# CRM Design Note: Secondary Market

2/10/2019

# Table of contents

# 1 Introduction

## 1.1 Context and Goal of the design note

The purpose of the present design note is to provide all stakeholders with a clear view concerning the Market Rules related to the details on design & process of the organization of the Secondary Market in the context of the Belgian Capacity Remuneration Mechanism.

In addition to this design note, a single detailed list of definitions will be provided and publically consulted upon. As several concepts are relevant for different design aspects, a centralized approach via a single list is opted for.

### *About the public consultation*

This design note is put for formal public consultation and any remark, comment or suggestion is welcome. It builds further on the discussions and proposals already made in the different TF CRM meetings gathering all relevant stakeholders and in the follow-up committee, the latter consisting of representatives of the CREG and Elia, under the presidency of the FPS Economy.

This public consultation runs in parallel with a public consultation on other design notes. Reactions to this public consultation can be provided to Elia via the specific submission form on Elia's website **no later than Wednesday 30 October 2019 at 6pm.**

On 13 September 2019, a first set of design notes has already been launched by Elia for public consultation.[1]

Note that, in line with their roles and responsibilities and the foreseen governance in the Electricity Law, also the FPS Economy and the CREG will consult on aspects within their competence according to their procedures.

### *Legal Framework*

The Law setting up a Capacity Remuneration Mechanism, adopted on April 4th 2019[2] (hereafter "CRM Law"), modifying the Electricity law of 29 April 1999 on the organization of the electricity market (hereafter "Electricity law") introduces the concept of a Secondary Market.

In Art. 7undecies §8 the following elements are defined (own translation):

- The functioning rules of the Capacity Remuneration Mechanism containing

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[1] https://www.elia.be/en/public-consultation/20190913_formal-public-consultation-on-the-crm-design-notes-part-i

[2] http://www.ejustice.just.fgov.be/eli/wet/2019/04/22/2019012267/staatsblad

especially […]

- […] at the latest one year before the first delivery period, the organization mechanism of the Secondary Market.

## 1.2 Structure of the design note

One of the main objectives of the design note is to address the driving principles underlying the proposed design choices for the Secondary Market in order to reach a clear understanding of the general contours of the Secondary Market choices proposed, this will be handled by Chapter 2.1.

A focus on the desig of the Secondary Market will be expressed in Chapter 2.2.

Further, the note details in Chapter 2.3. the Transactions requirements regarding the Secondary Market product guidelines and specifics.

Details on the volumes that can be offered in the Secondary Market will be itemized in Chapter 2.4.

In the end, Chapter 2.5. provides information about the implementation of the solution in time.

## 1.3 Concept of a Secondary Market in a CRM

Market access to the CRM in a Primary Market will occur via the Y-4 and Y-1 Auctions. These Auctions will contract capacities for a specific period in time (i.e. a number of consecutive Delivery Periods). The purpose of a Secondary Market is to give comfort to the contract capacities to be able to transfer their CMU obligations to another CMU at an agreed price in order to allow them to manage their risks better. By doing so, a good functioning Secondary Market can contribute to decrease the overall CRM cost.

Under conditions and eligibility criteria as the full Prequalification Process of participating CMUs, the use of a Secondary Market is to be considered as an operational way to manage and optimize the CMU's availability/unavailability and its obligations, thereby ensuring system adequacy at all times.

In general, the Secondary Market is composed of (at least):

- Buyers of an Obligation (i.e. taking over the obligation)
  - And their prequalified CMU's capacities able to buy/acquire CRM obligations
- Sellers of an Obligation (i.e. releasing their obligations)
  - And their prequalified CMU's capacities able to sell their CRM obligations

Based on their bilateral agreement on terms and conditions, Transactions may occur for a certain time period (ranging from 1 hour up to days, weeks...) and for a certain price agreed bilaterally. The Transaction Capacity transferred is expressed in the standard unit of MW.
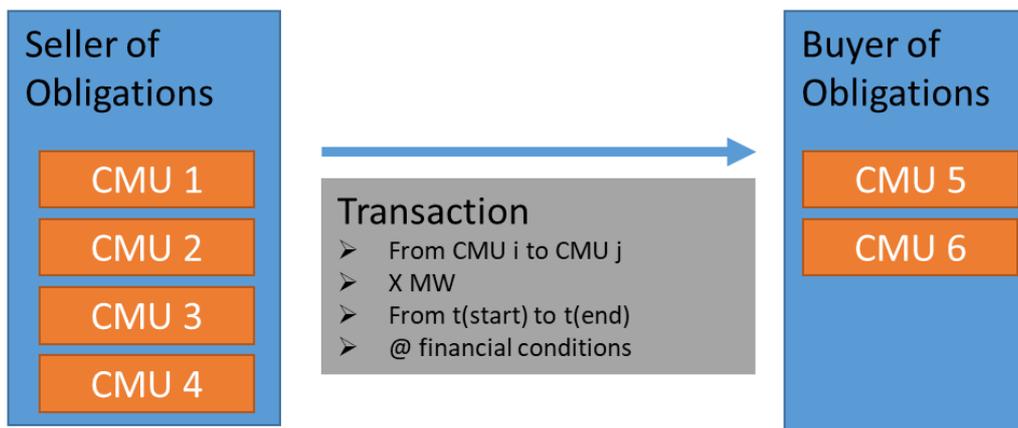
*Figure 1: CRM Secondary Market Transaction principle*

In the organization of the Belgian CRM, a table containing all the project topics to be developed has been settled.
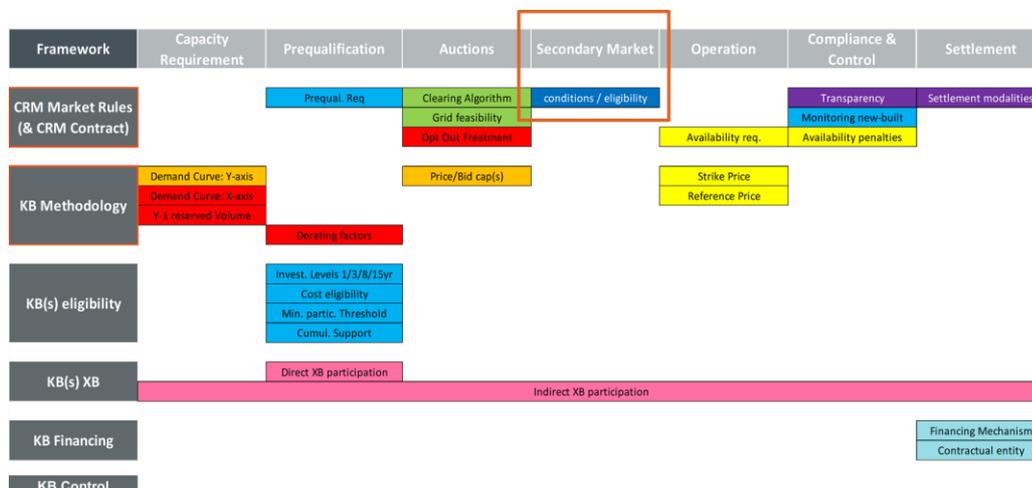


*Figure 2: CRM legislative framework*

The Secondary Market is defined as a specific market design element under the Market Rules (& Capacity Contract) framework as mentioned in Figure 2. The topic has strong links with most of the other topics, notably: Prequalification Process, Derating Factors, pre-delivery monitoring, opt-out treatment, Availability Monitoring Mechanism, Penalties and Payback Obligation. These links will explicitly be mentioned in the document.

In the Belgian CRM framework and under the light of the Clean Energy Package and other European energy guidelines, the definition of the Secondary Market is considered as a design element where several objectives and important considerations come together, among others: technology openness, limitation of the overall CRM cost via liquidity, and overall complexity avoidance and feasibility. These objectives and considerations are further discussed in the next paragraphs.

The rules are to be designed in order to make sure that all realistically potential technologies are able to participate in the CRM while taking into account their actual

contribution to the Belgian adequacy (cf. Derating Factor rules presented in the Design Note 1).

### 1.3.1 Technology openness

The Clean Energy Package and other European guidelines consider technology openness as a main requirement for the design of the Market Rules & methodologies. For instance, the Clean Energy Package in Art 22 §1 of the Energy Regulation states explicitly that capacity mechanism shall "[...] be open to participation of all resources that are capable of providing the required technical performance, including energy storage and demand side management [...]".

As long as a contribution to the Belgian adequacy is ensured, the developed methodologies and rules have to ensure that there is no creation of undue entry barriers to the CRM.

It is to be avoided that the CRM design and also the Secondary Market would create undue barriers for entry. Especially in the details of the Secondary Market and if not well embedded within a larger design – it could risk to constitute such a barrier for entry. For instance, the Energy Constrained CMU's and their specific SLA may prevent the participation in the CRM if the proposed granularity (hourly, daily…) of Transactions on the Secondary Market in terms of period covered by the Transaction is not fitting their technical extra capabilities. As for the Auctions, the Secondary Market should facilitate the participation of all types of technologies.

### 1.3.2 Limitation of the overall CRM cost by fostering liquidity

The Electricity Law mentions that the CRM should be designed as such to limit its overall cost (cf. Art.7undecies, §1). It is therefore essential to find an overall CRM design solution reaching both a global minimal CRM overall cost, rather than targeting local optimums of parts of the design. In this respect, it is crucial to not only address design elements individually, but also considering them within the bigger picture of the entire CRM. It could be that giving in (slightly) at one place in the CRM design could leverage more positively in terms of cost management elsewhere.

With respect to the Secondary Market, a number of aspects could contribute to this cost objective, e.g. avoiding undue (Secondary) Market entry barriers could increase the amount of participants, thereby improve liquidity on the Secondary Market, which in turn allows participants to the Auctions to better (and less costly) manage their risk which should be reflected in lower bid prices and, ultimately, reduce the overall CRM cost.

One of the Secondary Market roles is a need for an asset selected in the Primary Market to find a risk mitigation in case of unavailability. By doing so, the Primary Market actors calculating their bids will count on a fall-back option in case of undesirable capacity unavailability. In the same way, a design hampering the development of a liquid Secondary Market will create risk premiums in the Primary Market. Stated otherwise, the goal is well to avoid the existence of risk premiums in the Auction bids related to a lack

of natural back-door before the penalties are applied.

Regarding this risks decrease, the design of the Secondary Market explicitly endorses the logic of a Secondary Market as fall-back of the Primary Markets obligations, before the Penalties settlement. This means that any Contracted Capacity could resort to the Secondary Market to meet its obligations. For a system perspective, adequacy remains guaranteed in this way, hence there is no need to be overly restrictive or penalizing if market actors are managing their risks in such way. Of course, a precondition remains that all CMU's participating in the Secondary Market are also duly prequalified.

Liquidity is a key enabler to keep overall CRM costs under check. The more liquid the Secondary Market will be, the more confident the market participants will be to find a way to trade (part) of their obligations in order to manage the risks related to their contractual obligations.

Therefore, the proposed design will focus to open the Secondary Market participation to all CMUs to the extent their prequalification and Eligibility Criteria are respected. (cf. 2.3.).

For example, by authorizing in the Secondary Market newly prequalified CMUs that haven't participated yet in the Auction for a specific Transaction Period, they could provide extra liquidity in the Secondary Market and nevertheless create value for the Belgian adequacy.

The liquidity of a Secondary Market is an attention point that has been highlighted from the beginning of the design. The Secondary Market access and related aspects on the eligibility of volumes has been approached according to a philosophy of 'All contracted CMU's not capable to deliver on their obligations, i.e. suffering from Missing Capacity, should be facilitated to be able to find as much as possible alternative CMU's to (temporarily) take over their obligations and avoid unnecessary Penalties.'

Obviously, fostering liquidity is a difficult exercise in a way that the overall capacity need covered by the Auctions should be designed in order to avoid the over-dimensioning of the Belgian system. In a context of adequacy concerns (i.e. a context justifying a CRM in the first place), liquidity in a Secondary Market could be under pressure as generally there tends to be little to no overcapacity available in the system, particularly at adequacy relevant moments.

As a consequence, in order to improve the liquidity of the Secondary Market, it has been opted for opening as much as possible the Secondary Market. In particular four types of sources of capacity for the Secondary Market are identified:

- Extra Available Capacity of the contracted CMU's in the Primary Market for the same Delivery Period (i.e. the volume equivalent to (1-Derating Factor) x Reference Power)
- Prequalified CMU's having participated in the Primary Market Auctions, but that were not selected and contracted (as they were not in-the-money)
- Newly prequalified capacities that haven't participated in the Primary Market
- Opt-out Volumes that have not yet been accounted for in the Auction volume (i.e.

for which no dummy bid hasn't been introduced in the Auctions for the considered Delivery Period). Note that other Opt-out Volumes cannot be accommodated in the Secondary Market as this would imply a potential double-counting of the same capacity (i.e. first by lowering the volume procured via the Primary Market Auction and secondly via allowing it take obligations in the Secondary Market).

The exercise continues with the common CRM ambition to decrease the CRM cost and to avoid all types of double counting of the capacities: implicitly in the demand while at the same time in the Primary / Secondary Market offer curve. This will be done using the Prequalification Process as a source for the volume of capacities need in Y-1 and Y-4 Auctions.

Finally, Elia has a role to facilitate the Secondary Market. Therefore and in addition to the above principles, in the proposals described throughout this note, it has always been taken into account to provide solutions that would allow power exchanges, brokers, … or other facilitating entities to join the system and facilitate further the liquidity on the Secondary Market.

### 1.3.3 Overall complexity avoidance & feasibility

Feasible methodologies based on accurate logics that could be managed by all is key for the CRM. A manageable complexity of the CRM system is desirable in order to increase competition and limit the cost of the CRM, both in the development phase and in the risk aversion to uncertainty modelling within the Bid Prices by the participants. Overly complex mechanisms, it is also the case for Secondary Market design. Also, the more complex the mechanism becomes, the less manageable it is. In this respect, feasibility also links to the overall market design in place.

It appears clear that the feasibility of the design of the Secondary Market with a Title Transfer Facility should allow the integration of third parties facilitating liquidity (e.g. power exchanges, brokers, bulletin boards,…) with acceptable levels of complexity. This is further covered under the technical constraints mentioned in the Chapter 2.2.

# 2 Secondary Market design

## 2.1 General contours of the Secondary Market: a Title Transfer Facility

As expressed in the introduction, the Secondary Market design concerns the development of an obligation title transfer from one CMU to another CMU in order to manage its risks and make optimal use of the real Available Capacity of the CMU. The design of the Secondary Market should not interfere with the Auctions but should offer solutions to the CMU Availability Obligations, Penalties and Payback Obligation enhancing competition and decreasing the overall CRM cost.

Two entities or levels have to be considered in the design, the Capacity Provider (or Prequalified CRM Candidate) and the CMU. As the Capacity Provider or Prequalified CRM Candidate may trade with multiple CMU's, and knowing the overall CRM design parameters of the Primary Market, the design proposal should continue to meet the objectives and considerations previously presented in 1.3 (technology openness, limitation of the overall CRM cost by fostering liquidity and overall complexity avoidance and feasibility) while at the same time avoid any "gaming" effects. Note that, in any case, all the CMU's picking up obligations – including via the Secondary Market - have to be fully prequalified.

For Contracted Capacity resulting from winning in an Auction, several possibilities regarding the organization of a transfer of obligation exist:

- The first possibility is a transfer of obligation from a CMU to another CMU for which the obligation and all or part the Availability Obligations, Penalties and Payback Obligation are settled on the Capacity Providers (Buyer of an Obligation). Elia (and the CRM contractual counterparty) should recognize the transfer as duly performed and the CMU releasing its obligation and its Capacity Providers are not held liable anymore to their initial obligation. In this case, all Capacity Remuneration for the transferred obligation would also be transferred as well as Availability Obligations, Penalties and Payback Obligation towards the Capacity Provider taking over the obligation.
- The second possibility is identical to the first one, except that the (initial) Capacity Provider remains remunerated for its Contracted Capacity following the Primary Market Auction outcome. This implies that he has to negotiate bilaterally (or through an exchange) a price with the Capacity Provider taking over the obligation. All other obligations are transferred to the CMU's and its Capacity Providers taking over the obligation. Although seemingly less complex, the first possibility may create an issue regarding transparency as the transfer of remuneration necessarily implies revealing details of the individual remunerations which are not market-wide known. This could be blocking the emergence of potential anonymous exchanges because the offer and demand prices will have to cope with each of the primary Capacity Remuneration

transfers. This is particularly relevant in a pay-as-bid context of the Primary Market Auctions, but even in a pay-as-cleared context over time there may be differentiated capacity remunerations due to the existence of multi-year contracts that have not all cleared in the same Auction.

On top, in the energy and ancillary services markets in Belgium, the transfer of obligation is currently designed in an obligation release for the Capacity Provider selling its obligation and with a free (i.e. bilaterally negotiated) transfer price between both market parties. This second possibility builds on this principle.

- A third possibility is a transfer of the obligation monitoring on another CMU where the initial Capacity Provider remains responsible for the Availability Obligations, Penalties and the Payback Obligation and their settlement towards Elia and/or the Contractual Counterparty. Such design is not a full transfer of the obligation as the initial party remains liable after the transfer of obligation. In other words, the CMU taking over the obligation is considered as a subcontractor of the initial Capacity Provider, i.e. the one having a Primary Market Capacity Remuneration. For the sake of clarity, regarding the obligation transfer, no contractual liability exists with the Capacity Provider of the CMU taking over the obligation towards the overall system, i.e. Contractual Counterparty, it remains fully on the initial Capacity Provider of the CMU which has been granted a Capacity Contract in the Primary Market with its remuneration and its obligations. A question may raise to which extent such design helps in providing sufficient credibility of a Secondary Market and contributes to sufficiently mitigating risks and thereby providing sufficient comfort to participants in the Primary Market Auction to actually lower their bids? The remaining liability of the initial Capacity Provider is likely to be priced in.

An important concern related to the third possibility is the mandatory requirement of a permanent link between the CMU taking over the obligation and the initial Capacity Provider releasing its obligation. This is likely to hamper the liquidity on the Secondary Market and may in theory only work if the transfers stop after an iteration. In the following example, the limits of the third possibility are illustrated.

At first, two transfers of 5 MW (Party A to Party B) and 1 MW (Party C to Party B) occur:
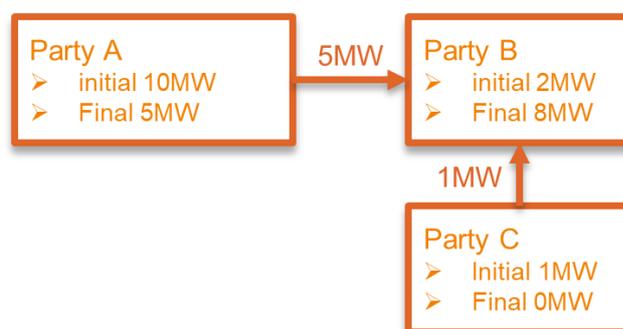


*Figure 3: Example of issue on the third possibility of a transfer of obligation (1)*

Followed by Party B further transferring part of its obligation to Parties D and E:
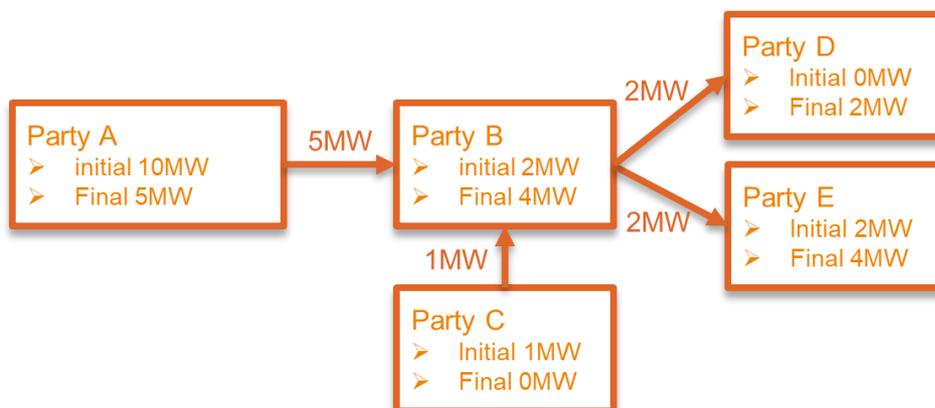
*Figure 4: Example of issue on the third possibility of a transfer of obligation (2)*

And finally, suppose that Party D has taken over obligations from another party F, but Party D turns out not fully delivering on its obligations:
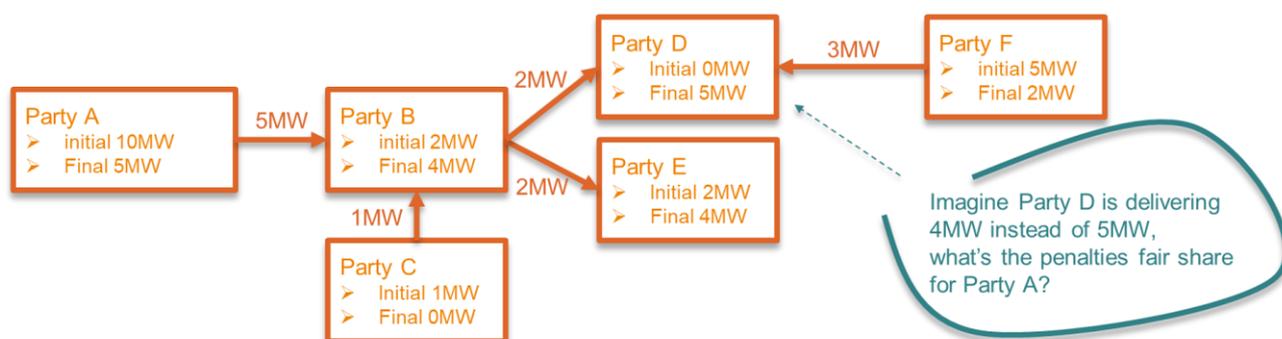


*Figure 5: Example of issue on the third possibility of a transfer of obligation (3)*

Firstly, it is uncertain which CMUs have to be considered as the final CMU's delivering the 5MW obligation of Party A. In case of sub-delivery of D, it is not clear which share of Party D is considered to be delivered for Party A. It would require arbitrary (proportional or other) rules determining this. This could create extra risks to Party A, for instance related to the financial status of Party D. Although Party D was prequalified, in such a constellation with remaining liabilities for Party A, this Party A may want to put its own requirements in terms of financial indicators (e.g. creditworthiness) of any counterparty. Perhaps Party B meets these criteria, but how could Party A manages this towards further deals with Parties E and D, whereas it nevertheless creates financial risks for Party A?

It requires clearly in any case that Party A is (made) aware of the Transactions from Party B to Parties C and D.

A second consequent issue is the clear impossibility to organize anonymous exchanges in regards to the continuous link between the CMU (like Party B) taking over the obligation and the initial Capacity Provider (like Party A) releasing its obligation.

Summarizing, it would at least require two consequences hampering the good market functioning, the application of a pro-rata rule or equivalent of the Penalties and Payback

Obligation, and the credit exposure at such financial flows of the exchange towards the contracting party.
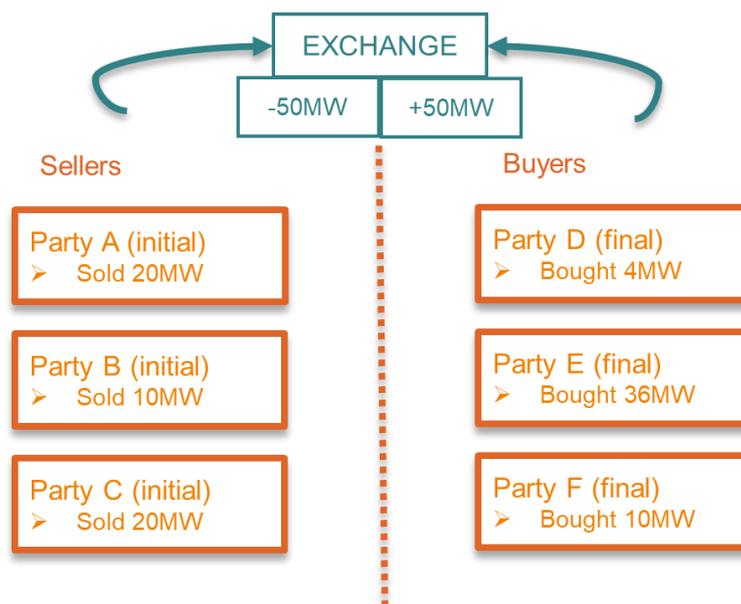


*Figure 6: Example of issue on the third possibility of a transfer of obligation in an Exchange*

In regards to the considerations and objectives of a Secondary Market exposed in Chapter 1.3, a trade-off has to be made as a compromise of such objectives. A feasible and liquid Secondary Market, accessible to all with standardized obligation transfer modalities is further proposed. In terms of the possibilities listed above, Elia proposes possibility 2 (i.e. full transfer of obligations, but the Capacity Remuneration from the Auctions remains towards the initial Capacity Provider).

## 2.2 Design of the Secondary Market

Chapter 2.2. elaborates further on the proposal of a Secondary Market in line with the second possibility of obligation transfer (i.e. full transfer of obligations, but the Capacity Remuneration from the Auctions remains with the initial Capacity Provider).

The main rationale for this decision has been exposed in Chapter 2.1: it gives sufficient comfort to Capacity Providers to find the most liquid and accessible to all possible technologies solution, allowing the facilitation of a power exchange, broker, bulletin board, ... This allows a better risk management and therefore a possible decrease of the CRM overall cost as the Penalties could be decreased by such transfer to another reliable CMU.

Whereas the Primary Market is based on an Auction with single clearing, settling the bids selection at certain moment in time for future Delivery Period(s), the Secondary Market is a continuous market letting market participants trade under the present Design Note conditions.

As mentioned in section 2.2., it appears mandatory that the Secondary Market is

composed at least of Buyers of an Obligation (taking over the obligation with their prequalified CMU's able to buy/acquire obligations) and of Sellers of an Obligation (releasing their obligations with their prequalified CMU's able to sell their CRM obligations). Based on their bilateral agreement on terms and conditions, Transactions on certain period and for a certain price / value may occur. The obligation transfer is expressed in standard unit of MW with a granularity of Obligated Capacity of 0.1MW as the Primary Market.
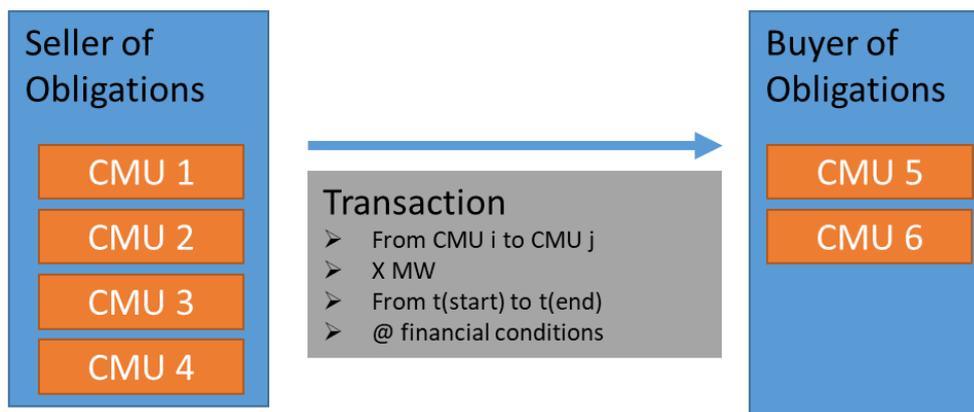


*Figure 7: CRM Secondary Market Transaction principle*

In the **Step 1 of a Transaction**, both parties (in the figure called Market Party A and Market Party B), are negotiating together (directly, or facilitated by a broker or by an exchange platform) prior to the notification of their agreed Transaction. This step is not in the scope of the Secondary Market rules but is of course a pre-requisite for its functioning.
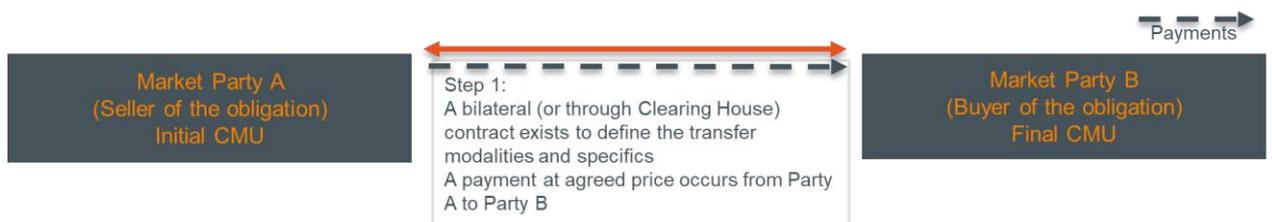


*Figure 8: First Step: CRM Secondary Market Transaction*

**Step 2 of a Transaction** is to notify a Transaction with its relevant parameters. In order to validate the Transaction, it has to be notified to ELIA (and the Contractual Counterparty) to ensure that the necessary Availability Obligation, Penalties and Payback Obligation will be correctly handled and settled. To be notified all criteria's according to 2.3. and 2.4. have to be met by both parties jointly communicating information about the CMU's obligations transfer. The following details are to be communicated to ELIA and the Contractual Counterparty.

- The prequalified CMU releasing its obligation
- The Capacity Provider of the CMU releasing its obligation
- The prequalified CMU taking over the obligation

- The Capacity Provider or the Prequalified CRM Candidate of the CMU taking over the obligation
- The Transaction Capacity transferred in MW
- The Transaction Period (i.e. time period covered by the transfer)

The Transaction Date will be determined and logged as the notification timing. The notification of the Transaction will be based on elements that will be crosschecked with the contractual capabilities of both counterparties and the CMU's capabilities to ensure the obligation, e.g. to what extent the Buyer of an Obligation has sufficient prequalified volume not yet contracted on the considered CMU to take over an obligation (cf. 2.4.).

For the case of an exchange implying Transactions from one to many CMU's or from many CMU's to many CMU's for the same Transaction Period, a split of the obligation transfer has to be organized by the exchange so that ELIA and the Contractual Counterparty are notified of multiple Transactions and can validate and confirm to each of the CMU the impact on its Availability Obligations, Penalties and Payback Obligations.

For the sake of clarity, the price of the Transaction Capacity or other elements of the Transaction are not to be notified to ELIA and the Contractual Counterparty as there is no impact on the CRM mechanism cost and has no further use to the system.
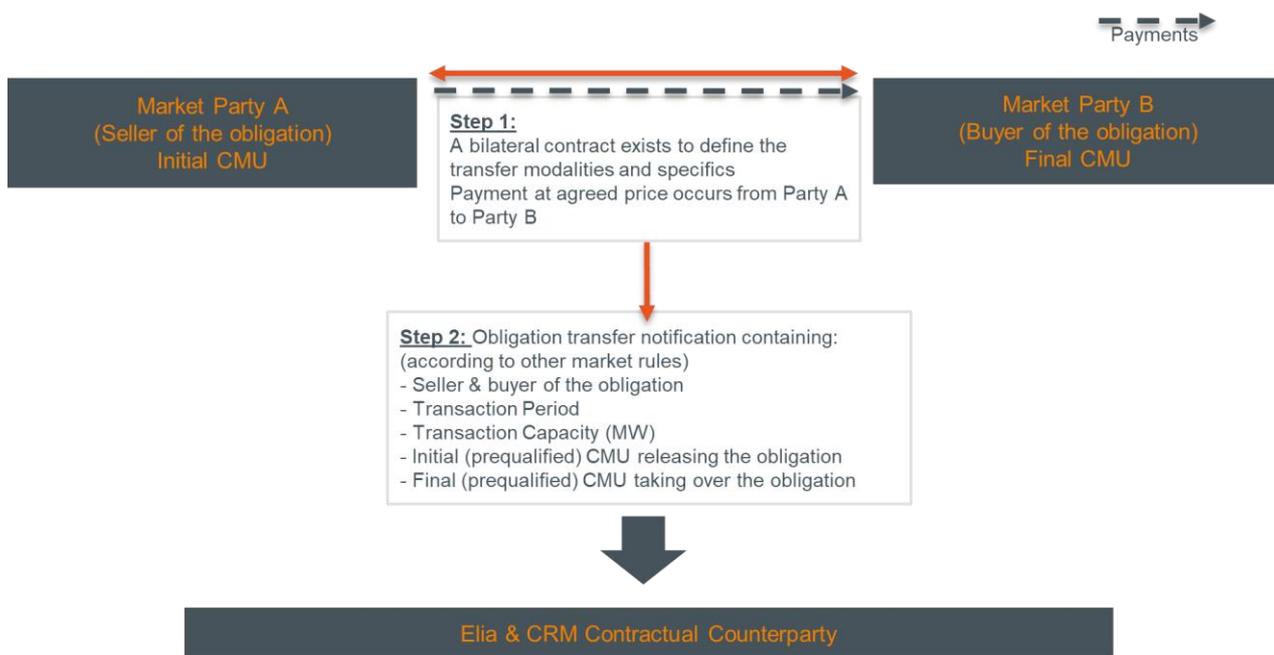


*Figure 9: Second Step: Transaction notification*

ELIA and the Contractual Counterparty will acknowledge the reception of the Transaction details and performs several checks according to 2.3. and 2.4. on the Transaction.

After a successful validation of a Transaction, a confirmation will be sent to the Seller of the Obligation that will be released of the Availability Obligations, Penalties and the Payback Obligations related to the Transaction Capacity for the Transaction Period. A

confirmation will be sent to the Buyer of the Obligation that will take over the Transaction Capacity regarding the Availability Obligations, Penalties and the Payback Obligations for the Transaction Period.

In **Step 3 of a Transaction**, as the initial CMU (Seller of an Obligation) has been released from its Transaction Capacity, it is not liable anymore for the Transaction Capacity on Availability Obligations, Penalties and Payback Obligations.

Nevertheless, this initial party (as Seller of an Obligation) will still receive the Capacity Remunerations based on the Capacity Contract it has signed with the Contractual Counterparty, so that the Capacity Remuneration resulting from the Auction remains unchanged.
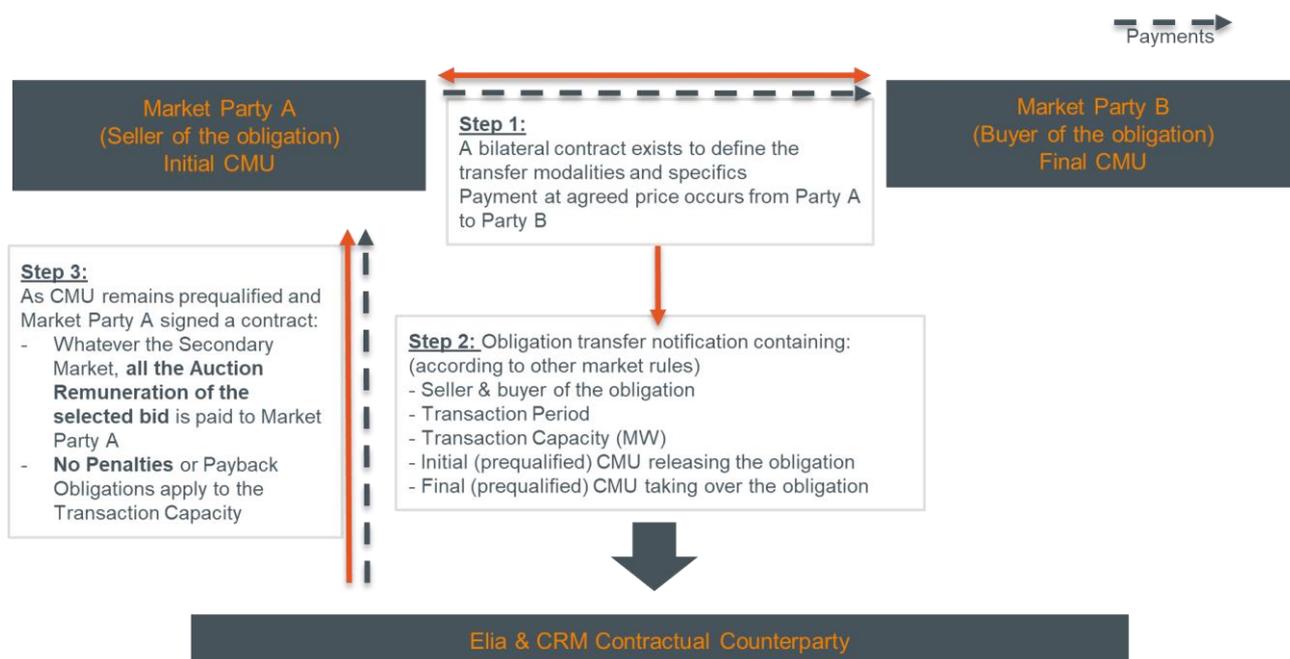


*Figure 10: Third Step: Transaction notification*

In **Step 4 of a Transaction**, all the obligations that have been transferred will be monitored on the CMU taking over the obligation. The CMU, which has taken over the obligation has to deliver the Transaction Capacity on top of any previous obligations on this CMU for the same period and will be liable to Availability Obligations, Penalties and the Payback Obligations.

However, the CMU taking over the obligation is never remunerated by the Contractual Counterparty for the obligations he has taken over, his remuneration is supposed to be part of the bilateral Transaction concluded in Step 1 of the Transaction.
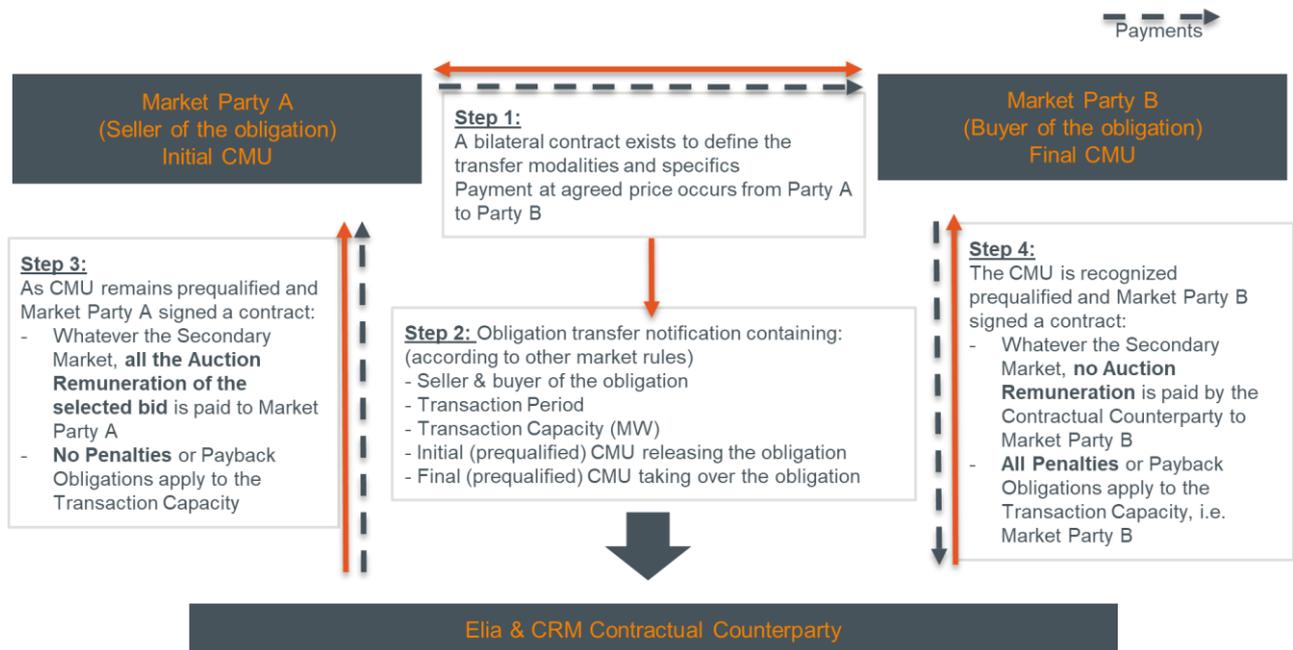
*Figure 11: Value chain of a transfer notification*

The solution fitting such steps approach is a Title Transfer Facility. All transfers of Transaction Capacity are arranged between Capacity Providers or Prequalified CRM Candidates creating Transactions to be communicated to Elia and the Contractual Counterparty. The Title Transfer Facility will be designed in order to also facilitate the third parties development of market interfaces (bulletin board, OTC brokers platform, exchanges clearing platform, …). Indeed, it is the purpose to offer a Secondary Market solution that is market-wide and open to all future development of Transaction types in order to maximise liquidity.
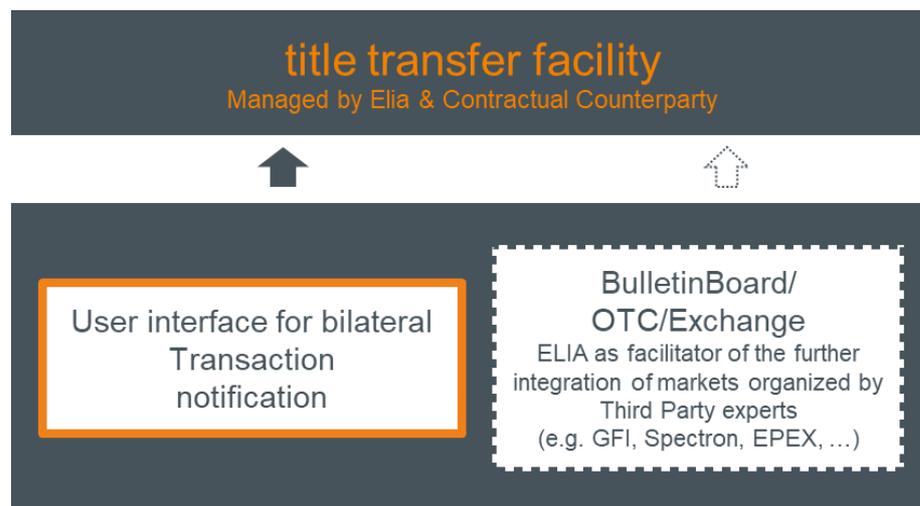


*Figure 12: Title Transfer Facility principle*

**Design Proposal #1:** **Secondary Market definition**

The Secondary Market is **a Title Transfer Facility** mechanism. Its purpose is to manage all transfers of obligation on a Transaction, which are arranged between Capacity Providers and Prequalified CRM Candidates creating Transactions communicated to and validated by Elia & Contractual Counterparty.

The Contractual Counterparty & Elia will receive from both Capacity Providers and Prequalified CRM Participant Candidates, the Transaction notification, will acknowledge the reception and confirm, in case of compliance, the transfer of Availability Obligations, Penalties and the Payback Obligation from the Seller of an Obligation to the Buyer of an Obligation for the Transaction Period.

All Capacity Remuneration remains to the Seller of an Obligation.

## 2.3 Secondary Market Transactions requirements

This section aims to describe the mandatory requirements of the elements of a successful Secondary Market Transaction notification.

### 2.3.1 Contractual requirement

The participants and their CMUs need to have signed a Capacity Contract in order to participate in the Secondary Market. This ensures that, from a system perspective, any capacity picking up an obligation is confronted with the same rights and obligations.

**Design Proposal #2: Contractual Requirement of Secondary Market**

All potential participants to the Secondary Market have to sign a Capacity Contract with the Contractual Counterparty prior to any Transaction in the Secondary Market and its notification to ELIA or the Contractual Counterparty.

Once all contractual documents are signed, Capacity Providers or CRM Prequalified Candidates can start to trade and notify Transactions on the Secondary Market.

### 2.3.2 Prequalification of the participating CMU's

The prequalification of both CMU's is a pre-requisite to the notification of the Transaction to ELIA and the Contractual Counterparty. This will be ensured via the need of a successful prequalification by Elia. This ensures towards the overall system and adequacy that only capacities actually capable of delivering on the required Service could participate in the Secondary Market.

It is therefore obvious that nor un-prequalified CMU's, neither any CMU's going through 'Fast-Track' Prequalification Process are eligible for the Secondary Market.

All Transactions notified to ELIA and the Contractual Counterparty with un-prequalified CMU's will be rejected.

**Design Proposal #3: Prequalification requirement of the CMU**

All participating CMU's to the Secondary Market have to be successfully prequalified under the Prequalification Process. Nor un-prequalified CMU's, neither any CMU's going through 'Fast-Track' Prequalification Process are eligible for the Secondary Market.

### 2.3.3 Transaction type

As mentioned in 2.2., the Title Transfer Facility is designed in order to allow and facilitate all Transactions types among others:

- OTC
- Exchanges
- Bulletin board
- …

For the sake of clarity, the Secondary Market part of the CRM will facilitate the integration

of such third party developments in the context of the Secondary Market but Elia will not develop them. It goes beyond Elia's role to organize such activities.

### 2.3.4 Volume of the Transactions

Chapter 2.4. will treat the eligible Secondary Market capacities and the quantities of capacities allowed for a Transaction. In any case, for each Transaction on the Secondary Market the volume shall be notified.

### 2.3.5 Notification timing

As the obligation transfer has no impact on adequacy, it is foreseen to accept the notification ex-post up to 5 working days after AMT Moment. Allowing such ex-post Transactions also help in fostering liquidity and overall optimizing the cost of the system by avoiding unnecessary Penalties (i.e. limiting the amount of Penalties to the volume that was really unavailable to match adequacy needs).

A notification prior to an AMT identification related to a Transaction Period is considered as "ex-ante" and is to be distinguished from a notification "ex-post", notified after an AMT identification related to a Transaction Period, the AMT identification is the Day-Ahead Market prices publication (according to Availability Obligations & Penalties Design Note). Despite the fact that both are facilitated in the proposed Secondary Market mechanism, ex-post Transactions are possible up to 5 working days after start of the Transaction Period. If the timestamp of the Transaction is later than 5 working days after its delivery start date and time, the Transaction will be rejected.

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**Design Proposal #4: Ex-ante and ex-post notification**

An ex-ante Transaction is considered as notified before the AMT identification related to a Transaction Period, where the AMT identification is the Day-Ahead Market prices publication.

By opposition, an ex-post Transaction is considered as notified after the AMT identification related to a Transaction Period, where the AMT identification is the Day-Ahead Market prices publication.

Ex-post Transactions are authorized up to 5 working days after the start of the Transaction Period, considered as an AMT Hour.

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### 2.3.6 Transaction Period

For the Transactions management and in order to apply all the other requirements, it implies that Transactions have to follow specific timing granularities. By a market-wide approach, daily and hourly granularities are very important to offer sufficient levers for the market participants to find the most suitable Secondary Market product. This will generate an optimal treatment of the portfolio(s)'s synergies and increase the overall Secondary Market liquidity. This is particularly the case for the Energy Constrained CMU having a SLA with a limited amount of hours. Those Aggregates or Energy Constrained

assets could find in the extra hours (non-SLA) a remuneration.

It means that a Transaction either covers a set of consecutive days, either it covers a set of consecutive hours, but not a combination of both.

For example:



*Figure 13: Secondary Market Transaction granularity in terms of period covered by the Transaction*

---

**Design Proposal #5: Transaction period**

All Transactions have to be with a granularity in terms of period covered by the Transaction of:

Either, multiple of days according to the Belgian definition of time (GMT+1) where days start at 00:00 and finish at 00:00 not included of the day after.

Either, multiple consecutive hours in a day according to the Belgian definition of time (GMT+1).

---

On top, for obvious reasons, it appears clear that no Transactions are eligible for a period in time not covered by a Contracted Capacity. This will be part of the Transactions notification validity check.

### 2.3.7 Notification content

As mentioned in paragraph 2.2, the necessary notification information towards the Title Transfer Facility is common to all Transactions types' solutions (OTC, bulletin board, exchanges, …). .

---

**Design Proposal #6: Transaction notification dataset**

Transaction subset of information required:

1-The prequalified CMU releasing its obligation (Prequalification ID)

2-The Capacity Provider of the CMU releasing its obligation (CRM ID) considered as the Seller of an Obligation

3-The prequalified CMU taking over the obligation (Prequalification ID)

4-The Capacity Provider or Prequalified CRM Candidate of the CMU taking over the obligation (CRM ID) considered as the Buyer of an Obligation

5-The Transaction Capacity that is transferred in MW

---

6-The Transaction Period (From date/time to date/time)

A time stamp of the Transaction Date/time will be taken as the official notification time on the Contractual Counterparty / ELIA user interface for the Secondary Market.

The Transaction Date of the Transaction is used for further purposes, such as related to the identification of the applicable Strike Price and the ex-post Transaction Date validity.

At notification, ELIA and the Contractual Counterparty ensure the feasibility of the Transaction (e.g. via automatic data entry checks or other kind of validation) followed by a notification acknowledgment and notification confirmation. The feasibility checks are in particular:

- The period of the transfer of obligations (Transaction Period)
- The volume to be transferred (Transaction Capacity)
    - Based on the 2.4. Eligible Volumes
    - The previous registered Transactions included in the Obligated Capacity
- The Strike Price levels at the timestamp of the notification
- The contractual status of the Capacity Providers or Prequalified CRM Candidates
- …

The explanation of any notification rejection will be consistent with the Chapter 2 described design proposals.

If multiple requests for the same CMU's / owners are sent to ELIA / Contractual Counterparty, they will be ordered by notification time stamp for the treatment and the above described checks will occur one by one.

## 2.3.8 Notification of an hourly transfer on non-SLA hours of Energy constrained CMUs

In the prequalification phase, it is necessary for the Prequalified CRM Candidate of Energy Constrained CMU to select a SLA, implying that its participation to adequacy is limited in to a predefined set of consecutive hours in the day. This is mainly done to cover for any energy constraints of the concerned CMU. The Availability Requirements & Penalties design note allows the Capacity Provider to deliver its SLA at its discretion within the AMT Hours of the day.

As the Energy Constrained CMU's are allowed to trade and take over extra obligations in the Secondary Market outside of their SLA hours, all Transactions leading to precise hours notification (Transactions granularity in terms of period covered by the Transaction lower than days) and related to an Energy Constrained CMU, can only be notified under the ex-post notification process.
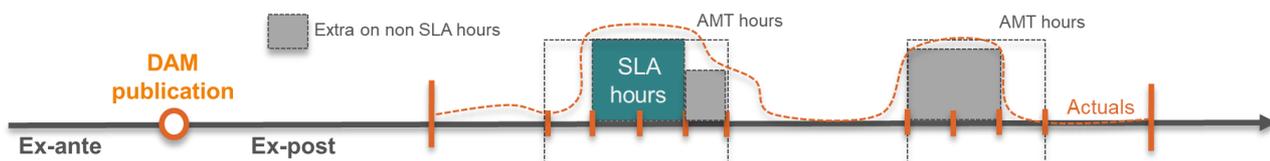
*Figure 14: mandatory ex-post notification for non-SLA Hourly Transaction*

The proposal is to allow Transactions on hours out of the SLA hours (the non-SLA hours), by imposing a Notification in ex-post, it ensures that the SLA hours related to the Energy Constrained CMU are duly identified by the Capacity Provider and doing so that he may capture opportunities to be present at the other available AMT Hours of the day, creating value for the adequacy (grey blocks in Fig. 8). Such value could be traded in the Secondary Market and the Capacity Provider will be accountable for such volumes in the Availability Obligation, Penalties and Payback Obligation. By acting ex-post, it gives leverage for the Capacity Provider to fine-tune its Transaction Capacity in order to avoid any Penalties on the transferred Transaction Capacity. Therefore, the Proven feature of the Energy Constrained CMU is essential as the Availability Obligation, Penalties and Payback Obligation will be settled on its actuals, presence in the Energy Market.

This restriction to an ex post notification process for Energy Constrained CMU, is justified as it could be uncertain for the Contractual Counterparty whether extra hours have been traded with actual real availability. At the same time for the Capacity Provider, the provisional capacity out of its SLA hours is harder to define and to commit in ex-ante, and much easier in ex-post.

In the Fig. 8 here above an example of a 2 hours of SLA Energy Constrained CMU is given for which the SLA hours are duly identified according to its Availability Obligations and Penalties. Following its actual CMU capability on the AMT hours, the grey zones on the Fig. 8 are eligible for an ex-post Secondary Market Transaction and as the Availability Obligations and Penalties will be settled on its presence in the energy market, it will not be penalized for those hours. E.g. it gives room for DSR assets within a participating CMU to capture energy market opportunities out of their SLA hours if their features allows it, while at the same time capture an extra revenue via the Secondary Market.

By performing so, having a certainty on their Proven Availability in the energy market, no transfer of Penalties is expected. Such expectation should increase the related traded volume in the Secondary Market, leading to a liquidity improvement and a CRM overall cost decrease.

For those reasons,

> **Design Proposal #7:** **Hourly Transaction on non-SLA hours notification**
>
> All hourly Transactions transferring an obligation to an Energy Constrained CMU on its non-SLA hours can only be notified in ex-post. The Transaction Capacity on those hours is to be based on Proven Availability.

### 2.3.9 Transactions technical possibilities

As mentioned above, apart from the notification process, no Transactions platforms are foreseen in the Secondary Market development phase.

The Transactions have to comply with the 2.3. Requirements for their notifications and for the rest the modalities are not defined. It could either be traded among others by:

- Voice and contract
- OTC with brokers
- Exchanges platform
- Bulletin board
- …

The result should be the same towards Elia and the Contractual Counterparty at the notification under the condition that the subset of information is compliant with sections 2.3. and 2.4 requirements.

Further practical arrangements (communication channel and process) will be described in the Capacity Contract.

### 2.3.10 Strike price associated to a Secondary Market Transaction

The Strike Price that applies on the CMU taking over an obligation for its Payback Obligation (cf. Design Note Strike & Reference price) will be the latest Calibrated Strike Price applicable at the Transaction Date of the Transaction towards the Contractual Counterparty and ELIA.



*Figure 15: Strike price associated to a Secondary Market obligation transfer*

Under the light of section 1.3. considerations and objectives, determining the Strike Price in this manner facilitates feasibility and, more importantly, allows the uniformity at a moment in time of the Secondary Market conditions so that all technologies may pretend to acquire it at the same market conditions. Being aware that this requires a trade-off with parties potentially being able to 'optimize' to some extent Payback Obligations via Secondary Market Transactions, it is proposed to foster liquidity in the first place. The proposed solution indeed avoids imposing an "inherited" Strike Price from earlier deals and thereby requiring a full tracking of all deals to the initially Contracted Capacity, and thereby potentially requiring revealing individual, market-sensitive information.

Also, in case of third parties facilitating Secondary Market liquidity, they should have had incorporated such additional complexity by constructing product involving multiple

dimensions (i.e. Transaction Capacity, Transaction price (e.g. bilateral or by an Exchange) & Strike Price) for the same Transaction Period.

---

**Design Proposal #8:** **Strike price of Secondary Market Transaction**

The last published Strike Price will be applicable for Transactions in the Secondary Market when calculating the due amount of the Payback Obligation. The timestamp (Transaction Date) of Transaction notification as known by Elia will settle the Strike Price of a CMU for a Secondary Market Transaction.

---

## 2.3.11 Penalties in case of unavailability following a Secondary Market Transaction

For a Contracted Capacity, the Penalty is proportional to the Capacity Remuneration value. Doing so, everyone is proportionally subject to a similar Penalty, or stated otherwise, everyone has reached its Stop-Loss limit after the same number of 'failures'.

For the Secondary Market Transactions impacting the Obligated Capacity, as there is no Capacity Remuneration, there is no contractual value, hence a proportional penalty is not possible.

For the Penalties calculation on any Missing Capacity up to the Contracted Capacity, a Penalty applies as defined in the Availability Obligations and Penalties design note. On any additional Missing Capacity (Missing Capacity above the Contracted Capacity) or in case there is no Contracted Capacity for the Delivery Period, the "yearly contract value" (€/MW/year) will be substituted with a market-wide value.

Taking the assumption that no information related to the level of the Penalty of the Seller of Obligation CMU is to be shared with other Capacity Providers, this requires – at least for the Transaction Capacities resulting from a Secondary Market Transaction that a standardized Penalty is defined.

Multiple references are possible to determine the Penalty related to a Secondary Market Transaction amongst others: the maximal price used as Penalty for the Contracted Capacity for the Delivery Period; or the weighted average (volume based) price used for the Penalty of the Contracted Capacity for the Delivery Period; …

If the Penalty level in the Secondary Market Transaction was lower than the one the Capacity Provider has to pay, he would have an incentive "to trade away" his obligation. Such reasoning alone results in taking the highest Penalty from the Primary Market as then no one has an incentive to "trade away".

However, if the Penalty level in the Secondary Market Transaction was higher than the one the Capacity Provider normally has to pay, he would perceive the Secondary Market as costly because the Transaction Capacity proposed will be priced with a risk of a (higher) Penalty. This may influence the bidding behavior in the Primary Auction as the cost of relying on the Secondary Market rises which would be reflected in his Bid Price. Furthermore, he may also have an incentive to first accumulate Penalties at his lower

Primary Market Penalty level and only go to Secondary Market when 'escalation' measures start applying (cf. Availability Obligations and Penalties Design Note).

The above mentioned issue regarding a treatment difference for the Penalty is particularly relevant for ex ante Transactions on the Secondary Market, for ex post Transactions this is not an issue as the risk of Penalty does not exist (it is expected from Capacity Providers to create ex-post Transactions related to an Obligated Capacity for which you have an availability certainty at the AMT moments).

It is proposed as a trade-off that the Penalties on a CMU related to Transactions Capacities of the Secondary Market will refer to a calculation using a market-wide parameter expressed in €/MW/year, defined as the Average Capacity Remuneration for the Delivery Period and equals to the sum of all Capacity Remuneration for the Delivery Period divided by the sum of the Contracted Capacities for the same Delivery Period. Meaning that all Penalties related to the Missing Capacity above the Contracted Capacity will be settled on the same Average Capacity Remuneration price on the Delivery Period.

It is assumed that a split in a CMU Obligated Capacity partly participating in Primary Market and partly in Secondary Market regarding its Penalties calculation will occur, from the one hand, the Contracted Capacity and their intrinsic level of Penalty related to the Capacity Remuneration and from the other hand, the Transaction Capacity its Penalty market reference, considered as weighted average (volume based) of the CRM Contracted Capacities for the delivery period.

---

**Design Proposal #9:** **Penalties for the Secondary Market Transactions**

For the CMU Penalties calculation, on any Missing Capacity up to the Contracted Capacity, a Penalty applies as defined in the Availability Obligations and Penalties design note. On any additional Missing Capacity (the Missing Capacity above the Contracted Capacity) or in case there is no Contracted Capacity for the Delivery Period, the yearly contract value will be substituted with a market-wide value.

The Penalties on a CMU related to Transactions Capacities of the Secondary Market will refer to a calculation using a market-wide parameter expressed in €/MW/year, defined as the Average Capacity Remuneration for the Delivery Period and equals to the sum of all Capacity Remuneration for the Delivery Period divided by the sum of the Contracted Capacities for the same Delivery Period. Meaning that all Penalties related to the Missing Capacity above the Contracted Capacity will be settled on the same Average Capacity Remuneration price on the Delivery Period.

---

### 2.3.12 Contract escalation in case of recurring non-delivery on the obligations following a Secondary Market obligation

Like for any Availability Obligation for Contracted Capacity after the Auction, also for the Availability Obligation following a Secondary Market Transaction, the necessary penalizing actions should be in place to ensure that all Capacity Providers have sufficient incentives to deliver on their obligations. Penalties related to unavailability are the first line of defense. However, in case of recurring and/or severe underperformance, it should

be possible to rely on more impacting sanctions and to escalate this.

Compared to Contracted Capacity following an Auction for which in any case a collateral is implicitly present by means of the potential to withhold the Capacity Remuneration, for CMU's carrying obligations following a Secondary Market Transaction, such Capacity Remuneration is not available to base incentives on. Alternative mechanisms should be explored.

Whereas a bank guarantee could fulfill a similar role as collateral like withholding the Capacity Remuneration, a bank guarantee – even if proportional to the participating volume (MW) – could still be perceived as a barrier for entry, particularly for smaller players whose access to financial means could be more challenging. Therefore, as a general principle, for Secondary Market Transactions an approach based on contract escalation measures has been opted for. This means that in case of underperformance, contractual parameters or the right to act on the Secondary Market could be impacted. This means, however, also that good performing CMU's have little to fear and still have easier access to the CRM than via a bank guarantee.

Related to this matter, three types of CMUs exist differentiated by their participation in the Primary Market solely, the Secondary Market solely or their participation in both Markets.

| TYPE | CMU with Primary Obligation only | CMU with Secondary Market Obligation only | CMU with Primary & Secondary Market obligations |
|---|---|---|---|
| Primary Market Remuneration as collateral | Yes (cf. stop-loss limit) | None, but… | Partial, but… |

*Figure 16: Status of the collateral of a Primary Market*

For the first type, i.e. those CMU's with only having contractual obligations following their selection in the Primary Market - a CMU netting of the Capacity Remuneration and the Penalties & Payback Obligations has been considered sufficient as underlying 'collateral' to base incentives upon. Note that for the Availability Penalties and the Payback Obligation, a Stop-Loss limit equivalent to the yearly contractual value applies for each.

For the second (i.e. CMU's with only having contractual obligations following Transactions on Secondary Market) and third (i.e. CMUs with contractual obligations following their selection in the Primary Market Auction and following Transactions on Secondary Market) types, there is none or less collateral compared to the first type and a step further contract escalation is proposed according to the following principles.

**Type 1: CMU's with only having contractual obligations following their selection in the primary market Auction**

In the first type the standard Availability Obligations and Penalties and their escalation as proposed in the Design Note on Availability Obligations and Penalties applies.

*Figure 17: CRM Remuneration as collateral of a Primary Market only CMU*

Like for all CMU's, in case of underperformances, only penalties as foreseen. However, after 3 consecutive underperformances of more than 20% of the Obligated Capacity, a first escalation occurs with a downwards of the remuneration to the delivered Capacity level (use of the collateral) while at the same time the Availability Obligations, Penalties & Payback Obligation remain on the Contracted Capacity level. If the CMU Capacity Provider fails to recover the Contracted Capacity level via its intrinsic portfolio modification or via a Secondary Market Transaction, after 2 Delivery Periods (years) the Contract Termination clause is activated.

**Type 2: CMUs with only having contractual obligations following Transactions on Secondary Market**

In the second type, the standard Availability Obligations and Penalties escalation is considered as insufficient as there is no Capacity Remuneration available that could be withheld.



*Figure 18: Escalation as compensation to a lack of collateral for Secondary Market only CMU*

As for CMUs of Type 1, in case of underperformances, only penalties as foreseen.

However, after 3 consecutive underperformances of more than 20% of the Obligated Capacity, a first escalation occurs with a suspension of the CMU for further Transactions to buy obligations in the Secondary Market (first protection to compensate the lack of collateral) while at the same time the Availability Obligations, Penalties & Payback Obligation remain at the Contracted Capacity level.

If the CMU Capacity Provider fails to recover the Contracted Capacity level via its intrinsic portfolio modification or via a Secondary Market Transaction, after 20 working days a termination clause is activated with the specifics that the Capacity Provider remains responsible for the already contracted obligations (Obligated Capacities) prior to the

clause activation and with a possible suspension of further Transactions for the Capacity Provider (or from other subsidiaries of the mother company of the Capacity Provider) on the remainder of the current Delivery Period, the next Delivery Period and the next upcoming Y-4 and Y-1 Auctions. Only after those, the Capacity Provider can participate again (if successfully prequalified).

**Type 3: CMUs with contractual obligations following their selection in the Primary Market Auction *and* following Transactions on Secondary Market**

In the third type, the standard Availability Obligations and Penalties escalation are considered as partially sufficient as there is some Capacity Remuneration in play that could be withheld, but proportionally (potentially significantly) less compared to the situation for Type 1.
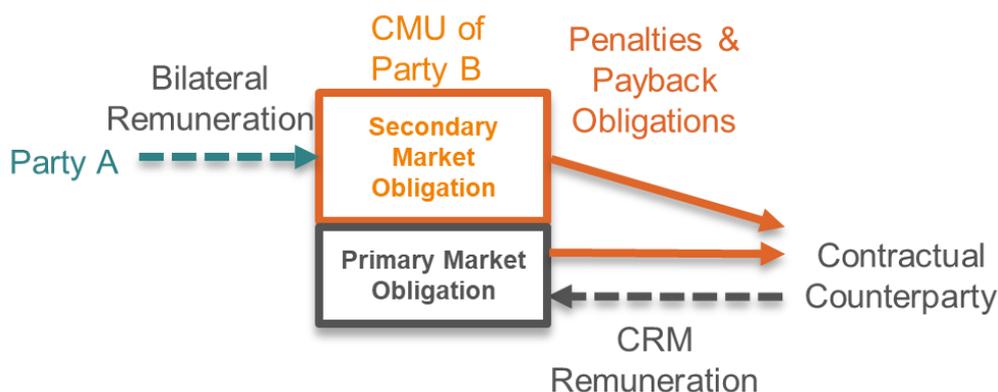


*Figure 19: Escalation as compensation to a lack of collateral for Primary & Secondary Market CMU*

As for CMUs of Type 1, in case of underperformances, only Penalties as foreseen.

However, after 3 consecutive underperformances of more than 20% of the Obligated Capacity, a first escalation occurs with a suspension of the CMU for further Transactions to buy obligations in the Secondary Market (first protection to compensate the lack of collateral) while at the same time the Availability Obligations, Penalties & Payback Obligation remain at the Contracted Capacity level. On top, a downwards of the remuneration equivalent to the undelivered capacity level (use of the collateral) will be applied. This is justified as the level of the collateral could be very limited (e.g. 1MW in the Primary Market having a Capacity Remuneration, and 100MW in the Secondary Market).

If the CMU capacity provider fails to recover the Contracted Capacity level via its intrinsic portfolio modification or via a Secondary Market Transaction, after 20 Working days the Termination clause is activated with the specifics that the Capacity Provider remains responsible for the already contracted obligations (Obligated Capacities) prior to the clause activation and that a possible suspension of further Transactions for the Capacity Provider (or from other subsidiaries of the mother company) on the remainder of the current Delivery Period, the next Delivery Period and the next upcoming Y-4 and Y-1 Auctions. Only after those, the Capacity Provider can participate again (if successfully prequalified).

**Design Proposal #10: Contract escalation for the Secondary Market Transactions**

After 3 consecutive underperformances of more than 20% of the Obligated Capacity, a first escalation occurs with a suspension of the CMU for further Transactions to buy obligations in the Secondary Market and if applicable a downwards of the Capacity Remuneration equivalent to the undelivered capacity level.

If the Capacity Provider fails to recover the Contracted Capacity via its intrinsic portfolio modification or via a Secondary Market Transaction, after 20 Working days the termination clause is activated with the specifics that the Capacity Provider remains responsible for the already contracted obligations (Obligated Capacities) prior to the clause activation and that a possible suspension of further Transactions for the Capacity Provider (or from other subsidiaries of the mother company) on the remainder of the current Delivery Period, the next Delivery Period and the next upcoming Y-4 and Y-1 Auctions. Only after those, the Capacity Provider can participate again.

## 2.4 Secondary Market Eligible Volumes

The purpose of the Section is to describe the eligibility regarding the Transaction Capacity. It starts in 2.4.1 with the description of the different sources of Transaction Capacity possibilities, to introduce in 2.4.2 with the generic formula of the maximal authorized Transaction Capacity between two non-Energy Constrained CMUs (Transaction of type 1).

In regards to their specifics features, the section 2.4.3 will describe the different cases related the definition of the maximal authorized Transaction Capacity of Transactions involving at least one Energy Constrained CMU(s).

### 2.4.1 Sources for liquidity in the Secondary Market

As introduced in section 1.3.2, there are generally four sources of liquidity for the Secondary Market:

- Extra available capacity of the contracted CMUs in the Primary Market for the same Delivery Period (i.e. the volume equivalent to (1-Derating Factor) x Reference Power)
- Prequalified CMUs having participated in the Primary Market Auctions, but that were not selected and contracted (as they were not in-the-money)
- Newly prequalified capacities that haven't participated in the Primary Market
- Opt-out Volumes that have not yet been accounted for in the Auction volume (i.e. for which no dummy bid hasn't been introduced in the Auctions for the considered Delivery Period). Note that other Opt-out Volumes cannot be accommodated in the Secondary Market as this would imply a potential double-counting of the same capacity (i.e. first by lowering the volume procured via the primary market Auction and secondly via allowing it take obligations in the Secondary Market).

**Extra Available Capacity of the contracted CMUs in the Primary Market Auctions for the same Delivery Period**

A first source of liquidity of the Secondary Market is the extra tradeable capacity of the selected CMUs in the Primary Market Auctions having an obligation for the concerned Delivery Period.

As for these CMUs, their Contracted Capacity is lower than the Reference Power due to the application of a Derating Factor, it is possible to find extra volumes on some specific periods in time in order to take over an 'extra' obligation. This volumes equals Reference Power x (1-Derating Factor).

For instance, in case of a Non-Energy Constrained CMU such as a thermal unit, when the installation is fully available for the energy market, its entire Nominal Reference Power is available, incl. the volume above the Contracted Capacity.
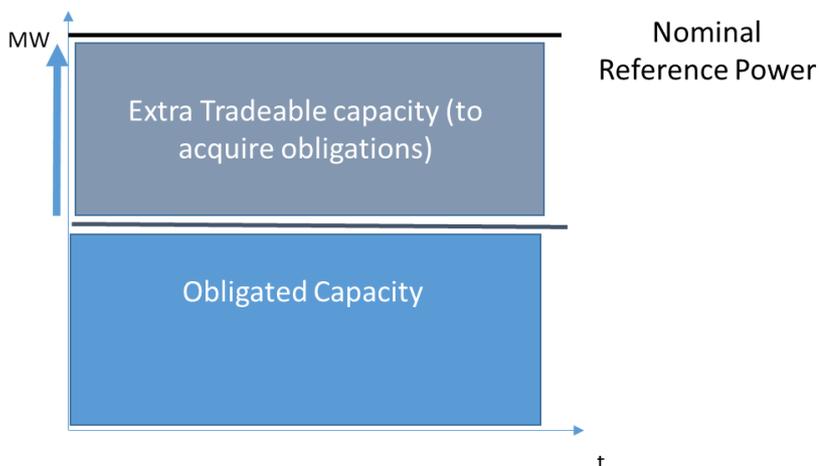
*Figure 20: Extra Tradeable capacity of a Non-Energy Constrained CMU*

**Prequalified CMUs having participated in the primary market Auction, but that were not awarded a Capacity Contract**

Another source of liquidity is the participation in the Secondary Market of any volumes which did participate in the Primary Market but that haven't been selected.

In the following Auction example, the CMU E is existing (or would nevertheless enter the market prior to the Delivery Period) and hasn't been contracted in the Auction for the Delivery Period. This CMU E could however participate in the Secondary Market.
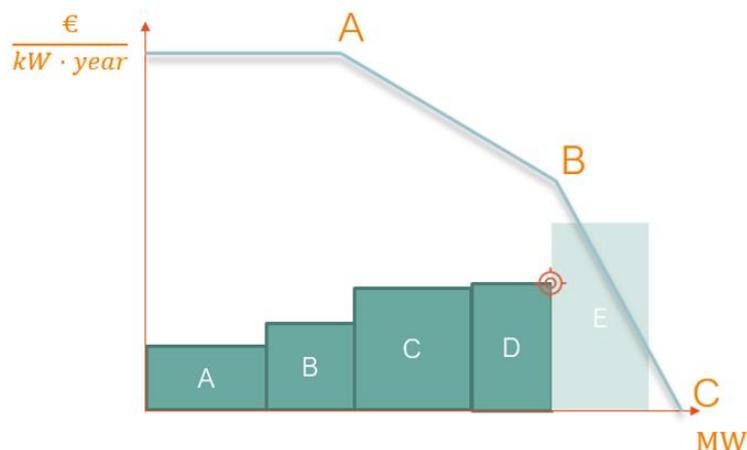


*Figure 21: Unsuccessful CMU E from the primary market Auction*

**Newly prequalified capacities that haven't participated in the Primary Market Auction**

Another source of liquidity concerns any newly prequalified capacities. Those capacities weren't participating to the Primary Market (they were for instance not yet sufficiently developed at that time). They also have to be prequalified and monitored at the same level as all the selected Auction CMUs.

**Opt-out Volumes that have not yet been accounted for in the Auction volume**

A last source of liquidity concerns CMUs having opted for an Opt-Out (not 'fast track') for the concerned Delivery Period. Such Opt-out Volumes are considered to be possibly integrated for the part of their asset that hasn't been considered in the Primary Market Auction dummy Transactions (according to Design Note Auction Algorithm). Note that other Opt-out Volumes cannot be accommodated in the Secondary Market as this would imply a potential double-counting of the same capacity (i.e. first by lowering the volume procured via the Auction and secondly via allowing it to take obligations in the Secondary Market).
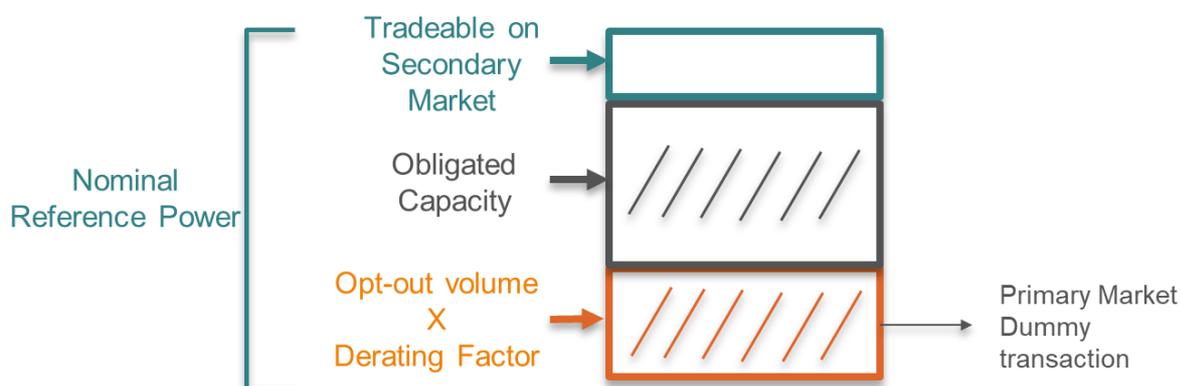


*Figure 22: Opt-Out participation in the Secondary Market*
*(according to the Opt-Out design note "IN" status)*

---

**Design Proposal #11: Types of CMU capacity authorized to participate to the Secondary Market**

All duly prequalified CMU for the Delivery Period may participate to the Secondary Market. For the CMU in pre-delivery monitoring, the same process will apply.

The Fast Track Prequalification Process cannot be considered sufficient to prequalify for the Secondary Market.

The Secondary Market allows for those CMUs to acquire new obligations either via:

1-The extra tradeable capacity of the assets delivering in the CRM on the Delivery Period

2-The prequalified CMUs having participated in the Auction on the Primary Market and not selected on the period

3-The newly prequalified CMUs that weren't participating in any Auction previously, not even at the mandatory prequalification phase

4- The share of Opt-Out Volume that has not resulted in a reduction of the CRM Required Volume (dummy bid), is allowed to participate in the Secondary Market for the Delivery Period to which the Opt-out notification relates.

---

## 2.4.2 General rule on the determination of the volume eligible for a Secondary Market Transaction

As previously mentioned in section 2.2, all Transactions will be executed in MW on the Transaction Period. The Capacity Providers with prequalified CMUs have the possibility of Transactions:

- Either to sell their obligation up to their total Obligated Capacity acquired in the Primary Market or Secondary Market
- Either to buy/acquire extra obligations up to certain remaining amount

Nevertheless, for the market parties' comprehension and calculation of Secondary Market potential; from the product perspective, a distinction has to be made between a Transaction between non-Energy Constrained CMUs and a Transaction involving at least one Energy Constrained CMUs.

**The Non-Energy Constrained Assets that may trade their extra available capacity or cover their missing capacity**
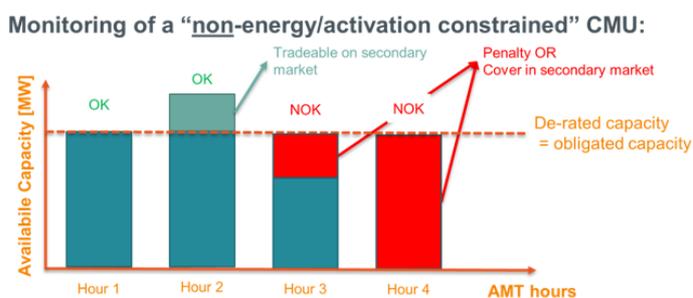


*Figure 23: Extra tradeable capacity or missing capacity of a non-Energy Constrained CMU*

To take over new obligations in the Secondary Market for the Transaction Period, the non-Energy Constrained CMU of a Buyer of an Obligation has a maximal authorized Transaction Capacity equals to:

*MAX(0 ;Nominal Reference Power (CMU,t) – Obligated Capacity (CMU, t) – Opt-Out Volume(CMU, t) * Derating Factor (CMU))*

Where *Opt-Out volume (CMU, t)* is the volume considered as IN, and after multiplied by the Derating Factor is offered as a dummy bid in the Auction according to Auction Design Note.

To be released of an obligation in the Secondary Market for the Transaction Period, the non-Energy Constrained CMU of a Seller of an Obligation has a maximal authorized

Transaction Capacity equals to:

*max(0 ;Obligated Capacity (CMU, t))*

For obvious reasons, this prevents to sell more than what has been contracted in the previous Primary and Secondary Market Transactions.

For the sake of clarity, *Obligated Capacity (CMU, t)* is incorporating the previous Secondary Market Transactions for the same period so that the formula could be used at any time to measure the capabilities of Transactions.

This above reasoning for non-energy constraints is not different for Energy Constrained CMUs except that on SLA hours the consideration of the Opt-Out Volume is related to the SLA level, so without application of the Derating Factor (cf. 2.4.3) and that it may trade only in ex-post their hourly available volume on the non-SLA hours (cf. 2.3.8 and 2.4.3).



**Energy/activation constraints through numerical example:**

- 50 MW capacity guaranteed available, energy and activation constraints notwithstanding
- 2 hours activation constraint
- 2 activations per week constraint

Assumed de-rating of 50% _because of these constraints and no other factors_
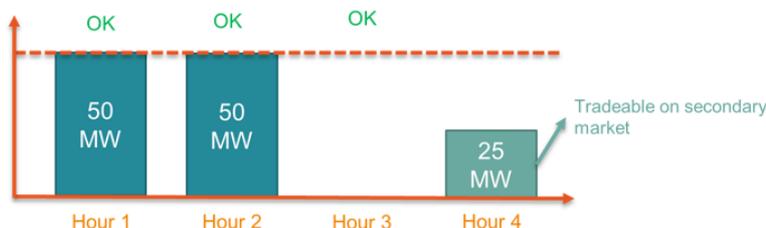
- Full capacity demanded at all AMT hours, except when energy/activation constraints are met
- Expected to not buy or sell on secondary market
- Remunerated for de-rated volume, *i.e. 25 MW*

*Figure 24: Extra tradeable capacity of an Energy constrained CMU*

The previous CMU maximal authorized volume of Transaction to take over obligation is becoming (will be more specified in 2.4.3. under the light of its SLA specifics):

*MAX(0 ;Nominal Reference Power (CMU,t) – Obligated Capacity (CMU, t) – Opt-Out Volume(CMU, t))*

As the previous CMU the maximal authorized volume of Transaction to be released of its obligations:

*MAX(0 ;P obligated (CMU, t))*


There are the four possible types of Secondary Market Transactions:

For the first Type (1) (Non-Energy Constrained ⇔Non-Energy Constrained) Eligible Volumes are already described in Section 2.4.2. as the Transaction occurs between two

Non-Energy Constrained CMUs, the general formulas remain valid without further specifications.

The three other types require further specifications in regards to the SLA-related constraints, it will be described in the 2.4.3.:

The four types are summarized in:

| Authorized Transactions | SELLER OF ITS OBLIGATION | BUYER OF THE OBLIGATION |
|---|---|---|
| **Type 1** | Non-Energy Constrained | Non-Energy Constrained |
| **Type 2** | Energy Constrained | Non- Energy Constrained |
| **Type 3** | Non-Energy Constrained | Energy Constrained |
| **Type 4** | Energy Constrained | Energy Constrained |

*Figure 25: Authorized Transaction types*

## 2.4.3 Specific rules on the Eligible Volume for a Secondary Market Transaction for Energy-constrained CMUs

### 2.4.3.1 The Energy-Constrained Transactions during SLA hours

The present chapter 2.4.3.1. is covering the capabilities of an Energy Constrained CMU in a framework of a Secondary Market Transactions on SLA hours.

The prequalified CMUs have the possibility of engaging into Secondary Market Transactions:

- Either to sell their obligation up to their Obligated Capacity acquired in a Primary Market Auction or a Secondary Market Transaction
- Either to buy/acquire extra obligations on the same CMU

The key change compared to the rules described above for Non-Energy Constrained Assets is that Transactions may occur between an Energy-Constrained CMU and another CMU, meaning the Transaction types 2, 3 and 4. It is then important to take into account properly the Derating Factor (specifically resulting from the limitation of the energy constraint) for a conversion in order to get back to a Obligated Capacity which is allowing such Transaction to occur within the standard formula exposed in 2.4.2.

| Authorized Transactions | SELLER OF ITS OBLIGATION | BUYER OF THE OBLIGATION |
|---|---|---|
| **Type 2** | Energy Constrained | Non- Energy Constrained |
| **Type 3** | Non-Energy Constrained | Energy Constrained |
| **Type 4** | Energy Constrained | Energy Constrained |

*Figure 26: Energy constrained Transaction types*

In section 2.4.3.1.1 the focus is on type 2. Section 2.4.3.1.2 deals with type 3 and in section 2.4.3.1.3 type 4 is covered.

### 2.4.3.1.1 The type 2 specifics: Energy Constrained as seller, non-Energy Constrained as buyer

For a Transaction with an Energy-Constrained CMU as Seller of an Obligation, the Transaction Capacity is deducted after application of the Derating Factor on the desired decrease of its Obligated Capacity.

This will be applied using the latest published Derating Factors for the concerned SLA.

Firstly, the Transaction Capacity (e.g. 2MW) is calculated based on the desired decrease of the Obligated Capacity (e.g.8MW) multiplied by the Derating Factor (e.g. 0,25) in order to be transferred. Secondly, the Transaction Capacity (e.g. 2MW) transferred is simply added to the non-Energy Constrained CMU Obligated Capacity (5MW becoming 7MW).
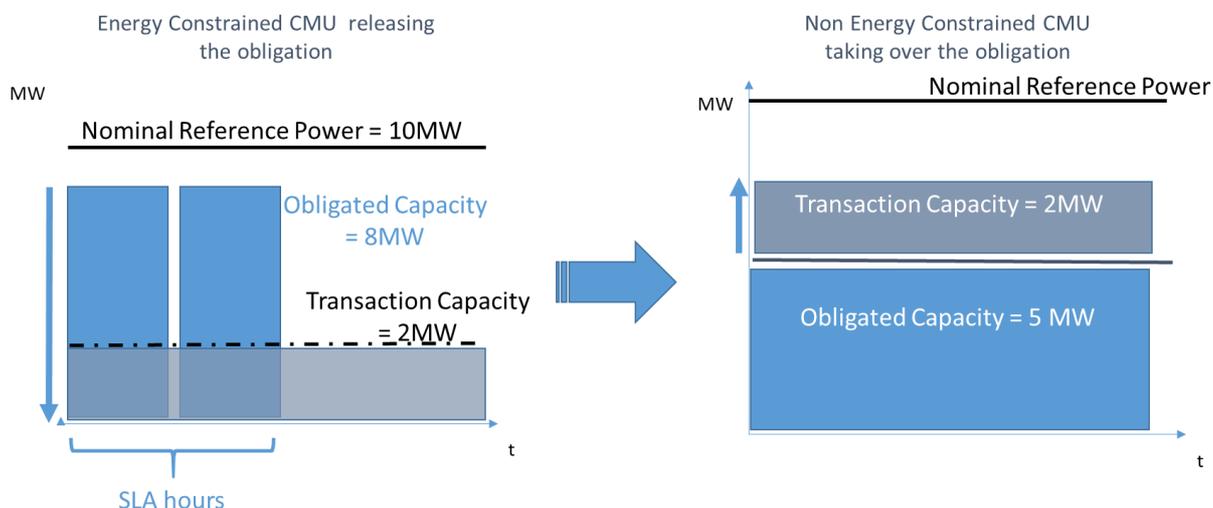


*Figure 27: Type 2: Energy Constrained CMU Selling its obligation to a non-Energy constrained CMU*

### 2.4.3.1.2 The type 3 specifics: non-Energy Constrained as Seller, Energy Constrained as Buyer

Compared to Type 2, Type 3 doesn't have to convert with a Derating Factor from the Seller perspective its decrease of Obligated Capacity to calculate the Transaction Capacity.

But as the Buyer of the obligation has energy constraints covered via an SLA, he may take over an extra Transaction Capacity only if that one is converted in a (higher) Obligated Capacity using the Derating Factor according to its SLA and according to the Availability Obligations and Penalties conversion for an Energy Constrained CMU.

Firstly, Transaction Capacity from the Seller is defined (e.g. 2MW). Secondly, the Transaction Capacity transferred has to be converted into an increase of the Obligated Capacity, such increase is considered as the Transaction Capacity (e.g. 2MW) divided by the Derating Factor (e.g. 0,6666), giving an increase of the Obligated (e.g. from 5MW

to 8MW as 5MW + (2MW/0,6666)).

Increase of the Obligated Capacity of the Buyer of the obligation is equal to its previous Obligated Capacity plus [Derated MW obligation / divided by (Derating Factor(SLA of the CMU))].
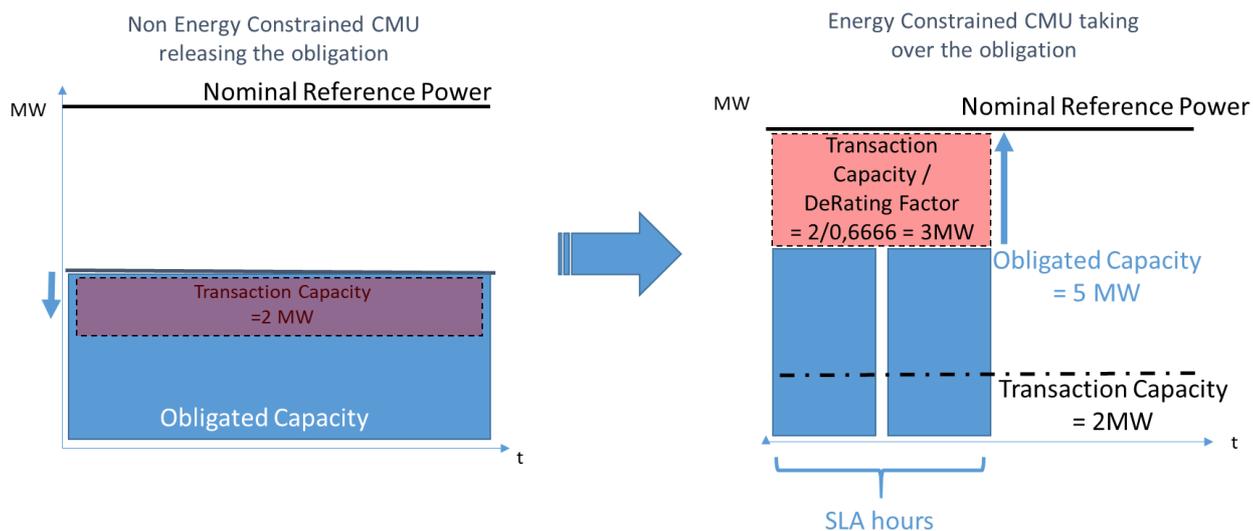


*Figure 28: Type 3: Non-Energy Constrained CMU Selling its obligation to an Energy constrained CMU*

### 2.4.3.1.3 The type 4 specifics: Energy Constrained as seller, Energy Constrained as buyer

As the buyer and the seller may have different SLAs, Type 4 is a combination of both constrained of Type 2 and Type 3.

For a Transaction with an Energy-Constrained CMU as Seller of an Obligation, the Transaction Capacity is deducted after application of the Derating Factor on the desired decrease of its Obligated Capacity.

This will be applied using the latest published Derating Factors for the CMU SLA.

Firstly, the Transaction Capacity (e.g. 1MW) is calculated based on the desired decrease of the Obligated Capacity (e.g. 1,5MW) multiplied by the Derating Factor (e.g. 0,6666) in order to be transferred (e.g. 1,5MW on which is applied a Derating Factor of 0,6666 ➔ 1MW).

Secondly, the Transaction Capacity (e.g. 1MW) transferred has to be converted into an increase of the Obligated Capacity, such increase is considered as the Transaction Capacity divided by the Derating Factor (e.g. 1MW divided by 0,5 ➔ increase of 2MW).

Increase of the Obligated Capacity of Buyer of the obligation is equal to its previous Obligated Capacity plus [Derated MW obligation / divided by (Derating Factor (SLA of the CMU))] (e.g. 5MW + (1MW / 0,5) = 7MW).
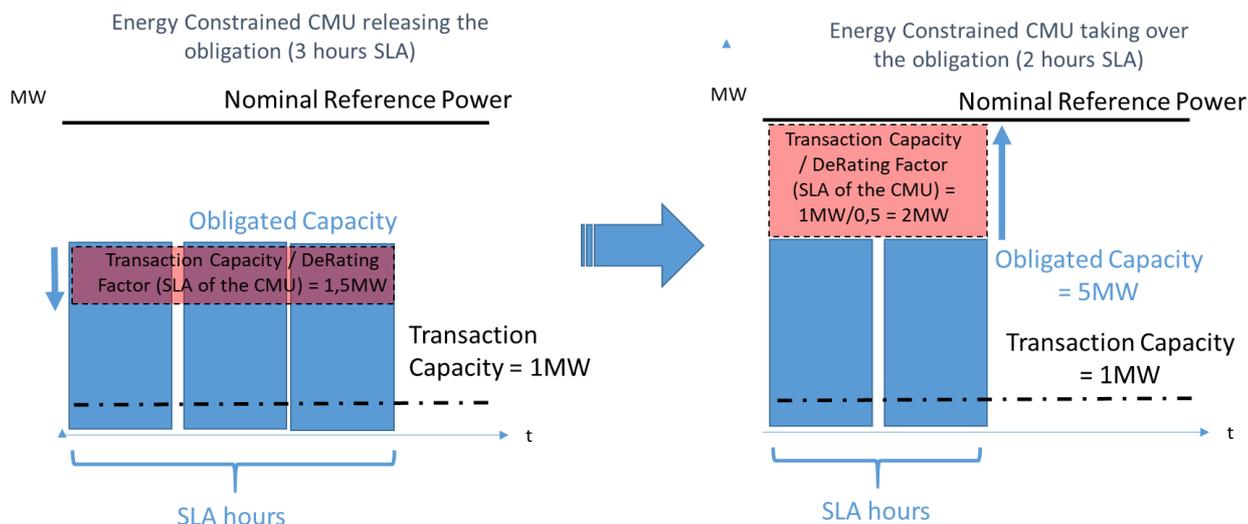
Figure 29: Type 4: Energy Constrained CMU Selling its obligation to an Energy constrained CMU

#### 2.4.3.1.4 The generic rule for non-energy constraints and SLA hours of the energy constrained

**Design Proposal #12:** Transaction Capacity **eligibility for non-Energy Constrained and Energy Constrained on their SLA hours**

To take over new obligations in the Secondary Market for the Transaction Period, the non-Energy Constrained CMU of a Buyer of an Obligation has a maximal authorized Transaction Capacity equals to:

*MAX(0 ;Nominal Reference Power (CMU,t) – Obligated Capacity (CMU, t) – Opt-Out Volume(CMU, t) \* Derating Factor (CMU))*

Where *Opt-Out volume (CMU, t)* is the volume considered as IN, and after multiplied by the Derating Factor is offered as a dummy bid in the Auction according to Auction Design Note.

To be released of an obligation in the Secondary Market for the Transaction Period, the non-Energy Constrained CMU of a Seller of an Obligation has a maximal authorized Transaction Capacity equals to:

*MAX(0 ;Obligated Capacity (CMU, t))*

To take over new obligations in the Secondary Market for the Transaction Period, the Energy Constrained CMU of a Buyer of an Obligation has a maximal authorized Transaction Capacity equals to:

*MAX(0 ;Nominal Reference Power (CMU,t) – Obligated Capacity (CMU, t) – Opt-Out Volume)))*

Where *Opt-Out volume (CMU, t)* is the volume considered as IN, and after multiplied by the Derating Factor is offered as a dummy bid in the Auction according to Auction Design Note.

To be released of an obligation in the Secondary Market for the Transaction Period, the Energy Constrained CMU of a Seller of an Obligation has a maximal authorized Transaction Capacity equals to:

max(0 ;Obligated Capacity (CMU, t))

For the Energy Constrained CMUs as Buyer of an Obligation, the Obligated Capacity will be updated by adding the Transaction Capacity divided by the latest publication of the Derating Factor for its SLA Category.

For the Energy Constrained CMUs as Seller of an Obligation, the Obligated Capacity will be updated by deducting the Transaction Capacity divided by the latest publication of the Derating Factor for its SLA Category.

For the non-Energy Constrained CMUs as Buyer of an Obligation, the Obligated Capacity will be updated by adding the Transaction Capacity.

For the non-Energy Constrained CMUs as Seller of an Obligation, the Obligated Capacity will be updated by deducting the Transaction Capacity.

### 2.4.3.2 The Energy Constrained Transactions on non-SLA hours

**Design Proposal #13: Transaction Capacity eligibility for non-Energy constrained and Energy constrained on their non-SLA hours**

The same applies as Design proposal 9 except that the Transactions are mandatory traded in ex-post and with a Transaction Period granularity of hours.

## 2.5 Timing of the solution deployment

As mentioned by the CRM Law, the Secondary Market will have to be created no later than one year before the start of the first Delivery Period. As the first Delivery Period intends to start on 1st November 2025, the Secondary Market should be open as of no later than 1st November 2024.

**Design Proposal #14: deployment timing of the Secondary Market**

The Secondary Market entry in force will occur no later than one year before the first CRM Delivery Period.

ELIA and the Contractual Counterparty will be in best effort approach to deliver upfront.