MW)

\* CMUs are obligated to enter their full Eligible Volume (lowering the Eligible Volume is possible via opt-out)



# Eligible Volume Determination: Examples

## OCGT

- **Not Energy Constrained**
- **Daily Schedule (>25 MW)**
  
- **NRP: 100 MW**
- **Derating Factor: 93%**
- **Eligible Volume: 93 MW**

## DSM

- **Energy Constrained (SLA 3h)**
- **No Daily Schedule (<25 MW)**
  
- **NRP: 5 MW**
- **Derating Factor: 47%**
- **Eligible Volume: 2.35 MW**

## STORAGE

- **Energy Constrained (SLA 2h)**
- **Daily Schedule (>25 MW)**
  
- **NRP: 30 MW**
- **Derating Factor: 39%**
- **Eligible Volume: 11.7 MW**

Derating factors from Y-4 2022 (delivery 2026-2027) are used in these examples





# What are the next administrative steps?

A number of administrative documents need to be presented to successfully prequalify

The prequalification process and data requirements are highly dependent on the capacity features but in all cases it requires those 5 elements:

1

**The respect of a max CO<sub>2</sub> threshold with official documents or attests.**

FPS Economy judges the pertinence of such data.

2

**The refusal of cumul with other variable subsidies** (mainly the green ones) on the delivery period of the auction – conditional waiver template of the FPS Economy.

3

**Financial security valid until 2026, 2027 or 2030 (CRM '25):**

Each candidate to the Auction or Secondary Market provides a sufficient collateral for the CRM (to cover risks during the pre-delivery period).

10k€ - 20k€ / Eligible Volume MW in Bank Guarantee, a PCG-like.

4

**The regional Permit in the last administrative instance for the construction and/or exploitation** is to be provided by the bid submission deadline.

Preference to do this ASAP.

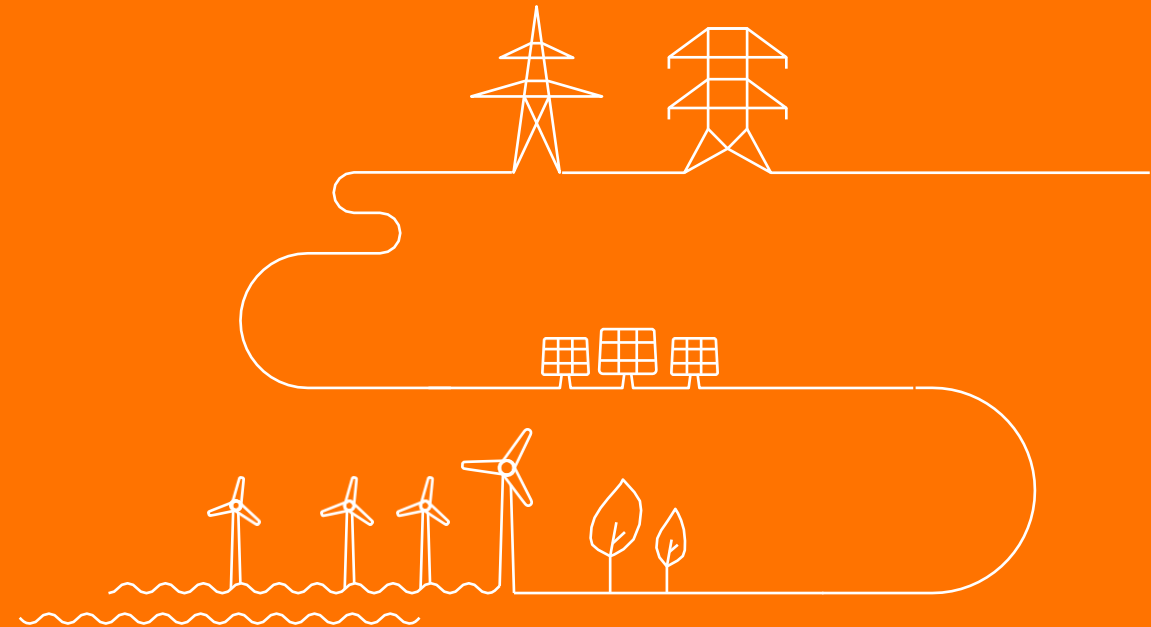
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**[REMOVED]**  
For new built connected to Elia, a waiver of Elia grid reserved/allocated capacity in case of non-selection.



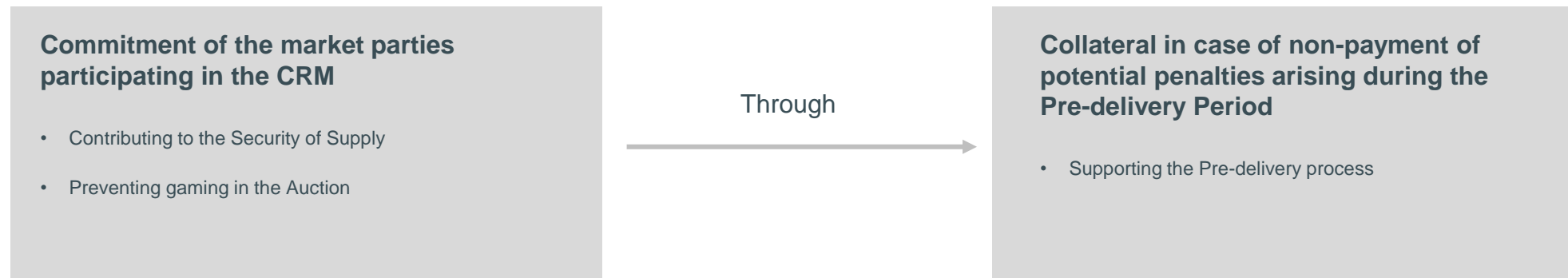
# Financial Security Obligation

- What is the Financial Security Obligation?
- Does the same Financial Security apply to everybody?
- When does the Financial Security get returned?



# What is the Financial Security Obligation? When does the Financial Security get released?

The Financial Security is a collateral deposited by participating market parties to cover for non-payment of potential pre-delivery penalties.



1. The Financial Security **covers the pre-delivery period** and is released after the start of the delivery period, if CMU has received the “Existing” status (representative NRP can be measured).

2. The Financial Security is linked to a CMU and **should cover the maximal expected contracted capacity** for the forthcoming Delivery Periods.

3. Financial security **covers penalties during the pre-delivery period (if these remain unpaid)**.

4. The Financial Security is released after non selection in the auction.



# Does the same Financial Security apply to everybody?

## When does the Financial Security get released?

The amount of Financial Security to be deposited is dependent on the CMU's status.

CMU Status	FS in €/MW
Existing CMU	10k
Additional CMU (other)	11k
Additional CMU (new build with Permitting Milestone achieved or not applicable)	15k
Additional CMU (new build without Permitting Milestone achieved)	20k
Virtual CMU	20k

- Changing statuses or getting past certain milestones/permits will result in partial releases of deposited securities.
- The purpose is to release the Financial Security in full after all Pre-Delivery checks are passed and no pre-delivery penalties are due anymore.
- It only applies to the Eligible Volume (after derating and potential opt-outs).
- Financial securities are bank guarantees, affiliate guarantees (e.g. PCG) or cash deposit (or a combination of them).



# Financial Security Obligation: Examples

## OCGT 100 MW

- **Not Energy Constrained**
- **Daily Schedule (>25 MW)**
- **Eligible Volume: 91 MW**
  
- **Status:** Existing
- **FS per MW:** 10k€/MW
- **Total FS:** 910 k€
- **Type of deposit:** Bank Guarantee

## DSM 5 MW

- **Energy Constrained (SLA 3h)**
- **No Daily Schedule (<25 MW)**
- **Eligible Volume: 2.35 MW**
  
- **Status:** Existing
- **FS per MW:** 10k€/MW
- **Total FS:** 23.5 k€
- **Type of deposit:** Parent Company Guarantee

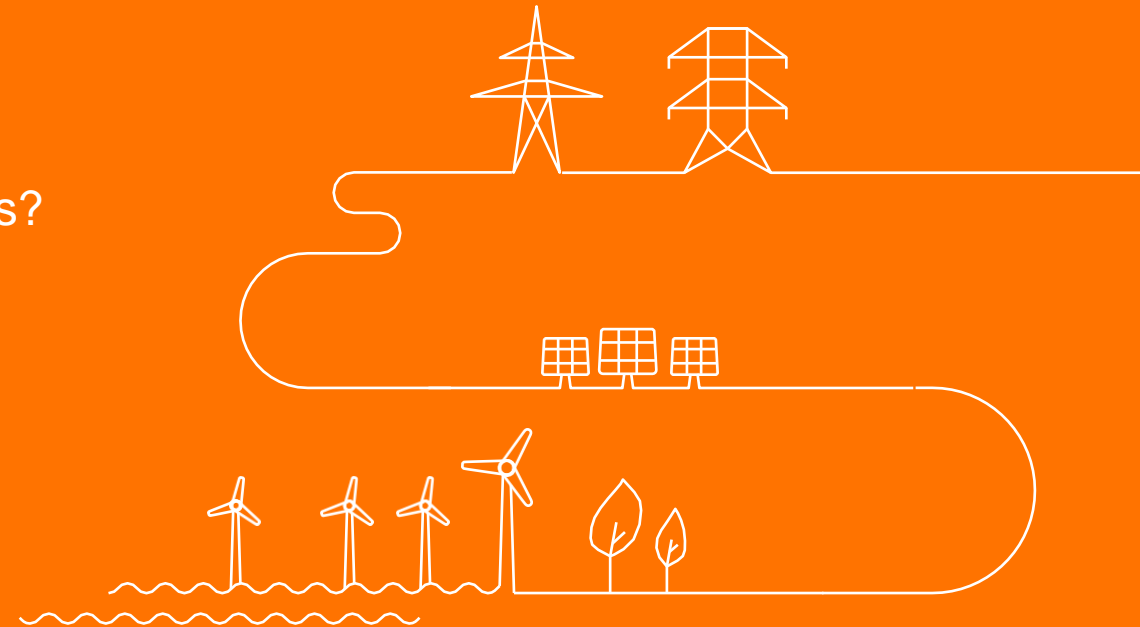
## STORAGE 30 MW

- **Energy Constrained (SLA 2h)**
- **Daily Schedule (>25 MW)**
- **Eligible Volume: 16.8 MW**
  
- **Status:** Additional (New Build)
- **FS per MW:** 20k€/MW
- **Total FS:** 234 k€
- **Type of deposit:** Bank Guarantee



# Auction

- What are the Auctions?
- When do the Auctions occur?
- How do the Auctions work?
- How does is the need in the Auctions calculated?
- What is expected of me in the Auctions?
- What capacity is already contracted in the past Auctions?



# What are the Auctions?

In the Auction, CMU's can offer Eligible Volume to the CRM at a chosen price and a contract duration (multi-year contract to be approved by CREG).

The **access to the Auction** is granted to the **prequalified CMUs**

- The CRM actor enters one or more offers related to each prequalified CMU to **bid in the Eligible Volume** as determined during the Prequalification Process.
- Each offer consists of a **volume, a chosen price and a contract duration**.
- The Price is limited to an Intermediate Price Cap for a 1-year capacity contract duration (Y-1 2025/26: 27,3 €/kW/y).
- A multi-year capacity contract duration is approved by CREG during the prequalification process (investment file of the CMU).

Prior the Auction:

- The CRM Candidate can still **reduce** (partially or entirely) its **Eligible Volume through an Opt-Out** (up to mid-Sept of the auction year).
- The CRM Candidate can still remove (archive) its Prequalification File and bids without consequence (if no mandatory participation, up to gate closure time 6am).

The **results are validated by the CREG** and published by end of October.



# When do the Auctions occur?

Three Auctions are organized for each Delivery Period, respectively 4 years, 2 years and 1 year ahead

2021	2022	2023	2024	2025	2026	2027	2028	2029
Y-4 2025			Y-1 2025	Delivery 2025				
	Y-4 2026			Y-1 2026	Delivery 2026			
		Y-4 2027		Y-2 2027	Y-1 2027	Delivery 2027		
			Y-4 2028		Y-2 2028	Y-1 2028	Delivery 2028	
				Y-4 2029		Y-2 2029	Y-1 2029	Delivery 2029

- Last **Y-4** auction in **2030**
- Last **Y-2** auction in **2032**
- Last **Y-1** auction in **2033** - delivery in 2034

*Note: a delivery year always start on 1 November 20XX and ends 31 October 20XX+1*

- Multi-year contracts can exceed the approval period of the CRM.
- However, auctions only deal with a single delivery year.
- Contract duration is not a criterion in selecting capacities (except in case of tie)





## GETTING TO A CONTRACT

# How do the Auctions work?

The Auction Process consists of setting up the demand (need) and supply (bids) curves and clearing at their intersection.

### I. Setting the demand curve

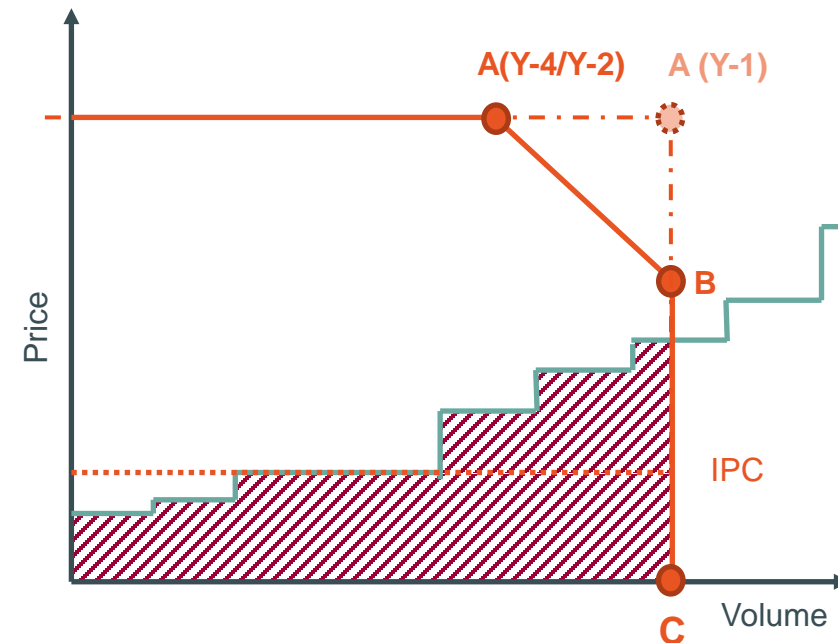
- Annual determination by Ministerial Decree
- Intermediate Price Cap (IPC) for one-year contracts
- A certain volume is reserved for the Y-1 auction

### II. Setting the supply curve

- Bid price indicated by CRM participants
- Volume up to (Remaining) Eligible Volume
- Contracts non-eligible for multi-year without derogation can bid up to IPC
- Multi-year contracts can bid up to price in point A

### III. Auction clearing

- **Single-round, sealed-bid**
- **Pay-as-bid**
- Maximize welfare (Y-4&Y-2) / minimize costs (Y-1)
- Combination of bids respects grid constraints



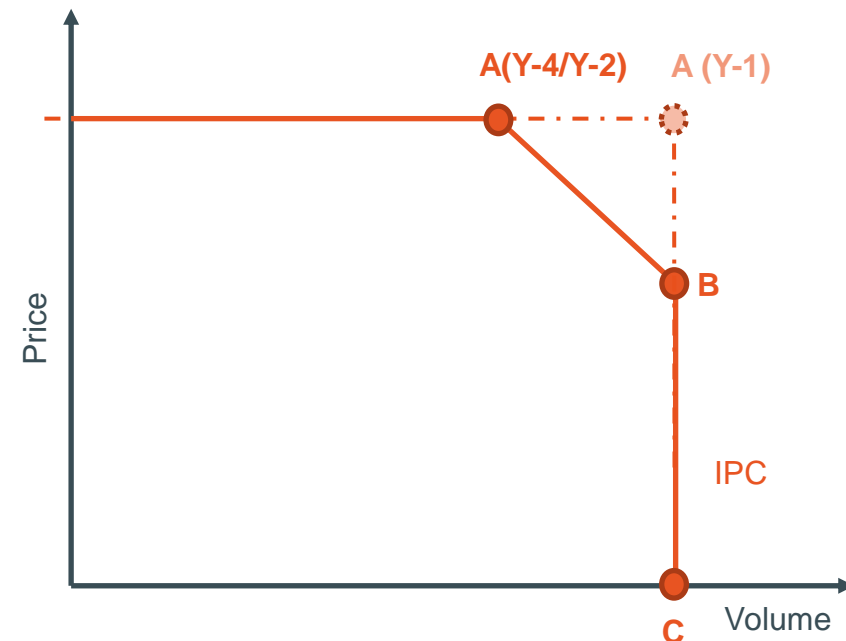
## GETTING TO A CONTRACT

# How do the Auctions work?

The Demand Curve represents society's willingness-to-pay for adequacy.

- Set in an administrative way (cfr. central buyer principle);
- Parameters are defined in a Ministerial decree by 31/03 (after input from Elia, CREG, FOD);
- The demand curve is shaped differently in a Y-4 or Y-2 vs. a Y-1 auction;

The demand curve is a crucial input for the auction, determining adequacy levels and the price that society is willing to pay for achieving each adequacy level

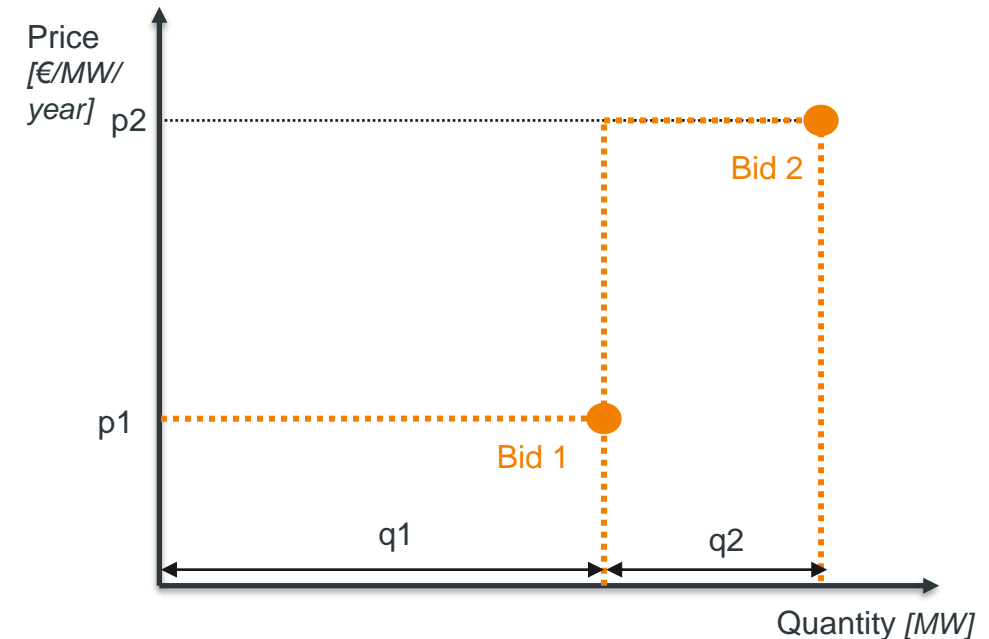


# How do the Auctions work?

## How can I bid into the auction?

The Supply curve is formed by combining the bids of all auction participations

- Each bid is formed by 3 components a minima:
  - **Capacity volume** (in MW) – Eligible Volume, as determined during the prequalification process, as a maximum.
  - **Price** (in €/MW/year).
  - **Contract duration** (in # years), respecting the maximum contract duration approved by CREG.
- For a CMU, a combination of bids MW should be equal to the Eligible Volume (otherwise, possibility to modify the EV by Optout modification).
- It is possible to create mutual-exclusivity or links between bids in specific cases



# How is the need in the Auction Calculated?

The required volume of Auctions is calculated in accordance with Article 11 of the Royal Decree Methodology.



## Determination of the volume parameters – Article 11 of the Royal Decree

- Proposal & simulations by the TSO (Elia)
- Proposal made by the NRA (CREG)
- Minister determines the final demand curve



# Auction: Bidding Examples

## OCGT 100 MW

- **Not Energy Constrained**
- **Daily Schedule (>25 MW)**
  
- **Eligible Volume: 93 MW**

### BID

- **Volume: 93 MW**
- **Price: 10k€/MW/year**
- **Contract Duration: 1 year**

## DSM 5 MW

- **Energy Constrained (SLA 3h)**
- **No Daily Schedule (<25 MW)**
  
- **Eligible Volume: 2.35 MW**

### BID

- **Volume: 2.35 MW**
- **Price: 20k€/MW/year**
- **Contract Duration: 1 year**

## STORAGE 30 MW

- **Energy Constrained (SLA 2h)**
- **Daily Schedule (>25 MW)**
  
- **Eligible Volume: 11.7 MW**

### BID

- **Volume: 11.7 MW**
- **Price: 30k€/MW/year**
- **Contract Duration: 8 years**





# What are the specifics of the Capacity Contract?

The Capacity Contract is the formal agreement between the Capacity Provider and Elia. It is concluded after selection in the auction.

Following a positive selection of the offers, a contract is concluded between the **Capacity Provider and Elia:**

- Within 40 WD after the Auction results.
- In case of Additional capacity, where applicable the Connection contract is signed within the time limits of the Grid codes (and in accordance with the technical agreement provided in the Prequalification Process).
- The Capacity Contract is signed within 20 WD right after the connection contract.

Capacity Provider undertakes to ELIA to provide the Service, as specified in the Functioning Rules, throughout each:

- Transaction Period;
- And its respective Pre-Delivery Period: between auction results and delivery period.

Secondary market transactions also require update of Annex A or a contract signature (cf. next slide).

- The Seller will sign an updated Annex A.
- The Buyer will sign a new Annex A, if no contract was signed in the past, the Buyer will sign the latest version of a Capacity Contract.



## GETTING TO A CONTRACT

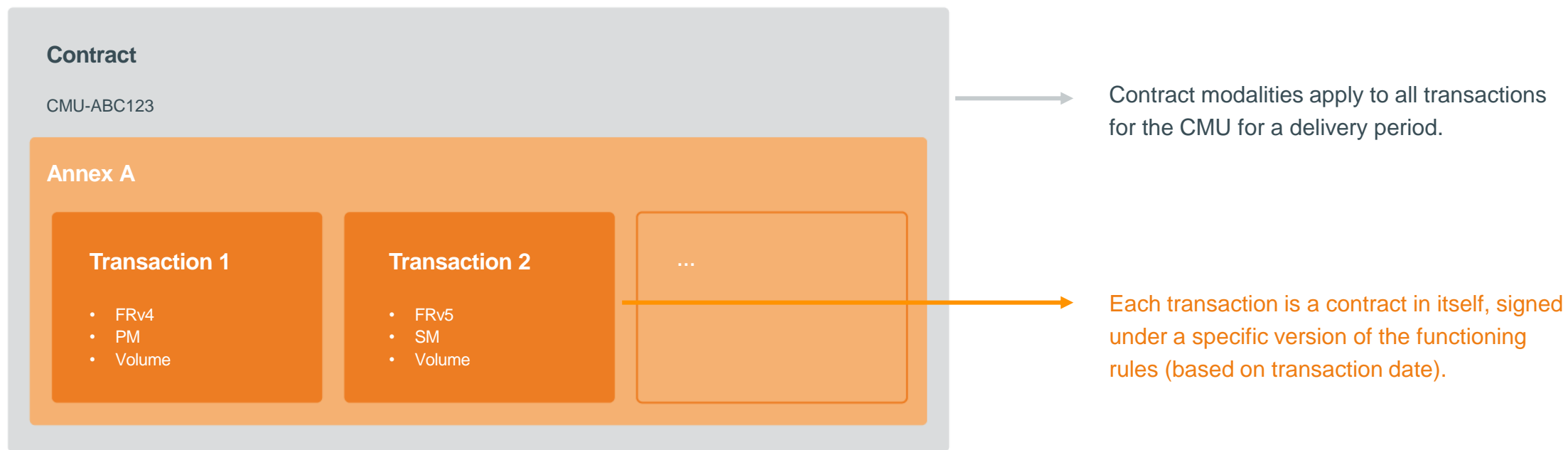
# The contractual structure – overview

**Contract:** describes relation between ELIA and Capacity Provider: a framework agreement

- One contract is signed per CMU per delivery period

**Annex A:** section of the contract where the information for each transaction is stored

**Annex A.x = Transaction:** describes the contract parameters relevant to each transaction (period, volume, strike price, etc.)





## The capacity contract strikes the balance between rights (capacity remuneration) & obligations (availability & payback)

### Rights

Monthly pay as bid remuneration (expressed on yearly basis in EUR/MW/yr) to cover missing money



## Capacity Contract

### Obligation

#### Pre-delivery Obligation

Obligation to ensure the **CMU is in the market** by start of the Delivery Period

#### Payback Obligation

Where relevant, **payback of windfall profits** from the energy markets (not for BESS & DSM)

#### Availability Obligation

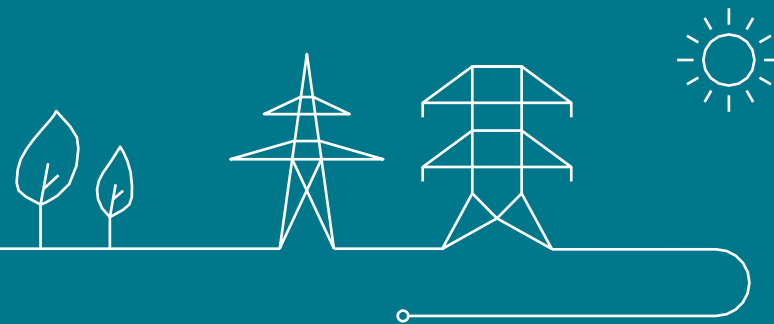
Capacity available in the market at adequacy-relevant moments:

- Availability monitoring
- Availability testing

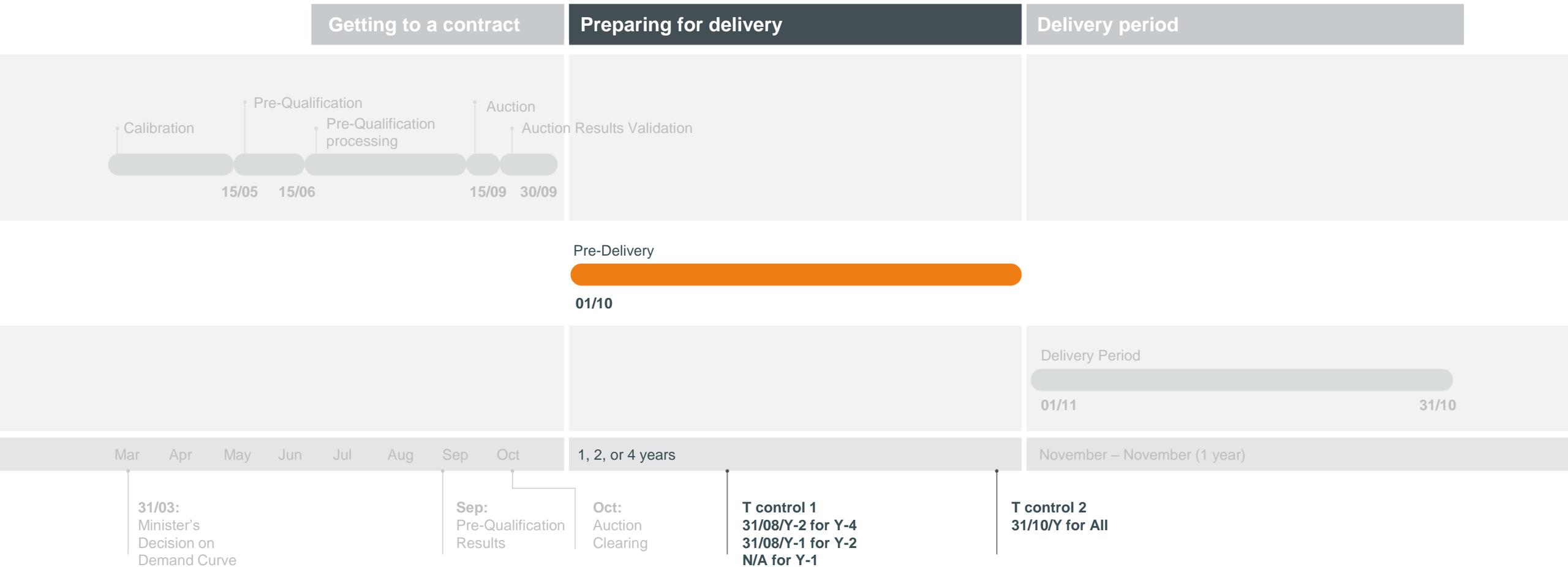
Elia will verify on average +/- 15 times per DY



# 4. Preparing for Delivery: Pre-Delivery Monitoring

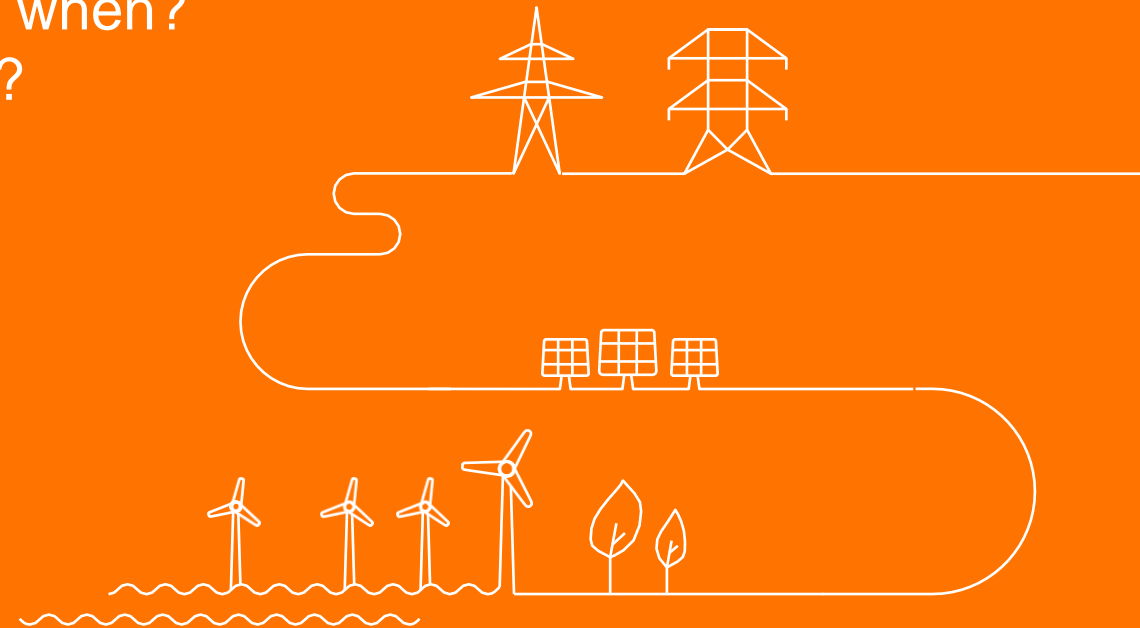


## PREPARING FOR DELIVERY: PRE-DELIVERY MONITORING



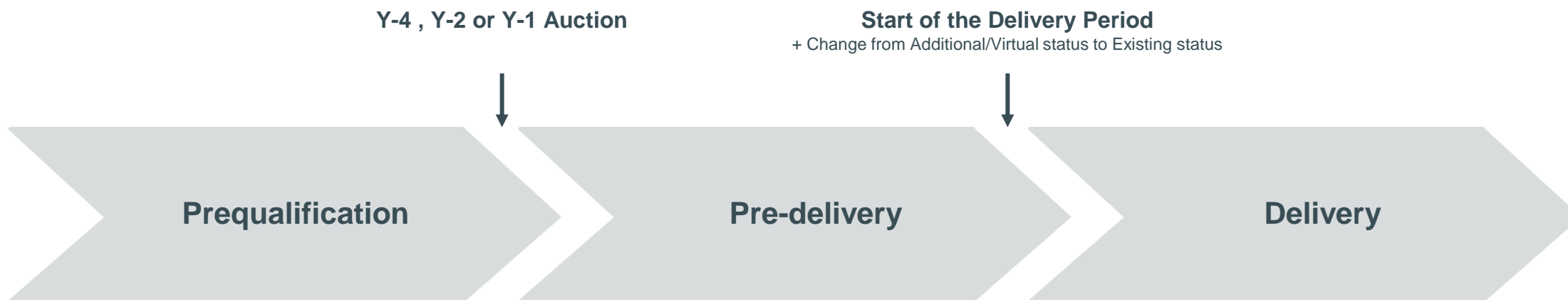
# Pre-Delivery Monitoring

- What is Pre-Delivery Monitoring and who is subject to it?
- What does the Capacity Provider submit and when?
- When does Elia conduct Pre-delivery control?
- What is checked at the moments of control?



# What is Pre-Delivery Monitoring and who is subject to it?

All contracted CMUs are subject to Pre-Delivery Obligation, through which Elia verifies their ability to provide the capacity by the start of the Delivery Period.



- Control modalities apply to the obligations resulting from the Primary Market (Y-1, Y-2 and Y-4) and Secondary Market Transactions validated in pre-delivery period.
- Ensures the Capacity Provider's ability to provide the Contracted Capacity.
- Valid for Existing, Additional & Virtual Capacities



# What does the Capacity Provider submit and when?

During the Pre-delivery period, based on the CMU status, the Capacity Providers are bound to submit reports to enable Elia conducting its verifications

Both **Additional** and **Virtual** CMUs provide **quarterly reports** to ELIA

- Contains information regarding the project execution plan, as well as potential **delays**
- These need to be submitted through the CRM Interface **during the following periods**:
  - From January 30 to February 14;
  - From April 30 to May 14;
  - From July 30 to August 14;
  - From October 30 to November 14.

All **Existing** CMUs provide a **permit report** to ELIA

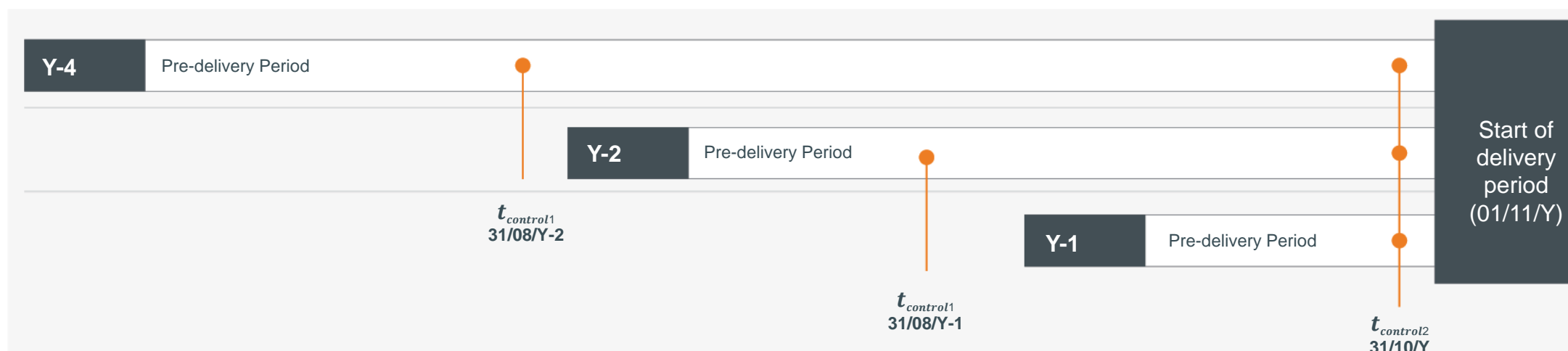
- Contains information regarding the permitting status
- CMUs contracted **at Y-4 & Y-2 Auctions** provide it once and by moment of control  $t_{control 1}$

<b>Milestones</b>	<b>Major steps</b> in the project works and eventual <b>delays</b>
<b>Risk Analysis</b>	Potential <b>risks</b> , their <b>impacts</b> , and the corresponding <b>mitigation measures</b>
<b>Permitting</b>	<b>Status, copies</b> of the permits, and <b>mitigation measures</b> needed to obtain them



# When does Elia conduct Pre-delivery control?

A moment of control –  $t_{control}$  – is an instance where ELIA will verify whether the CMUs with contracted capacities will be able to meet their obligations during the Delivery Period



## Capacity Providers can only be sanctioned at moments of control

The amount and timing of the moment of control vary depending on the Auction in which the CMU was contracted:

- CMUs contracted in the Y-4 & Y-2 Auctions are subject to two moments of control
- CMUs contracted in the Y-1 Auction are subject to a single moment of control



# What is checked at moments of control?

At moments of control, to calculate the Missing Volume, Elia determines the Pre-delivery Obligation of a CMU that it compares to the amount of Capacity a CMU can demonstrate

The Pre-delivery Obligation of a CMU is:

Timing	Existing & Additional CMU	Virtual CMU
$t_{control\ 1}$	Total Contracted Capacity	75% of Total Contracted Capacity
$t_{control\ 2}$	Total Contracted Capacity	Total Contracted Capacity

The amount of Capacity a CMU can demonstrate:

Timing	Existing CMU	Additional CMU	Virtual CMU
$t_{control\ 1}$	Based on: <ul style="list-style-type: none"> <li>Historical data</li> <li>Pre-delivery test</li> </ul>	Based on the information in the last Quarterly Report	Capacity transferred to corresponding Existing CMU
$t_{control\ 2}$	Based on: <ul style="list-style-type: none"> <li>Historical data</li> <li>Pre-delivery test</li> </ul>	<div style="border: 1px solid orange; padding: 5px;">             Based on:             <ul style="list-style-type: none"> <li>Historical data</li> <li>Pre-delivery test</li> </ul>               *Expected to become Existing by then           </div>	Capacity transferred to corresponding Existing CMU

Once an Additional CMU evolves into an Existing, it will be evaluated accordingly.

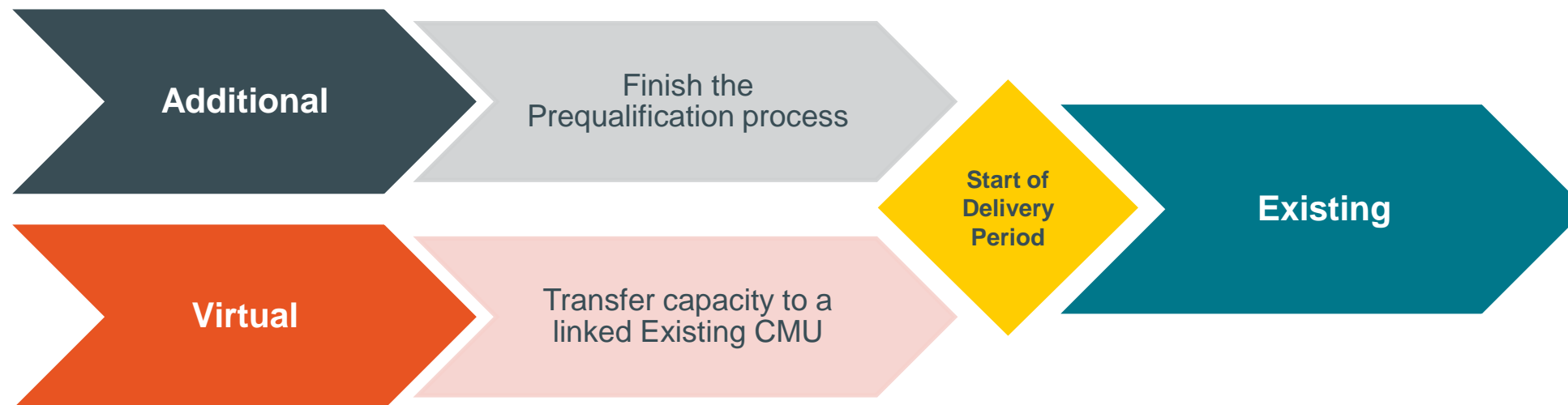
- The **Missing Volume** of a CMU is then calculated as the positive difference between the Pre-delivery Obligation and the amount of capacity that was demonstrated by the Capacity Provider.
- **Penalties** apply if Elia identifies such a Missing Volume, which are covered by the Financial Security if these remain unpaid.





# Change from Additional & Virtual to Existing CMU

- Before the start of the Delivery Period, and by  $t_{control2}$  at the latest, all **Additional** and **Virtual CMUs** must become **Existing**
- Among others, both type of CMUs need to prove that their Contracted Capacity will be effectively available by the beginning of the Delivery Period



# Pre-Delivery Monitoring: examples

## OCGT 100 MW

- **Not Energy Constrained**
- **Daily Schedule (>25 MW)**
- **Status:** Existing

**T1 (31/08):** historical data/test + provide permit report

**T2:** historical data/test

## DSM 5 MW

- **Energy Constrained (SLA 3h)**
- **No Daily Schedule (<25 MW)**
- **Status:** Existing

**T1 (31/08):** historical data/test + provide permit report

**T2:** historical data/test

## STORAGE 30 MW

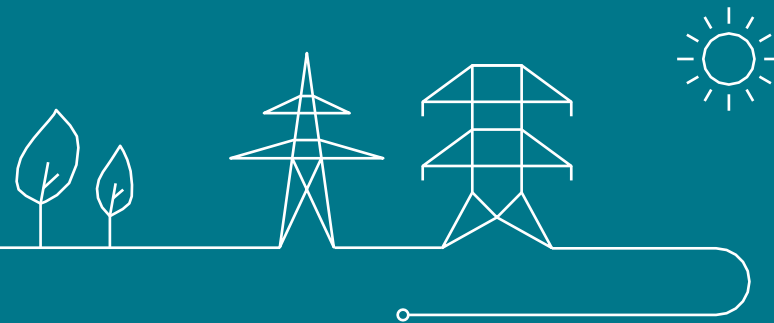
- **Energy Constrained (SLA 2h)**
- **Daily Schedule (>25 MW)**
- **Status:** Additional (New Build)

**T1:** provide Quarterly Report

**T2:** historical data/test

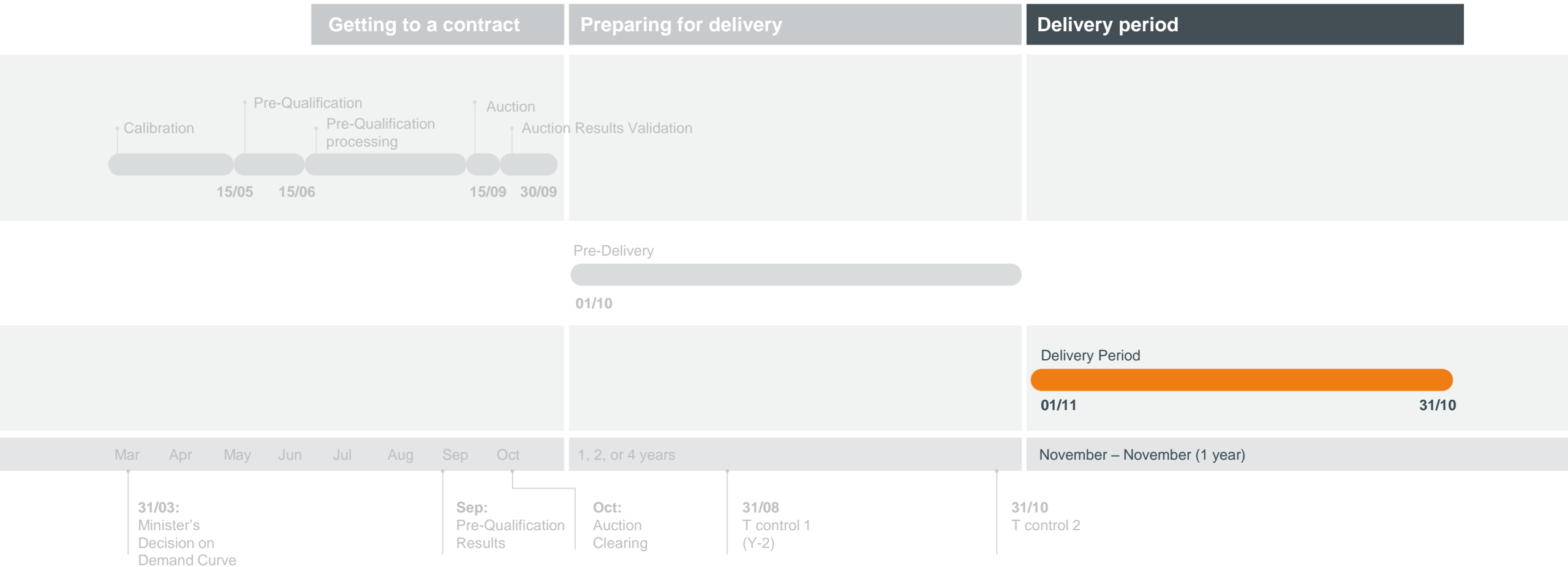


# 5. Delivery Period



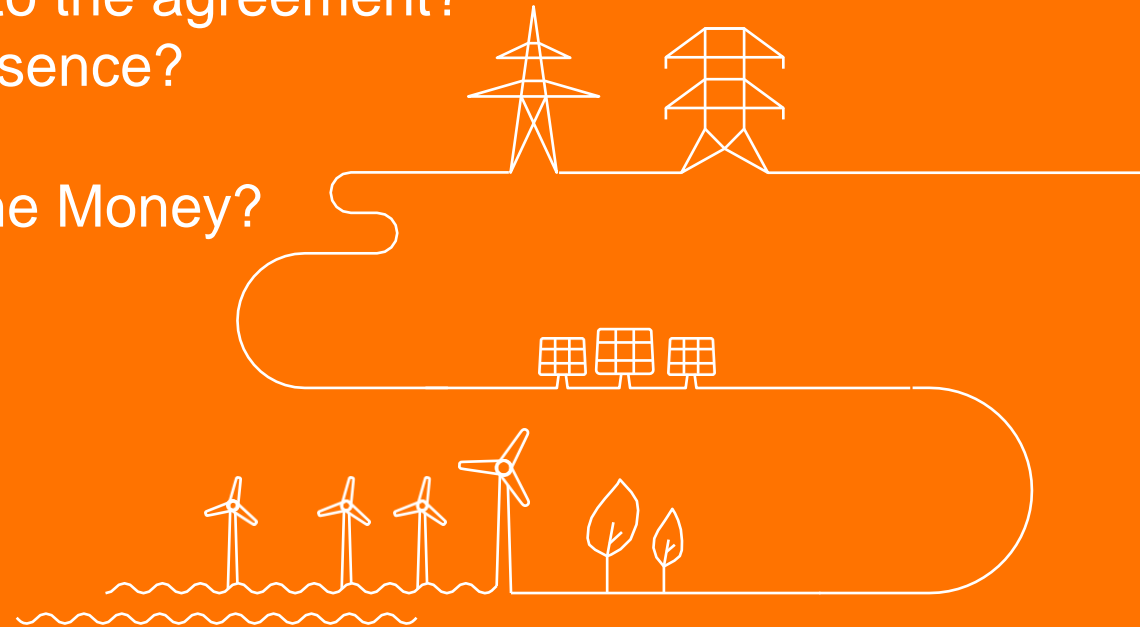
DELIVERY PERIOD

# When does it all happen?



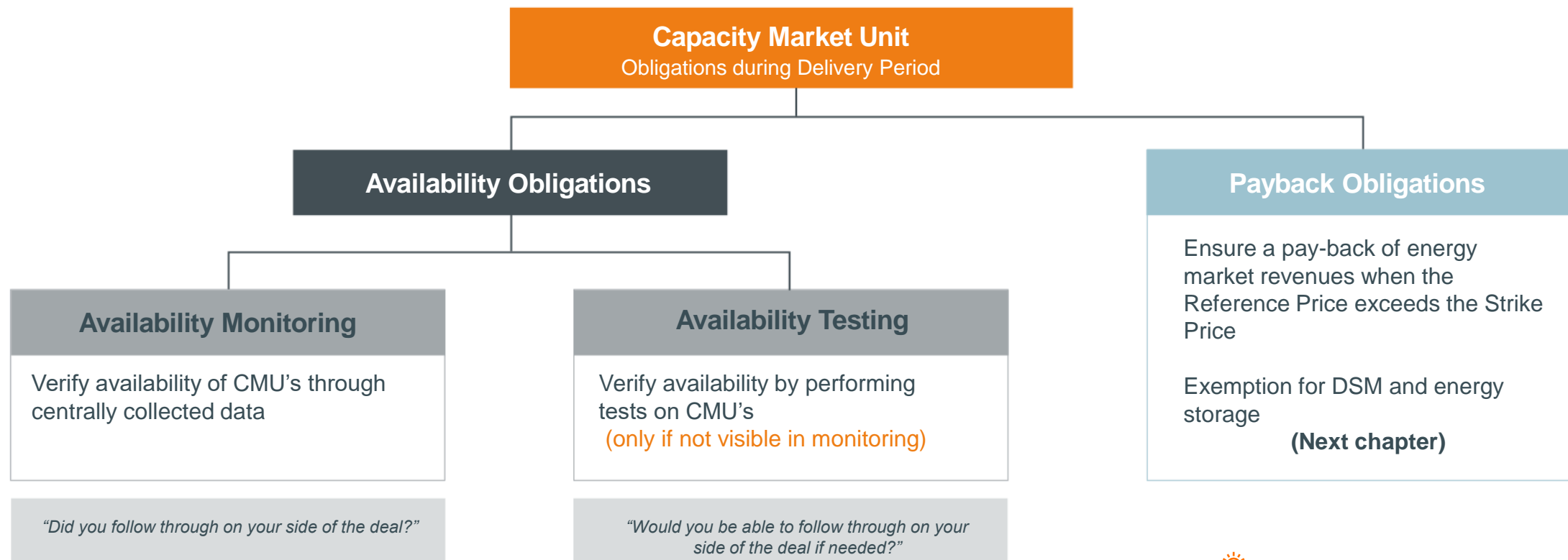
# Availability Obligation

- What is the Availability Obligation?
- What are the consequences if I don't live up to the agreement?
- How and when will Elia check my market presence?
- How much capacity should be present?
- What if my required volumes are far Out of the Money?



# What is the Availability Obligation?

During adequacy-relevant moments and tests, a CMU is expected to have their Obligated Capacity available.



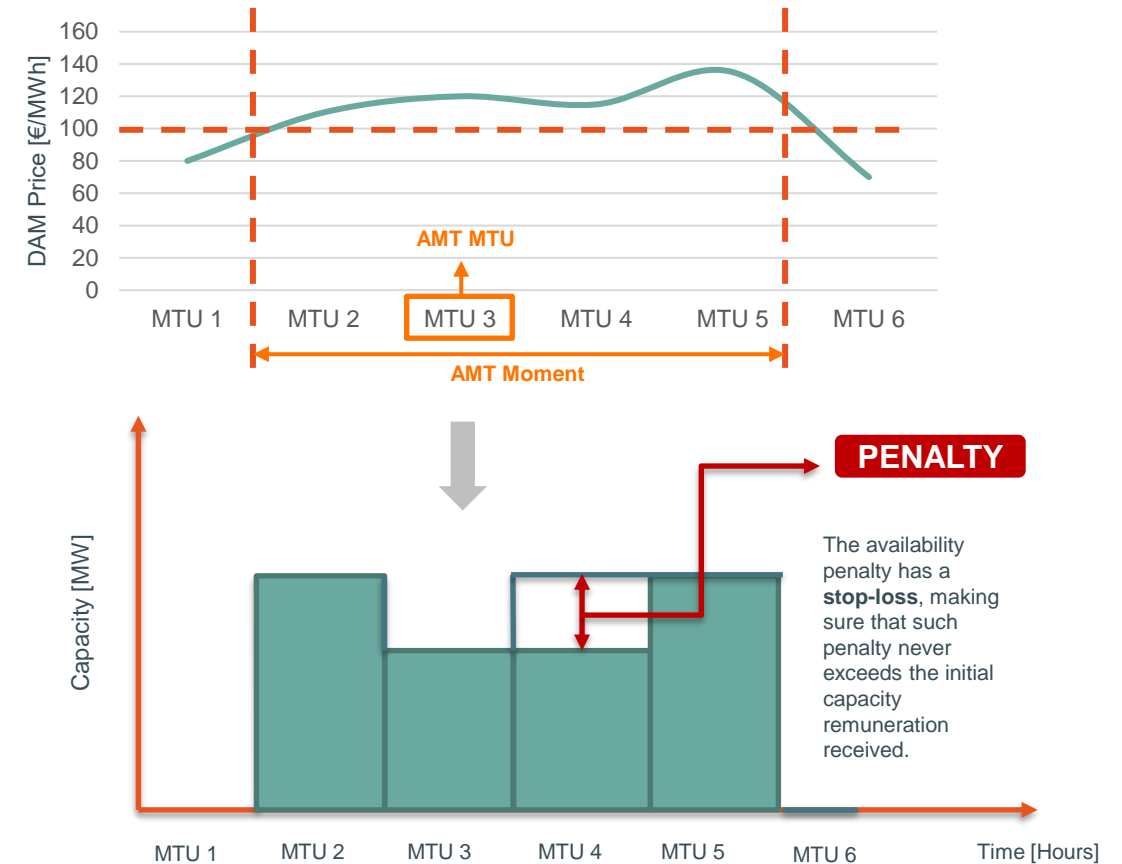
## DELIVERY PERIOD

# What are the consequences if I don't live up to the agreement?

In Availability Monitoring, Elia checks the market presence of CMUs. Unavailability at adequacy relevant moments will result in a Financial Penalty.


*“Did you follow through on your side of the deal?”*

- I. Identify adequacy relevant moments
- II. Establish Obligated Capacity
- III. Establish Available Capacity
- IV. Availability Penalty (if needed)



# How and when will Elia check my market presence?

The Day-Ahead Market Price was selected as the indicator for scarcity relevant moment

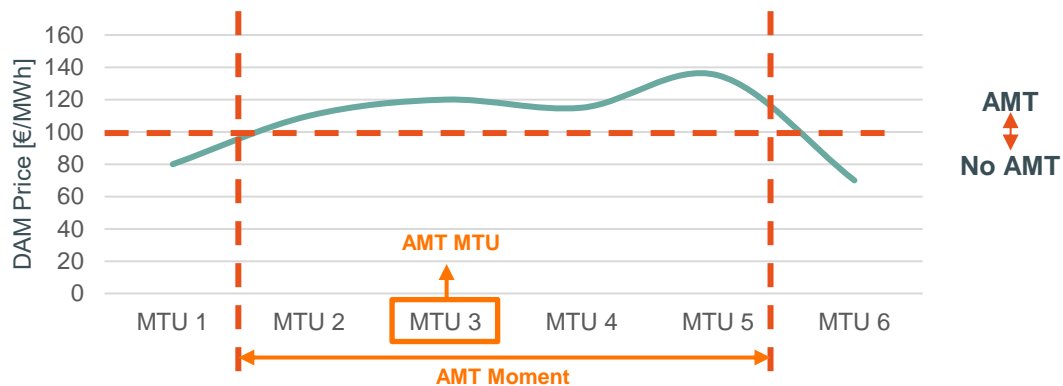


**Availability Monitoring Trigger (AMT)**

Before Real Time

- All holders of a contracted capacity are obliged to make that capacity available
- In case of underperformance the party is liable to penalties

Defined single “AMT-price” leading to an Availability Monitoring Trigger when surpassed in DA



- AMT is announced at 15h00 CET in Day-Ahead
- For each AMT MTU, Capacity Market Units will have an **Obligated Capacity**
- The Availability Monitoring Mechanism will assess **Available Capacity**
- Elia can issue **Availability Tests** to prove availability of capacity





# The Availability Obligation has a different design for Energy Constrained vs Non-Energy Constrained CMU

## Energy Constrained

- ✓ At the level of **non-derated** capacity
- ✓ For a **limited set of MTUs**, the so-called **SLA-MTUs**
- ✓ For **1 activation** of consecutive MTUs per day
- ✓ Derating based on the availability of the energy reservoir during scarcity moments

## Non-Energy Constrained

- ✓ At the level of **derated** capacity
- ✓ For an **unlimited set of MTUs**
- ✓ For an unlimited amount of activations per day
- ✓ Derating based on outage rates or estimated production levels during scarcity



# Availability obligation: examples

## OCGT 100 MW

- **Not Energy Constrained**
- **Daily Schedule (>25 MW)**
  
- **Contracted Capacity: 93 MW**
  
- **Obligated Capacity during AMT-hours or tests:**  
93 MW as OCGT is Not Energy Constrained

## DSM 5 MW

- **Energy Constrained (SLA 3h)**
- **Daily Schedule (<25 MW)**
  
- **Contracted Capacity: 2.35 MW**
  
- **Obligated Capacity during AMT-hours or tests:**  
5 MW during SLA MTUs.  
0 MW outside SLA MTUs.

## STORAGE 30 MW

- **Energy Constrained (SLA 2h)**
- **Daily Schedule (>25 MW)**
  
- **Contracted Capacity: 11.7 MW**
  
- **Obligated Capacity during AMT-hours or tests:**  
30 MW during SLA MTUs.  
0 MW outside SLA MTUs.



## DELIVERY PERIOD

# During AMT Moments, the Obligated Capacity is compared to the Available Capacity

### MW schedule obligation

- ✓ Capacities > 25 MW
- ✓ Available Capacity equal to the information as submitted to Elia
  - ✓ In the Availability Plan
  - ✓ In the Daily Schedule

### No MW schedule obligation

- ✓ Capacities < 25 MW
- ✓ **Declare a Price** (DA, ID, BAL) at which they will deliver
  - ✓ Can be revised at any time to follow marginal cost of the plants
- ✓ Only obligation to deliver when DAM > Declared Price

\* Or national equivalent implementation of SOGL



# Availability Testing is used when availability cannot be directly monitored, when capacity is unproven.



## Objective of Availability Tests:

- ✓ Complementary to Availability Monitoring
- ✓ For “Unproven” capacity
- ✓ Capability to react to surprise signal in day-ahead

***“Would you be able to follow through on your side of the deal if needed?”***

Availability testing is not meant to be “on top of” monitoring, but rather as a last resort.



## Principles for selection:

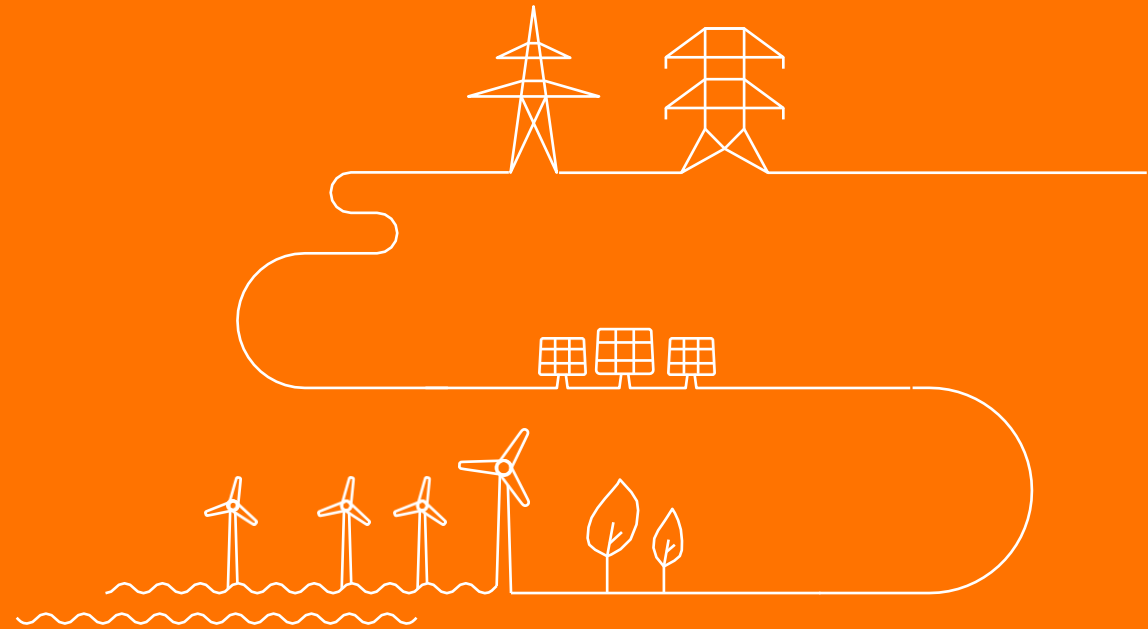
- ✓ Low Proven Availability in monitoring
- ✓ Previously failed Availability Tests
- ✓ Missing Capacity in monitoring
- ✓ Poor correlation between (Partial) Declared Prices and measured output in the delivery Point
- ✓ Avoid days with particularly low risk on adequacy

The final selection procedure for testing moments is designed to accurately measure availability, but is not disclosed publicly to ensure market parties cannot specifically prepare for them



# Payback Obligation

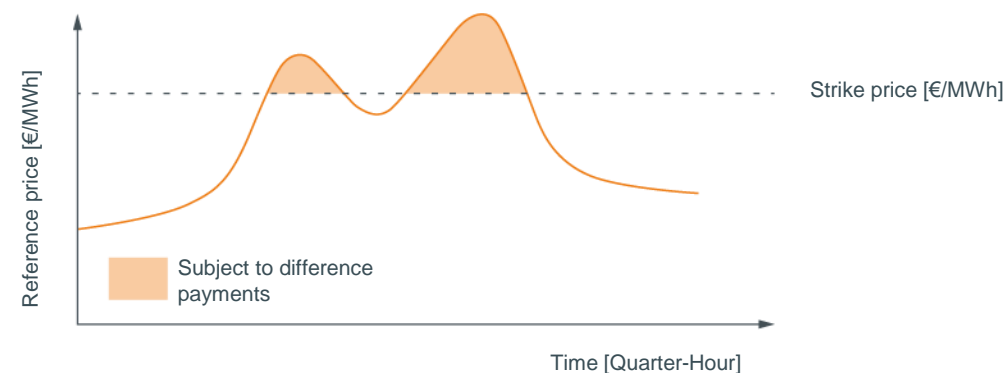
- What is the Payback Obligation & why does it exist?
- To whom does the Payback Obligation apply?



# What is the Payback Obligation & why does it exist?

Remunerations have to be paid back if energy reference prices exceed the Strike Price, to avoid double remunerations.

**In a reliability option**, the capacity provider receives a capacity remuneration but is obliged to payback money to society whenever the reference energy spot price (e.g. day-ahead price) exceeds a pre-defined strike price.



Such approach has two advantages for society:

- **Avoiding windfall profits:** as the capacity provider already receives a capacity remuneration on top of its 'normal' energy market revenues which should cover all its costs, extreme energy prices would provide him with an extra, double remuneration. This would constitute a windfall profit. The Payback Obligation has a stop-loss, making sure the amount to be paid back never exceeds the initial capacity remuneration received.
- **Strengthening incentive to deliver on SoS-obligations:** as capacity providers are obliged to payback when the energy price exceeds the strike price and those moments are strongly correlated with moment of (near-)scarcity, there is an extra incentive for capacity providers to be available in the system at such moments.



## DELIVERY PERIOD

# The actualization mechanism for the strike price evolved in 2022-23 to become more dynamic

A **monthly** ex-post actualization of the strike price based on monthly DA prices (i.e. strike price of September is set by DA prices of September).

This actualization would apply from **the first delivery year** and to **single & pluriannual contracts**.

## At the time of the auction

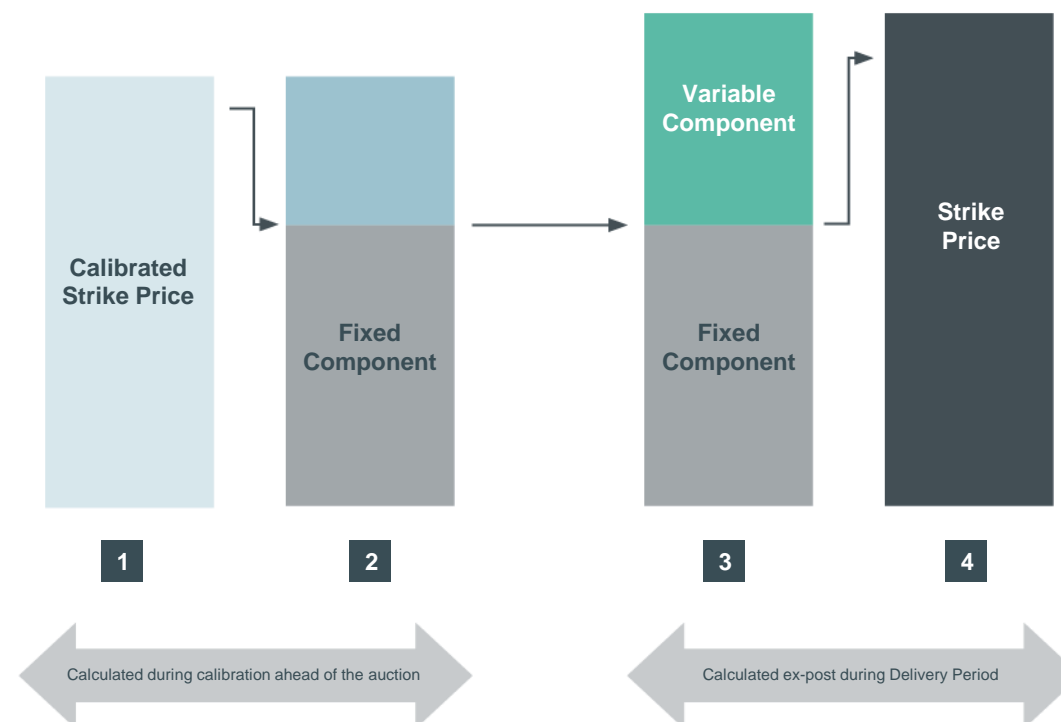
### Fixed component

= calibrated strike price  
 - Average DA prices for the calibrated period

## During delivery

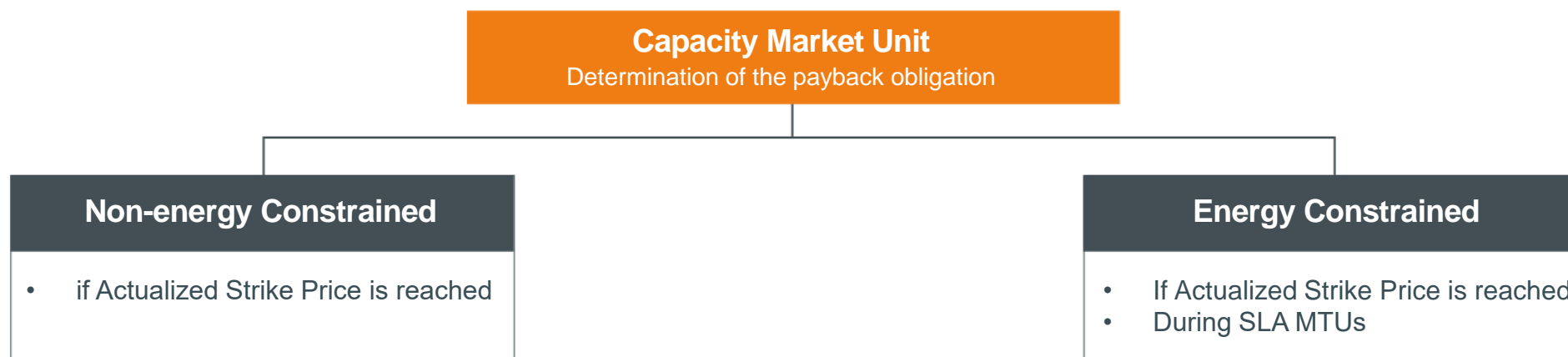
### Variable component

= Average DA prices for month *m*



# To whom does the Payback Obligation apply?

The application of the payback obligation differs per type of CMU



## Important notes:

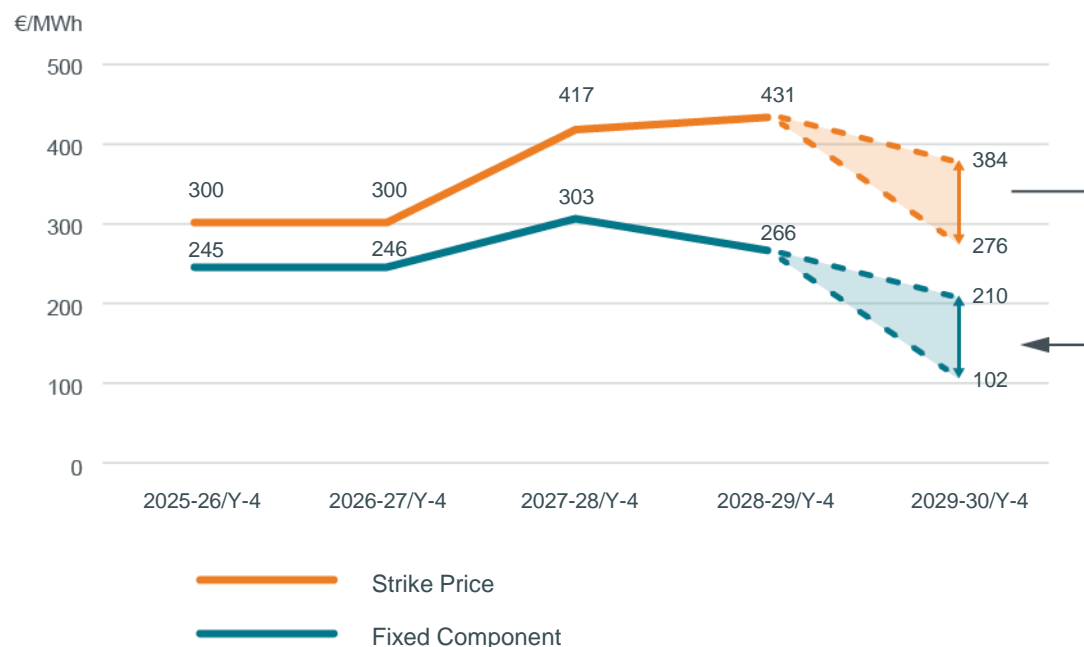
1. The Strike Price is determined during the calibration of the auctions but is actualized based on the average monthly price of the DA market. The result is the Actualized Strike Price
2. For DSM and energy storage, an exemption to the payback obligation is in place.





# Overview of the fixed component of the previous auctions

## Evolution of Strike Price and Fixed Component



- The fixed component should remain relatively stable throughout time
- For the upcoming auctions it will be set by MD on 31/03 (within the range shown on slide)



# Payback Obligation: examples

## OCGT 100 MW

- **Not Energy Constrained**
- **Daily Schedule (>25 MW)**
  
- **Required to pay back:**  
Always if DAM price exceeds strike price €/MWh (value may evolve based on the evolution of DAM prices given the indexation foreseen)
- **For its entire Contracted Capacity**

## DSM 5 MW

- **Energy Constrained (SLA 3h)**
- **Daily Schedule (<25 MW)**
  
- **Required to pay back:**  
Exempted from Payback Obligation if contracted in 2024 or 2025

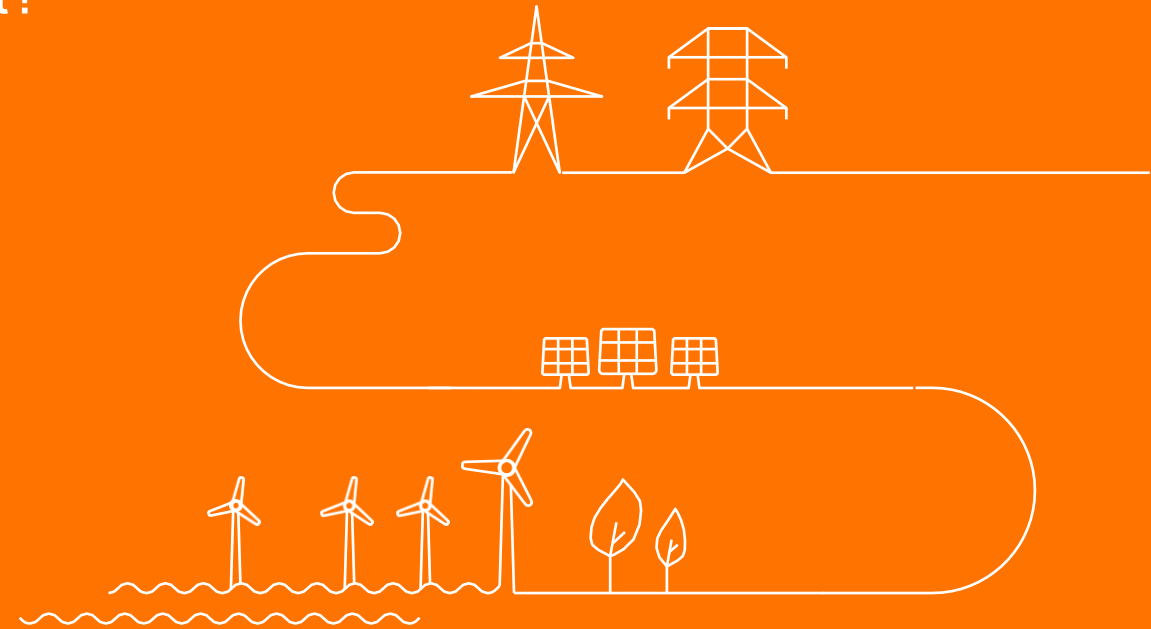
## STORAGE 30 MW

- **Energy Constrained (SLA 2h)**
- **Daily Schedule (>25 MW)**
  
- **Required to pay back:**  
if DAM price exceeds strike price €/MWh (max up to its SLA) if contracted before 2025
- **For its entire non-derated Capacity during its SLA MTUs if contracted before 2025**



# Secondary Market

- What is the Secondary Market & why does it exist?
- Who can participate in the Secondary Market?



# What is the Secondary Market & why does it exist?

CMUs can trade capacity obligations on the Secondary Market. This allows CMUs to sell their excess capacity or to cover their capacity shortages.

The purpose of a Secondary Market is:

- To allow Capacity Providers to be able to **transfer** their CMU Contracted Capacities and related obligations to another CMU in order to allow them to **manage their risks** better.
- To contribute to **enhance competition** in the Primary Market (Auction) of all participating technologies ensuring SoS within the CRM.
- To **decrease the risk** of the Auction bidders, and therefore **decrease the overall CRM cost**.



## DELIVERY PERIOD

# Application of CRM Functioning Rules on Secondary Market trades

Elia has been requested to clarify under which rules a Secondary Market Transaction would take place.

The last version of the Functioning Rules apply to Secondary Market transactions, **except** for the rules stated in Annex 18.8 (H)

For the rules that are not applied retro-actively (contained in Annex 18.8), the date of signature of the original Primary Market transaction is used to determine the applicable version of the FR.

To this end, Elia has clarified throughout the Functioning Rules, the use of the terminology Transaction (implying a new Annex A.x to the capacity contract) and Capacity Contract (being the framework agreement signed between Elia and the Capacity Provider).

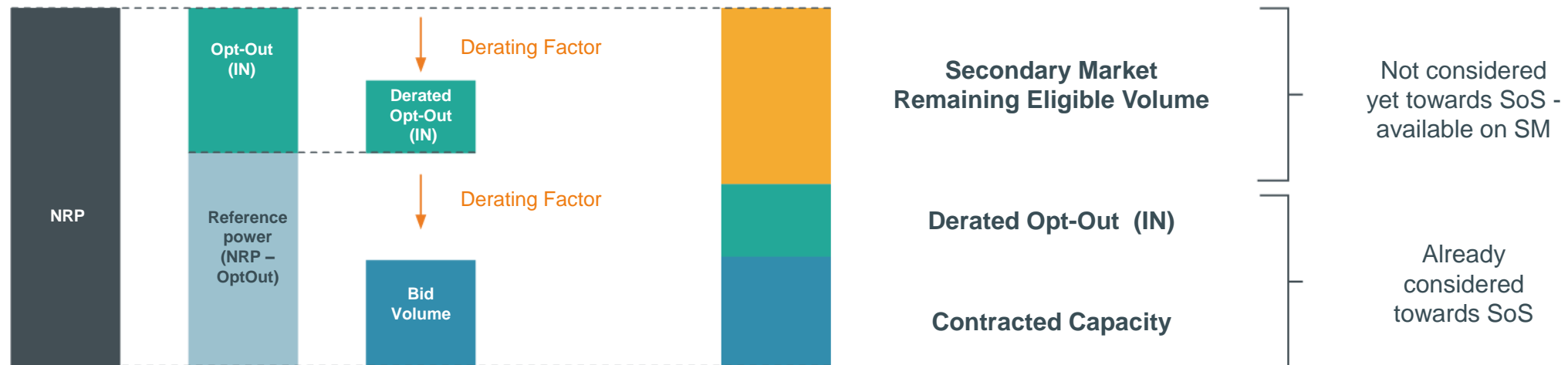


DELIVERY PERIOD

# Link between Opt-out notification and Secondary Market

Volumes which have already been considered towards adequacy, i.e., Opt-out IN volumes, cannot be used anymore on the Secondary Market  
However, any volume beyond the derated Opt-out IN and contracted capacity is still available to be traded

**Example:** Non-energy constrained CMU (both ex-ante and ex-post)

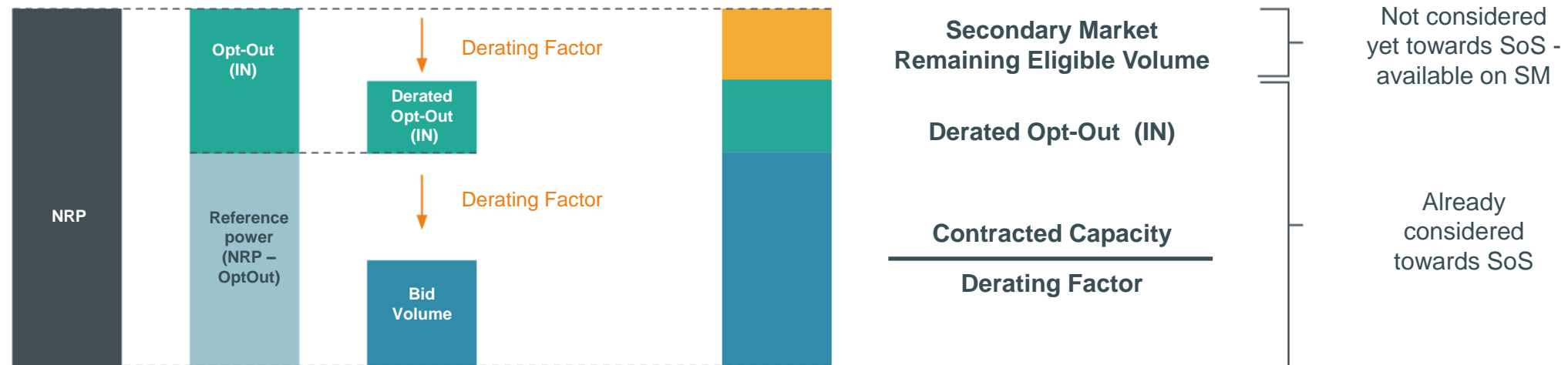


## DELIVERY PERIOD

# Link between Opt-out notification and Secondary Market

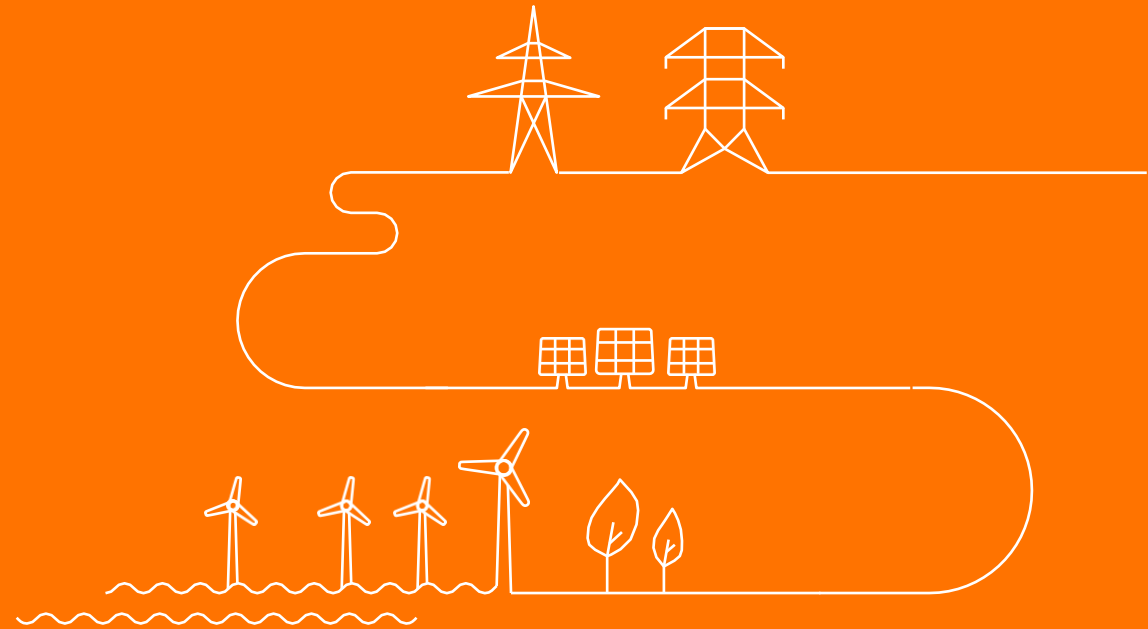
**Example:** Energy constrained CMU performing an ex-ante transaction:

**Note:** Towards the corrections made in the auction, any Opt-Out (IN) related to an energy-constrained CMU is derated to determine the contribution to adequacy of the Opt-Out volume. Therefore, the non-derated part of the Opt-out was not considered towards adequacy and is still available on the Secondary Market.



# Settlement

- How does the settlement process work?
- Which information is driving the process?





# Settlement

## ELIA

**ELIA** issues electronically two documents, at the latest on the 15<sup>th</sup> of Month M+2 :

- The Monthly statement
- (Monthly) Delivery activity report

**ELIA** notifies the Capacity Provider of any Missing Volume and therefore Unavailability penalties, at the latest on the 15<sup>th</sup> of Month M+2.

**ELIA** determines and invoices the Payback Obligation of the Capacity Providers in accordance with the terms set out in the Capacity Contract.

## CAPACITY PROVIDER

**The Capacity Provider** must issue an Ex-ante remuneration invoice between 5 WD and 2 WD before the start of the month **M**.

**The Capacity Provider** must issue a corrective invoice, or a corrective credit note based on the Monthly Statement if a difference is detected between the Ex-ante Remuneration and the availability provided.

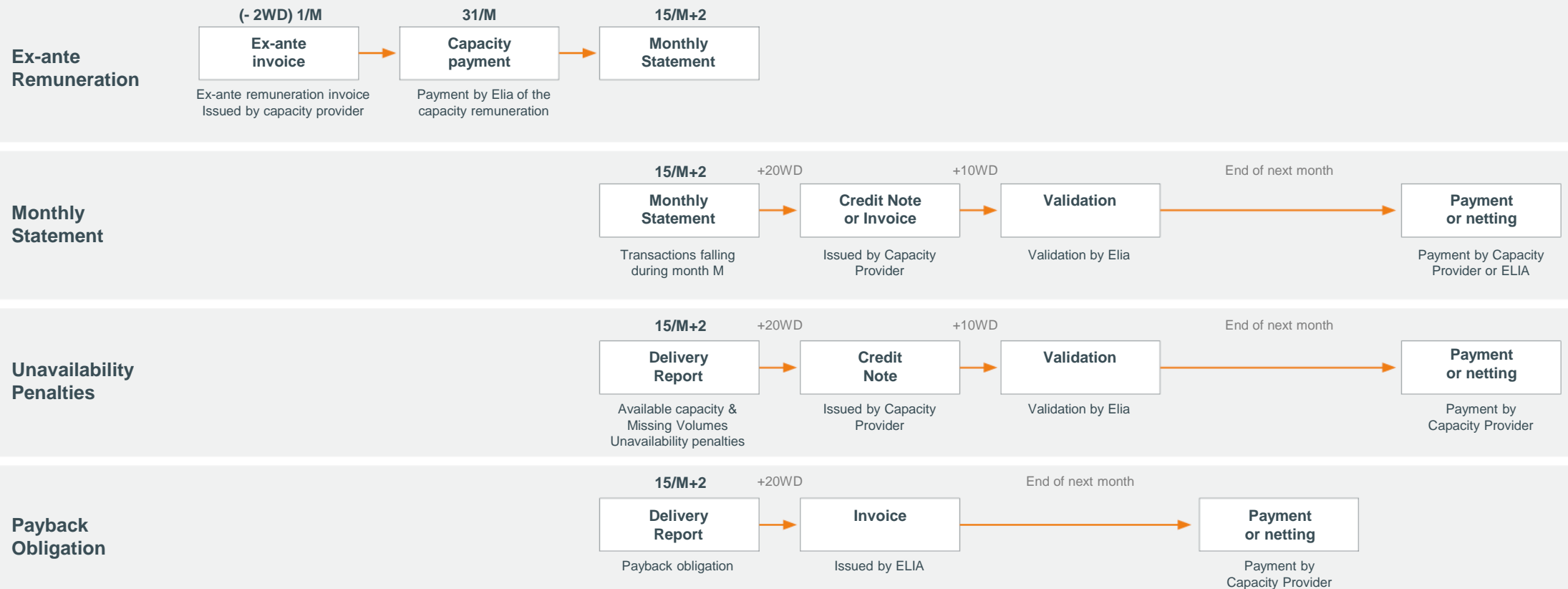
**The Capacity Provider** must issue a credit note 20WD the latest after receiving the Delivery activity report in case an unavailability penalty is applicable.

**The Capacity Provider** must issue a credit note or an Invoice the latest 20 WD after the Monthly Statement.

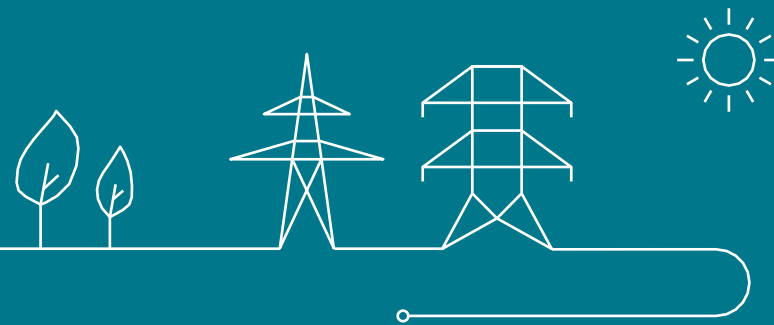


DELIVERY PERIOD

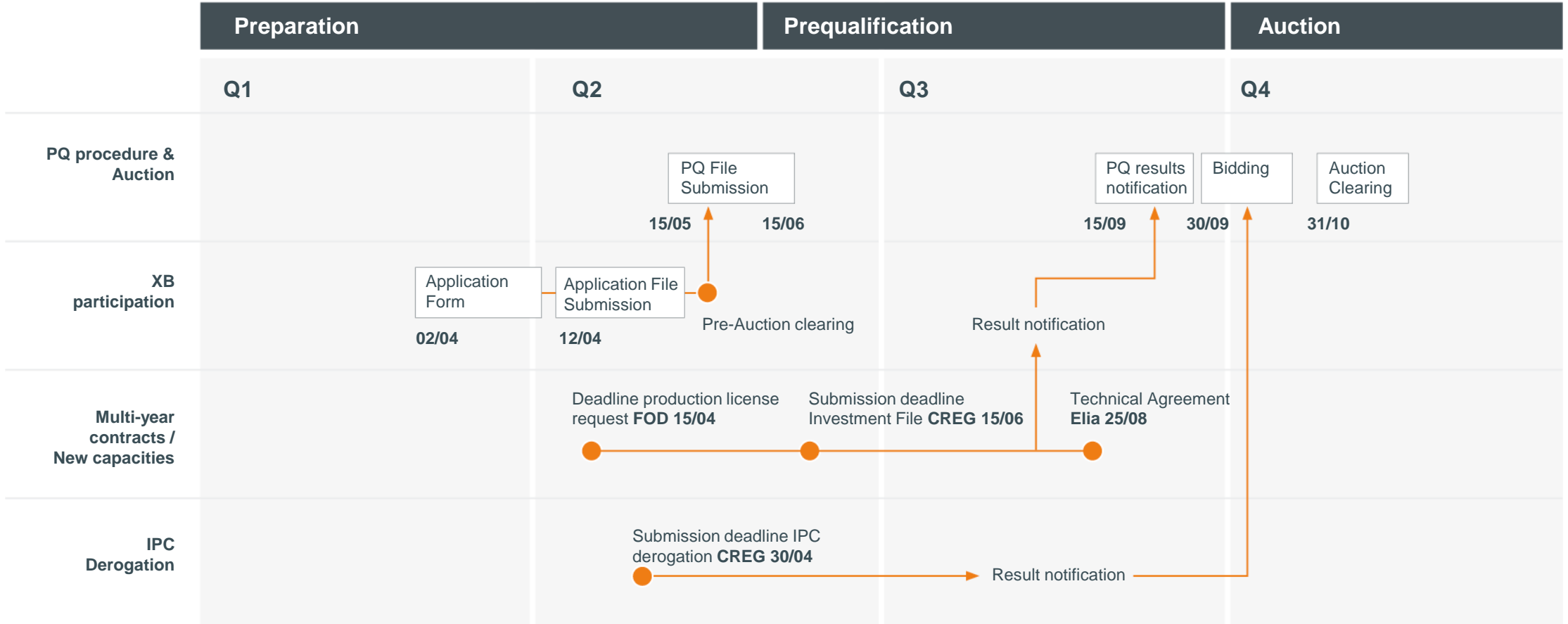
# Flows for each process



# 6. Final notes



# High level view on the CRM process



# Your participation in the Y-1 / Y-4 Auction



Your Elia KAM guides you through your flexibility valorization supported by:

CRM dedicated support ([customer.crm@elia.be](mailto:customer.crm@elia.be))

Balancing products dedicated support ([contracting\\_AS@elia.be](mailto:contracting_AS@elia.be))

You can also find [here](#) the list of "Balancing Services Providers"



# Thank you

