Consumer Centric Market Design note

December 2022

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CONTEXT

The next decade will be characterized by a fast increasing share of renewables and a massive electrification of industrial and residential appliances, all driven by the energy transition and accelerated by the current energy crisis.

Since 2020, ELIA is calling for an upgraded market design, the Consumer-Centric Market Design ("CCMD"), which addresses this major challenge in terms of integration into the system. The ELIA Adequacy Flex Study 2021 clearly identifies increasing needs for flexibility to cope with intermittency of renewable energy sources and to manage the electrification of many residential and industrial appliances.

ELIA is convinced that the keys to unleash further flexibility consist in:

- giving an active role to the consumer, at all voltage levels while keeping its participation seamless;
- providing easy-access to digital platforms to support Energy Service Providers in the development of (new) energy services for the consumer.

The Consumer-Centric Market Design combines two main features:

- The first pillar is to allow a **decentralized exchange of energy**, on and behind the head-meter, between the consumer and any other market party, allowing him to benefit from dedicated energy as a service per appliance;
- The second pillar is **the evolution to a "Real-Time Price"**. ELIA is engaged in a major reflection on the evolution of the imbalance price, that makes it easily interpreted by the consumer and/or its Energy Service Provider and facilitate the valorization of flexible assets in accordance with the real-time system needs.

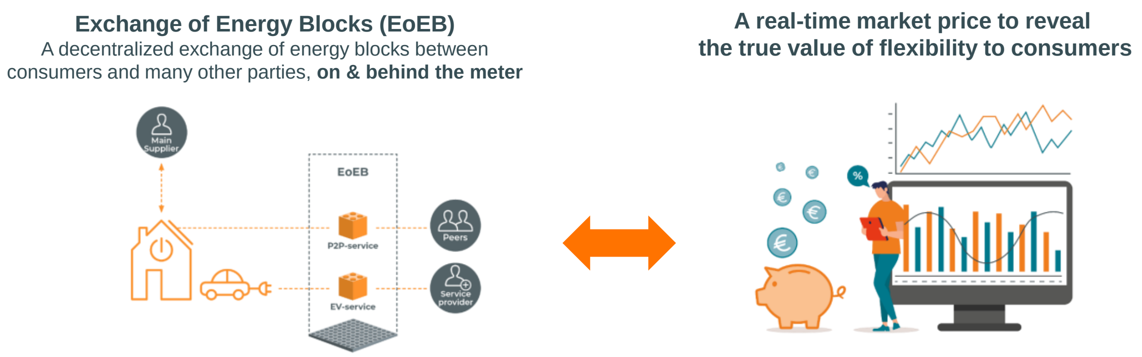


Figure 1 – Two pillars of Consumer Centric Market Design

In order to ensure a good functioning market, even in the upgraded market design, it is key that impact of active consumer participation (through activation of flexibility) on the suppliers and the associated BRPs is correctly allocated and neutralized for the concerned market parties.

In this way, ELIA first investigated a possible extension of the current Transfer of Energy (ToE) mechanism to cover participation of numerous flexible assets in all electricity markets (Day-Ahead, Intraday, Balancing) and came to the conclusion that it is **hardly feasible**. Taking into account the increasing number of flexible assets that could participate to services in electricity and balancing markets in the near future and their connection level (most of them will be located at residential level), ELIA came to the conclusion that **the current correction mechanism should evolve from an aggregated to an individual correction, supported by the model of energy transactions**. Such design evolution lifts most constraints identified for the Transfer of Energy (e.g. agreement for settlement price), constitutes a **unique solution** for both balancing and electricity markets while maintaining its core objective to neutralize the impact for the BRP/Supplier responsible at the Access Point.

STRUCTURE OF THIS DOCUMENT

This CCMD design note focuses on two dimensions:

1. The **design evolutions related to an individual correction** based on energy transactions**;**

2. The concrete application of individual correction principle to three different services:

   - ✓ **Explicit flexibility**: participation to the DA/ID markets and to balancing services with an independent Flexibility Service Provider (FSP)
   - ✓ **Supply split**: appointment of multiple suppliers/BRPs behind the access point
   - ✓ **Energy communities (energy sharing)**: taking part in an energy community with the objective to share produced energy within its members.

To do so, it is structured around 5 sections. **Section 1** describes the three services in scope of this design note while **section 2** lists all the design assumptions followed by ELIA. These assumptions should always be kept in mind when reading this document as it often justifies the design choices.

Section 3 comes back on the functioning of the current correction mechanism (Transfer of Energy). This is essential for the reader to clearly understand how today's process is implemented in order to grasp the motivations for evolving towards a mechanism based on individual correction (described in section 4). **Section 4** highlights the limitations of the current Transfer of Energy and introduces the notions of individual correction and energy transactions.

Finally, **section 5** details the end to end process for the three services in scope of this design note: explicit flexibility, supply split and energy communities (energy sharing). This end to end process consists of 5 steps. Some of these steps are specific to each service and are highlighted as such in the document, other steps are generic and applicable independent of the service. This section 5 also contains an overview of the communication exchanges between a system operator and market parties.

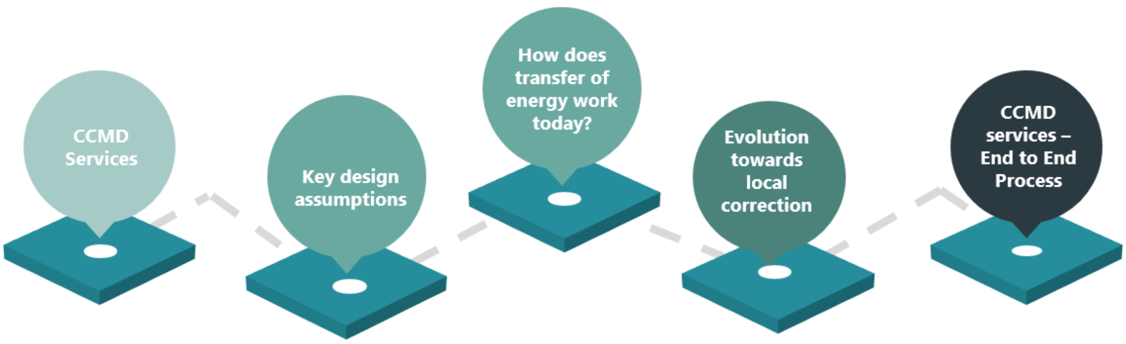


Figure 2 – Structure of the CCMD design note

1 CCMD services

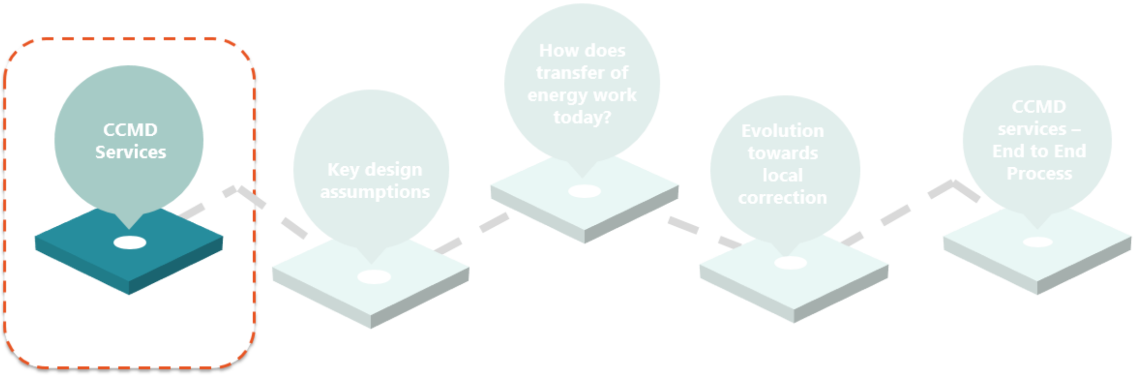


Figure 3 – Structure of the CCMD design note

1.1 CCMD services

The terminology 'CCMD services' used in this document refers to the possibilities offered to an Energy Service Provider to valorize its flexibility, with the system operator playing a role of facilitator.

Under CCMD, consumers will be able to benefit from a wide set of **new commercial energy services**. To start with, this market design currently proposed for consultation with market parties concerns three different categories: explicit flexibility, supply split and energy communities (with focus on the activity "energy sharing").

This selection of services is based on one hand on the European and national legislation and on the other hand on ELIA's understanding of market parties' priorities and assessment of behind the meter flexibility potential. It will be further extended in 2023 (see section 6) to consider additional possibilities, such as peer to peer exchanges[1].

The key design features of each of these 3 services that constitute the backbone of this document have already been presented to market parties in Working Groups CCMD between May and September 2022.

[1] Based on current CCMD proposal, a peer to peer exchange is already possible today through the Energy Community service, with the creation of an energy community consisting of two members. However, ELIA is aware that this may generate administrative burden and should therefore be improved in the coming months.

Figure 4 – The 3 services in scope of Consumer Centric Market Design note

1.2 Explicit flexibility

The service "explicit flexibility" (hereafter "flexibility") is defined for the purpose of this design note as a deviation from the consumption/injection pattern of a given asset triggered by an explicit request of activation by ELIA (balancing market) or by the FSP and his associated BRP which for example sold the energy on the wholesale market. The service may be provided by flexibility located behind the head meter. An example is provided in the figure below.

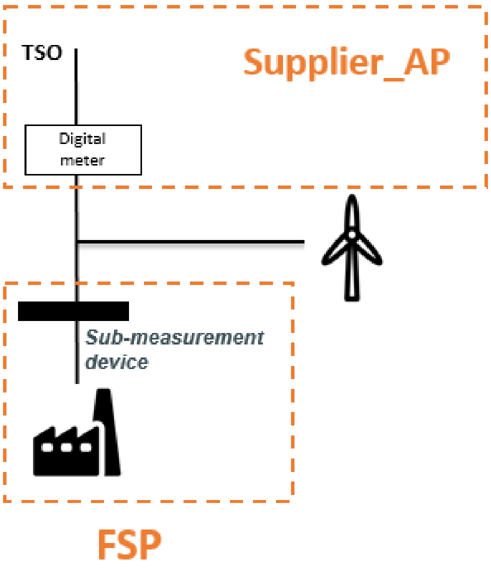


Figure 5 – Illustration of a CCMD Flexibility service

In this example, flexibility is provided by the FSP to ELIA to deliver the mFRR service. Such flexibility comes from the Consumer's industrial site and can be measured at the Delivery Point level through a certified measurement device. The Flexibility Service Provider differs from the Supplier at the Access Point (Supplier_AP). Each actor has its own BRP.

1.3 Supply split

The service "supply split[2]" offers the possibility for a Consumer to appoint a separate Supplier for a specific asset (or series of assets) behind the same Access Point (i.e. main meter).

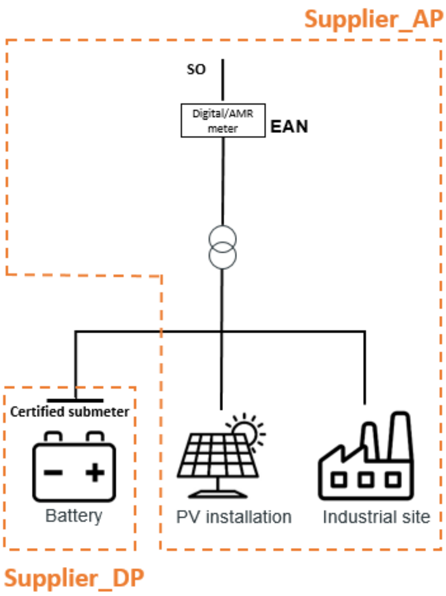


Figure 6 – Illustration of the supply split service

In this example, a Supplier (Supplier_AP) is initially responsible for the whole installation of an industrial client. This installation consists of a battery, PV panels and consumption for his industrial process. The Consumer decides to appoint another supplier (Supplier_DP) that will be responsible for the battery. Once the supply split is registered, Supplier_DP becomes responsible **for the entire** offtake/injection of the battery while Supplier_AP remains responsible for the rest of the site.

1.4 Energy communities – Energy sharing

An Energy Community is defined in the European legislation as *a legal entity that, in accordance with the applicable national law, is based on voluntary and open participation, effectively controlled by shareholders or members who are natural persons, local authorities, including municipalities, or small enterprises, and micro-enterprises.*

A distinction is made between a Citizen Energy Community (CEC) and a Renewable Energy Community (REC), where the latter engage in activities based on renewable energy sources.

[2] On TSO level, the service "supply split" also means "multiple BRPs". The multiple BRP design was consulted by ELIA end 2021 and has been used to elaborate the CCMD design.

Its primary purposes are to provide environmental, economic or social community benefits for its members or the local areas where it operates rather than financial profits. It is also represented by **a legal entity**.

Per definition, an Energy Community has a broad scope. It can act as FSP, buy and sell energy within the community via a Supplier, participate to energy services… The focus in this design note is on **energy sharing** within an Energy Community.

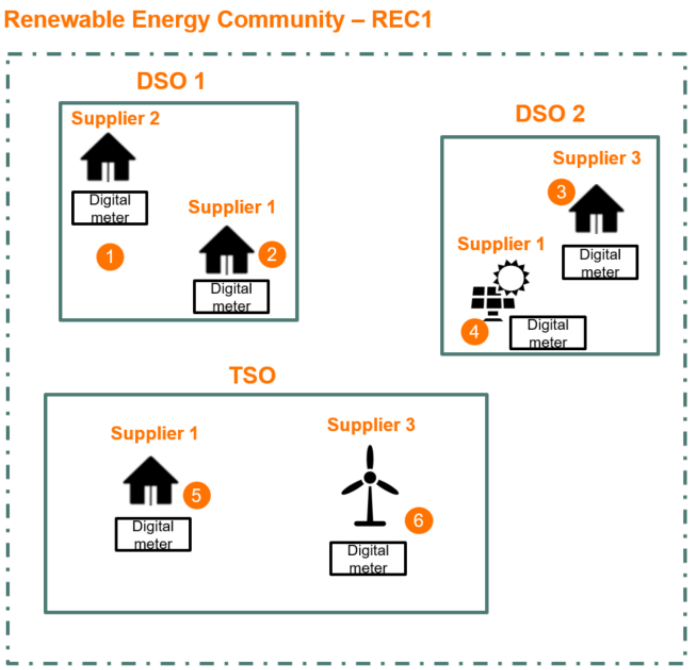


Figure 7 – Example of Renewable Energy Community involving members connected to more than one system operator

In this example, the Renewable Energy Community consists of 6 members. Those members are spread between 3 system operators. The purpose of this community is to share energy produced by the windmill and PV panels they own together.

2 Key design assumptions

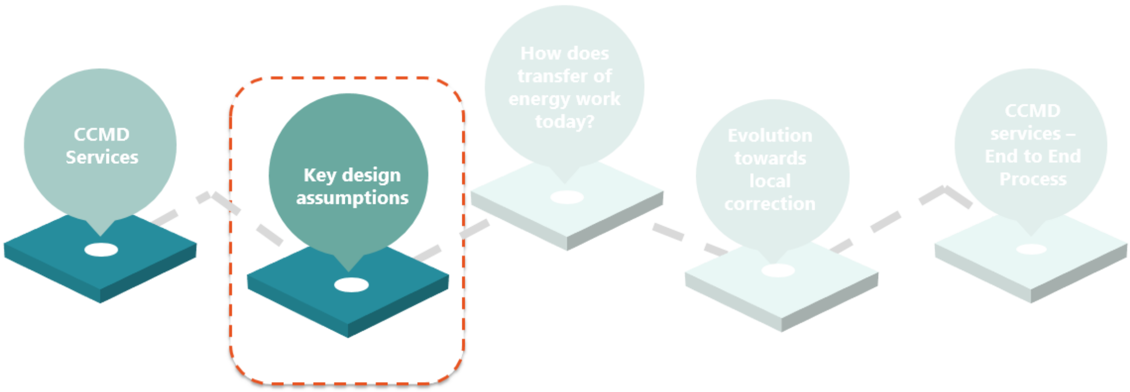


Figure 8 – Structure of CCMD design note – second section

2.1 Voltage neutral design

Considering the massive adoption of electric vehicles, heat pumps and other flexible assets, facilitated by an expected evolution towards more digitalization, it becomes clear that Consumers at all voltage levels will become active participants in the balancing and electricity markets. As a consequence, tomorrow's flexibility sources will be connected to lower voltage levels than today's ones, with an important shift towards decentralized sources at residential level.

In addition, the **number of individual assets that participate to a service will significantly increase.** It is therefore ELIA's ambition to propose a CCMD design that integrates this evolution and ensure robustness and relevancy of proposed market model independent of the connection level of the flexible asset.

2.2 Cross system operator design

This design note refers to **the generic role of a system operator** and does not make distinction between a distribution system operator, the (local) transmission system operator and a closed distribution system operator. It is clear that – in function of the service being looked at and the steps of the process – some actions can remain specific and differ for each system operator. However, the proposed CCMD design rules ensure the establishment of **a coherent and unique mechanism, applicable to all voltage levels and allowing (cross voltage) energy transactions involving more than one system operator.** One concrete example of cross voltage energy transaction is energy sharing between 2 members of an energy community, one being connected to the TSO grid and one to the DSO grid.

2.3 Service neutral and future proof design

The present document describes how the market design looks like for three specific services: explicit flexibility, supply split and energy communities (energy sharing). However, it is already clear today that facilitating market participation to these services will only be a first step; and that additional ones will appear in the future. To avoid complex and contradictory requirements, **it is essential to propose generic market design rules whenever possible**. This will also make it much easier to implement for both system operators and market parties.

When a generic market design rule is not possible, it will be highlighted and clearly justified in the document.

Finally, when some documentation and market rules already exist (as it is the case for the flexibility service with corresponding terms and conditions and balancing rules), all design rules are not repeated here.

2.4 Metering requirements

Metering requirements are currently imposed by the system operators as pre-requisite to a participation to any services (a.o: balancing services). To open participation of low voltage flexibility to CCMD services, some evolutions of the current rules might be required. Similarly, additional clarifications related to data acquisition and validation are being prepared. A proposal related to these 2 topics (metering requirements and data acquisition) will be presented in the Working Group CCMD end 2022 / Q1 2023. Those are therefore not detailed in this design note.

Nevertheless, to ensure a correct functioning of the individual correction mechanism proposed in this CCMD design note, **15min metering data at access point level** is a pre-requisite as an individual correction on SLP profile is not feasible. For low voltage flexibility, this corresponds to the obligation to have a digital meter installed at Access Point level (Smart Meter Regime 3).

2.5 Grid fees and taxes (a.o: VAT)

Modalities linked to VAT or to a possible evolution of grid fees are not detailed in this document. This is however part of another "CCMD track" which requires further assessment together with the DSOs, to be discussed afterwards with market parties in the WG CCMD.

2.6 Combination of services

The possible participation of a same Delivery Point to more than one of the three services at the same time is being investigated in parallel but is not part of the scope of this design note. Indeed, priority is first to align on the needed market design rules and to assess how these are translated in processes and tools and in a second phase, evaluate the (in)compatibility of multiple participation.

3 The existing Transfer of Energy framework

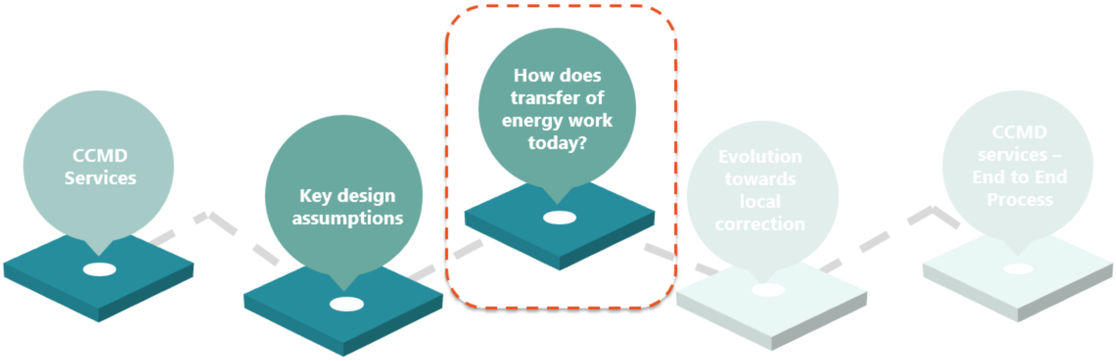


Figure 9 – Structure of the CCMD design note

3.1 Legal framework

The electricity law relative to the organization of the electricity market of 29th of April 1999 was amended on 13th of July 2017[3] to create a framework enabling the participation of demand-side flexibility to the FRR balancing market segments (aFRR and mFRR), the Strategic Demand Reserve market and the DA/ID markets with a third party (FSP) independent from the Supplier and the BRP.

The electricity law foresaw a phased "ToE" framework implementation, the status of which is summarized in the following table:

	aFRR	mFRR	DA/ID
Low voltage level[4]	Only via opt-out or pass-through configuration	Only via opt-out or pass-through configuration	Only via opt-out or pass-through configuration[5]
Medium voltage level	Only via opt-out or pass-through configuration	**ToE since June 2018**	**ToE since July 2021**
High voltage level	Only via opt-out or pass-through configuration	**ToE since June 2018**	**ToE since July 2021**

Figure 10 – Overview of the current Transfer of Energy mechanism across different market segments

[3] Details on the publication and the actual amendments can be consulted via the following link: http://www.ejustice.just.fgov.be/cgi_loi/change_lg.pl?language=nl&la=N&table_name=wet&cn=2017071306

[4] In practice, aFRR, mFRR and DA/ID low voltage are not opened yet due to the restriction of participation set out in the FSP-DSO contracts.

[5] Market situations with Transfer of Energy are only applicable for delivery points on the high or medium voltage level, as described in section 4 of the current rules for the organization of Transfer of Energy. Delivery points on low-voltage level are excluded from market situations with Transfer of Energy, thus can only participate under a pass-through or opt-out configuration.

3.2 Need for a Transfer of Energy framework

Participation of demand side flexibility to balancing services is a reality in Belgium since 2012. Step by step, balancing products have been adapted to allow such participation and create competition between market parties independent of the technology delivering the service.

Amongst these product design evolutions was the need to allow participation from an independent Flexibility Service Provider (FSP) without impacting the supplier and BRP responsible for the access point.

At that moment, as the development of demand side flexibility on high and medium voltage level required substantial efforts to explore, find and develop the flexibility disseminated in industrial sites, **confidentiality became an important design requirement.** Indeed, the identity of the Consumer and the site from which flexibility could be valorized needed to be protected against the risk of contractual or financial conditions imposed by the supplier in reaction to a participation into a flexibility market.

As a result, the supporting data flows and corrections that take place in the current ToE framework were oriented **on an aggregated level**. Indeed, the idea was that, by only informing the Supplier and BRP about the aggregated flexibility volumes, the Supplier and BRP would not directly identify which specific grid user in their portfolio valorized flexibility via an independent service provider. This will also be illustrated later on in this section by means of a clear example.

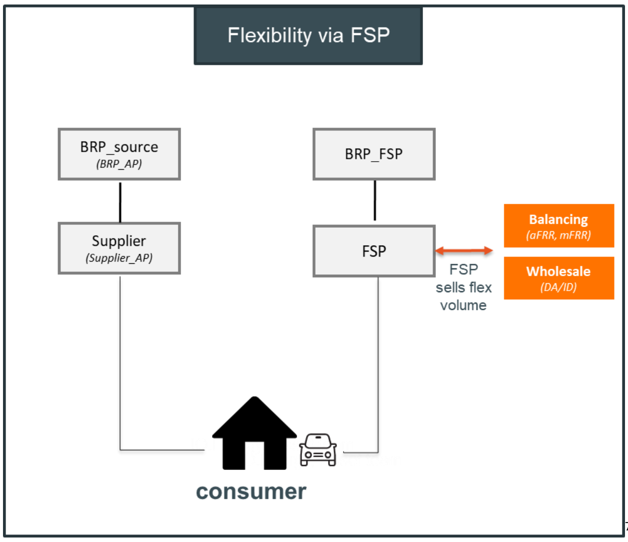
3.3 Roles and Responsibilities under the current ToE framework

Under today's market model, the Supplier is responsible for all offtake or consumption behind the Access Point. The Supplier's role is to sell electricity (as a commodity) to the Consumer. The Supplier can produce this electricity or buy it on the wholesale market via his BRP. This latter BRP has the possibility to buy or sell electricity on the wholesale market and is responsible for the balance of his portfolio[6].

Such a market model limited the valorization of flexibility behind the Access Point via an independent FSP. Indeed, any intervention from an independent FSP behind or at the Access Point raised a need to neutralize the impact caused on the portfolio of the Supplier and BRP. Therefore, to allow consumers to valorize their flexibility behind the meter, while neutralizing the impact on the Supplier and BRP at level of the Access Point, the ToE framework was developed.

The following distinct roles, as described in the figure below, are observed when a Delivery Point behind the Access Point is activated by an independent FSP in the **current ToE framework.**

[6] The scope of the BRP balancing perimeter is explained in section 15 of the BRPs balance obligation and in section 16 of the Terms and Conditions BRP, which can be consulted on ELIA's website



[7]

Figure 11 –Schematic of the involved parties

- The **Consumer** (also called "end user") withdraws energy from the distribution or transmission grid and can voluntarily reduce/increase his consumption based on an external activation signal of the FSP (= explicit flex activation).
- The **Supplier** (also referred to as the Supplier_AP) of the Consumer is responsible to buy or sell electricity from or to the Consumer at any given moment. The Supplier can produce the required electricity or buy it on the wholesale market via his BRPsource.
- The **BRP_source** (also referred to as the BRP_AP) has the Access Point of the Consumer in his perimeter and is responsible to keep his perimeter balanced. At least one BRP is appointed to each Access Point in the electricity grid. The BRP_AP is responsible for the injection and/or offtake that is metered at level of the Access Point.
- The **FSP** has a contract with the Consumer for the valorization of its flexibility and has signed the required contract(s) with ELIA for the provision of services in the balancing or wholesale market.
- The **BRP_fsp** is the BRP associated to the FSP. This BRP holds the balancing responsibility for the activated flexibility.

3.4 How does ToE apply in practice

This section illustrates how ToE applies in a situation of upward mFRR activation (hence a reduction of net-offtake).

[7] In case of Transfer of Energy on the day-ahead or intraday market, it is the BRPfsp who sells the flexibility to another BRP.

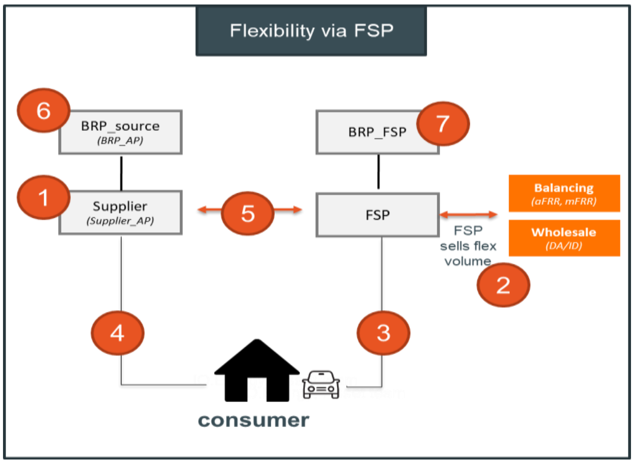


Figure 12 Use case for a delivery of upward aFRR balancing power

1. The Supplier buys electricity in advance (via the BRP_source) on the electricity market, for example in day-ahead. The amount of electricity the Supplier buys in advance depends on the estimated electricity offtake/injection of each Access Point in his portfolio.
2. ELIA activates mFRR energy upwards by sending a request to the FSP, who delivers the service to ELIA.
3. The FSP operates his pool and steers one or more Delivery Points in his pool for the effective delivery of the mFRR requested by ELIA. This example shows how one Delivery Point reduces his consumption in real-time. The system operator calculates the volume of flexibility supplied on each activated Delivery Point.
4. As a result of the reduction of the consumer's offtake, the Supplier can no longer sell (i.e., invoice) this electricity to the consumer as his invoice is based on the metering at level of the AP. The amount that the Supplier is no longer able to sell, equals the delivered flexibility volume. Nonetheless the Supplier sourced this electricity in advance (step 1.).
5. The FSP financially compensates (at aggregated level according to current legal framework) the Supplier for the sourced (but not invoiced) electricity due to the mFRR activation. This can be done based on bilaterally agreed price between Supplier and FSP or, in absence of such a bilateral agreement, based on the regulated transfer price (determined by CREG).
6. The balancing perimeter of the BRPsource is corrected on a quarter-hourly basis for the delivered flexibility volume. This correction is performed in order to neutralize the impact on the balancing perimeter of the BRPsource.
7. The balancing perimeter of the BRPfsp is corrected on a quarter-hourly basis with the delivered flexibility volume (i.e., the reduced energy consumption is transferred to the perimeter of the BRPfsp). In addition, for balancing activations[8], the balancing perimeter of the BRPfsp is adjusted with the requested volume of flexibility such that the BRPfsp takes up the balancing responsibility for the activation of the requested flexibility.

[8] For ToE DA/ID markets the volume corresponding to the requested volume is already taken into account in the BRPfsp perimeter as a commercial trade with another party.

4 Why does the Transfer of Energy mechanism need to evolve?

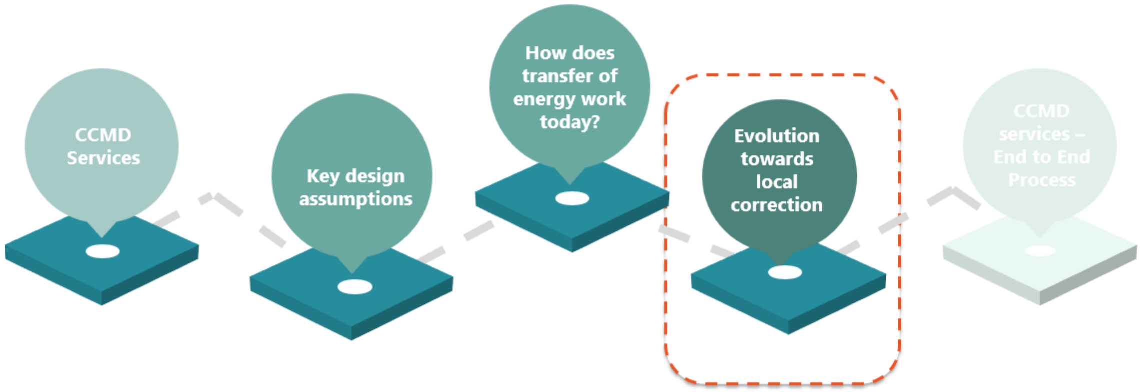


Figure 13 – Structure of CCMD design note – 4th section

4.1 Lessons learned from current mechanism

As introduced in the chapter above, the current Transfer of Energy framework was established **based on the assumption that confidentiality regarding the location where flexibility was valorized by the independent flexibility service providers was essential** to market parties. Indeed, independent Flexibility Service Providers were facing substantial costs to identify and attract new sources of flexibility while the Consumer did not want his Supplier and BRP to know about possible participation to balancing services. It resulted in the proposal to **compensate suppliers and correct BRPs at portfolio level**.

While such model demonstrated its efficiency over the last years and resulted in the participation of additional volumes of flexibility in balancing services, the following market barriers were also identified:

- The current ToE-framework relies on the determination of a transfer price that approximates the supply price. As electricity contracts become more and more diverse (e.g., flat tariff versus time-off-use tariffs or tariffs based on day-ahead or intraday prices), the determination of the transfer price is expected to become even more difficult in the future. At the same time, the importance of a correct financial compensation of Suppliers increases as the related flexibility volumes will strongly increase.
- The high **administrative complexity** of the current ToE mechanism caused by the need for the FSP to engage in negotiations with the Supplier and BRP. Indeed, if these negotiations are not successful, the FSP needs to demonstrate it to the CREG and request the application of the regulated transfer price. In addition, the FSP will set up and update his bank guarantee to ensure that the financial compensation between the FSP and Supplier can be performed.

  This high administrative complexity comes with additional costs and form barriers for participation as:

  i) It is difficult for new FSPs to enter the market as specific knowledge is required,

ii) It can take several months before the flexibility of new delivery points can be valorized.

Furthermore, the costs and barriers related to the high administrative complexity are considered to be significantly more important on low-voltage level because the value per individual Delivery Point is lower while the administrative complexity is even higher due to the higher number of active suppliers with which negotiations need to take place. The higher frequency of supply switches will only add even more administrative complexity.

- A natural **lock-in effect** arises from the fact that Consumers are incentivized to stay with the same FSP and supplier; this to avoid re-negotiating a transfer price with the newcomer.
- To preserve confidentiality the couple "FSP-Supplier" negotiate the regime at level of the pool, instead of per Delivery Point. As a result, FSP and Supplier cannot choose a different regime per Delivery Point in function of their own preferences.

4.2 Impact of active consumer participation

In the near future, an important increase of the electrification of residential appliances (heat pumps, electrical vehicles…) is expected. Next to this, digitalization will facilitate their steering and monitoring. As a result, huge volumes of decentralized flexibility (often at residential level) become easily accessible behind the meter and will definitely support the energy transition.

The consequences of this evolution are multiple:

- At first, activation costs of these assets are expected to be (way) lower than the ones associated to flexibility delivered from medium / high voltage levels. This should lead to more frequent use of the flexibility and reinforce the need to determine a proper transfer price. Here, a distinction exists between high and medium voltage assets, often characterized by a negotiated (and a priori confidential) supply price, and low voltage assets for which a non-confidential standard supply price is published and applied.
- Then, the **number of flexible assets expected to deliver flexibility will increase drastically**, together with the number of Suppliers with whom a transfer price needs to be negotiated.
- Thirdly, the costs borne by a FSP to identify which assets are flexible and fit for a participation into the balancing or the electricity market will decrease significantly, due to massive electrification of residential appliances (making flexible assets a default functionality). As a result, the need to 'hide' in which processes the available flexibility lies becomes less relevant.
- Finally, the negotiation power of residential prosumers is naturally present due to the fragmentation of different Suppliers in the system, and the capability to swiftly change from one Supplier to another[9]. Today, on medium and high voltage level, ELIA also observes a clear evolution with consumers either using their flexibility as a positive argument in their negotiations for additional services with their Supplier, either organizing a public call for tender to obtain the best offer in terms of valorization of their flexibility.

[9] The Clean Energy Package prescribes that Member States should further reduce barriers for switching Suppliers.

4.3 Towards an individual correction mechanism

Based on the lessons learned from the current ToE mechanism and taking into account the expected impacts of active consumer participation in the near future, ELIA concludes that the confidentiality requirement does not need to be kept[10]. Releasing this restriction **allows the evolution from aggregated towards individual correction** and by doing so lifts most barriers and constraints listed in section 4.1 above.

Such individual correction will be realized based on validated individual **energy transactions**. An energy transaction consists of an exchange of energy (where the volume of energy is calculated by the system operator based on certified quarter-hourly measurements and thanks to the information given by the Energy Service Provider) between two counterparts: the source Delivery Point and the destination Delivery Point. The section 5 below clarifies each step of the sequence that both the Energy Service Provider and the system operator will follow to participate to a CCMD service and correct the impact of such participation on both the Supplier and the BRP.

In the context of this design note consultation, **ELIA specifically asks market parties to take position with regards to the assumption that the confidentiality requirement might be lifted** and that consequently the current market model may evolve towards a simplified mechanism based on individual correction.

4.4 High level example based on individual correction mechanism applied to explicit flexibility

The example below illustrates the application of individual correction mechanism (hence a situation where confidentiality is lifted by all involved parties) to a concrete case of flexibility valorization by an independent FSP. A more detailed overview of this mechanism is also detailed step by step in section 5 below.

In this example, a residential consumer has a total consumption of 10 kWh for a specific quarter hour. Such consumption covers the electrical vehicle. This vehicle has an expected 3 kWh consumption for the same quarter hour. To cover this consumption, the Supplier at the Access Point has sourced the energy volumes accordingly.

[10] Nevertheless, in situations which still require full confidentiality, the aggregated correction presented in section 3 (together with its limitations listed in section 4.1) remains a possible solution.

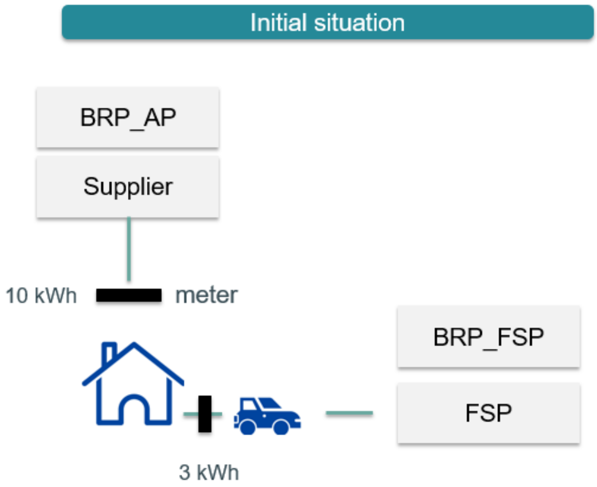


Figure 14 – Example of individual correction mechanism

Imagine now that a FSP valorizes flexibility by changing the charging process of the electrical vehicle for that quarter hour. Instead of consuming the 3 kWh as expected, the charging is reduced to 1 kWh. Those 2 kWh of flexibility are sold in the balancing market by the FSP, as part of his portfolio. The remaining volume of 1kWh is still provided by the Supplier of the Access Point.

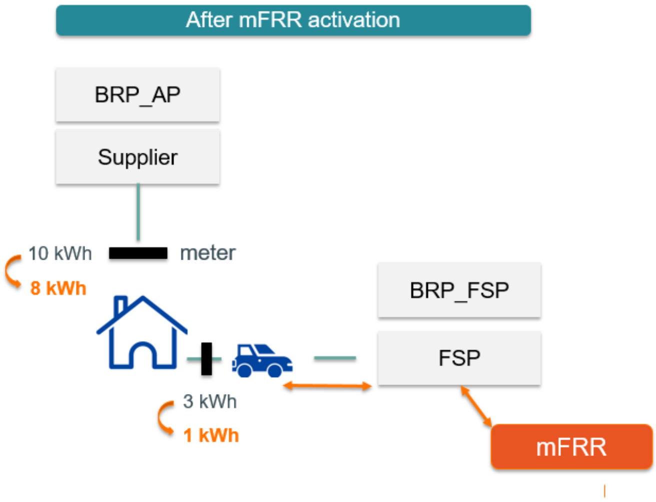


Figure 15 – Example of individual correction mechanism after activation

The individual correction consists of taking into consideration the impact of activated flexibility (at delivery point level) to compensate the Supplier and correct the BRP perimeter (at access point level). Based on the example above, the 8 kWh measured at access point are completed with the 2 kWh that would have been consumed by the car in a scenario without activation.

ELIA details below two possible implementation related to the corresponding financial settlement. The operational consequences related to both options are further detailed in section 5.6. The first option corresponds to the solution so far presented by ELIA in Working Groups CCMD while the second emerged from design discussions with the regulator. **ELIA would like to use the opportunity of this public consultation to ask market parties to position themselves with regards to these two possible implementations.**

1) The individual correction of the offtake

In such configuration, the volume determined in the energy transaction is added to the initial volume (of 8 kWh in the example above). The Supplier therefore invoices the consumer for the corrected offtake of 10 kWh (in other words, the consumer also pays for the 2 kWh of offtake reduction that resulted from the mFRR activation). The consumer takes his supply price as a basis for his price negotiation with the FSP activating the flexibility and has the responsibility to ensure fair and adequate remuneration from his FSP, which should at least compensate the 2 kWh of activated energy.

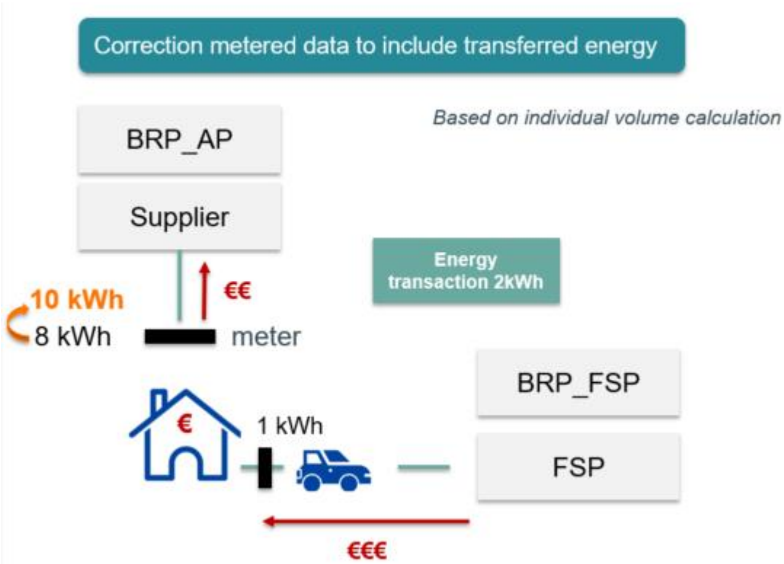


Figure 16 – illustration of 1st settlement methodology based on corrected metering

2) Contractual agreement between FSP and supplier

This settlement methodology is based on the establishment of an additional contract between the supplier (at Access Point) and the FSP to organize settlement modalities for the transferred energy. In this configuration, the consumer pays the metered energy to his supplier (8 kWh in the example above) while the FSP remunerates the consumer for his activated flexibility. The activated energy (the 2 kWh of the example above) is directly invoiced at supply price by the supplier to the FSP, according to the modalities of their contractual agreement.

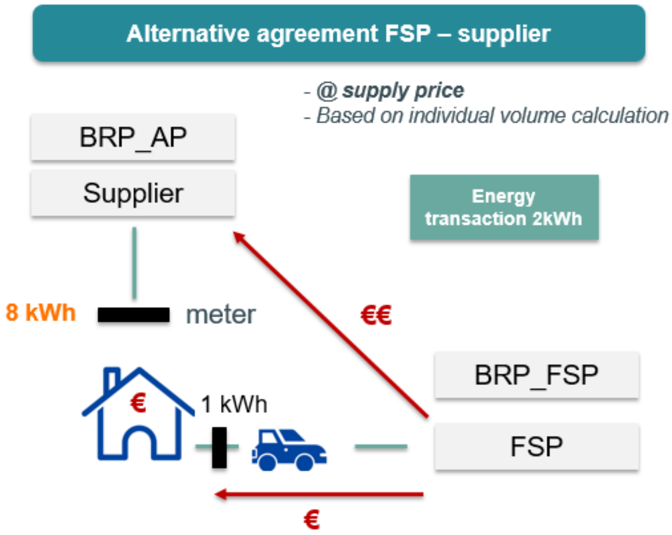


Figure 17 – Illustration of the second settlement methodology based on contractual agreement between FSP and supplier

Finally, independent of the financial settlement modalities described above, the delivered volume (2 kWh) is taken into account in the correction of BRP perimeter at Access Point.

5 Individual correction process (Exchange of Energy block)

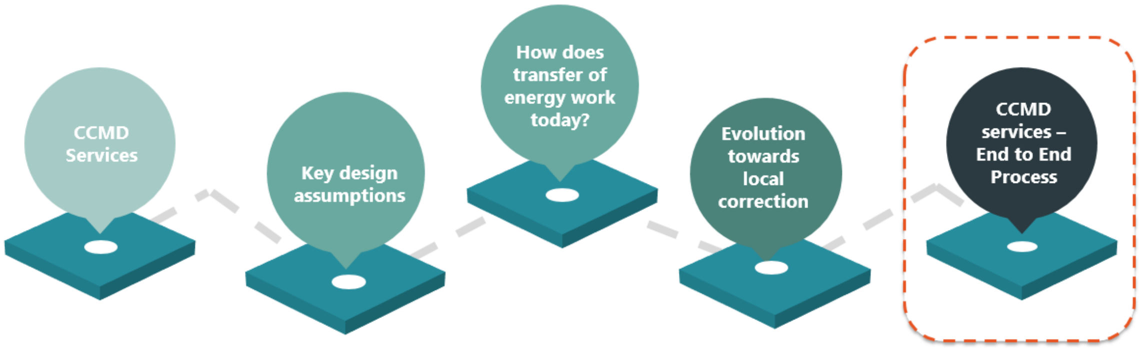


Figure 18 – Structure of CCMD design note

5.1 5-steps process

The sequence any Energy Service Provider (ESP) needs to follow to successfully deliver a service can be seen as a 5-step process as illustrated in the figure below. Each step is associated to a timing constraint and may require specific actions from both the system operator and the ESP. In such case, this will be clearly highlighted in the document.

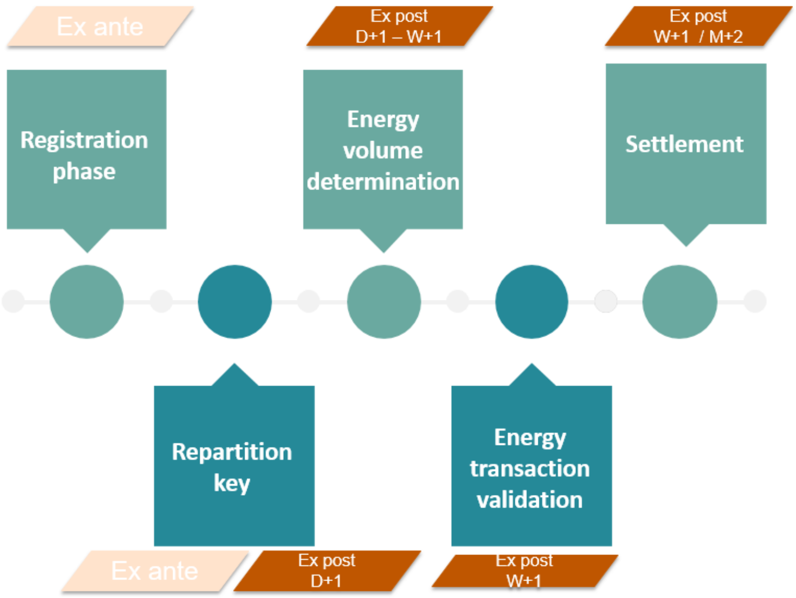


Figure 19 – CCMD design in 5 steps

5.2 Step 1 – The registration phase

The registration phase is the first step the ESP needs to follow **prior to start** participating in one or several CCMD services. It consists of two separate actions: the ESP registration and the Delivery Point registration. It should be read together with the second step of the process (repartition key) which can be followed prior the start of participation or ex post (as detailed in section 0).

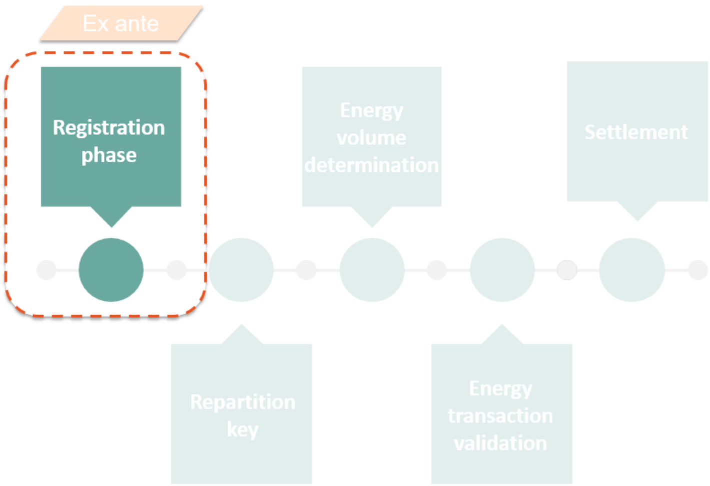


Figure 20 – 5 steps of CCMD design – Step 1: The registration phase

5.2.1 Energy Service Provider registration

The Energy Service Provider is the interlocutor of the system operator. He registers the Delivery Point following the requirements described in section 5.2.2 and indicates which services are being delivered by each of these Delivery Points. Such role can be filled in by existing market parties (Grid Users, aggregators …) or by a new one. The only restriction concerns the service “Energy Community” for which it has to be a legal entity.

5.2.2 Delivery Point registration

At this stage, the ESP needs to communicate to the system operator the technical and administrative information related to each Delivery Point participating to one or several CCMD services. The system operator verifies the information received and approves the registration of a Delivery Point accordingly. In this way, at least the following information is shared with the system operator:

- The EAN of the Delivery Point (EAN_DP)
- The EAN of the Access Point (EAN_AP).

Based on these two information, the system operator verifies the compliancy with metering/sub metering requirements[11] and ensure that the corresponding measurements (4'' measurements or 15' metering data in function of the service for which the Delivery Point is being registered) are received in real time in its systems.

- The Supplier and BRP responsible for the Delivery Point (Supplier_DP and BRP_DP)
- The service(s)[12] the ESP would like to participate to with the Delivery Point.
- Start and end date: the moment from which the Delivery Point starts to be considered for the identified service(s), and the deadline (if any) beyond which the Delivery Point is no longer considered active.
- The maximal flexible volume (Injection / offtake) that can be delivered on the Delivery Point for the services concerned.

In addition, specific to the service 'supply split', the ESP (in situations where the ESP differs from the Supplier) needs to demonstrate that the supplier taking over the supply responsibility on the Delivery Point possesses a valid supply license.

Finally, the system operator ensures that one Delivery Point is only registered for one CCMD service within the portfolio of one ESP at a time. In situations where an ESP proposes a Delivery Point already registered by another ESP for a CCMD service, the system operator will consider the most recent registration (upon the condition that it is supported by the signature of the Consumer's consent) as valid and suspend the initial delivery point from the initial ESP's portfolio.

Consent

Each time an ESP registers a Delivery Point for a service, he needs to provide proof to the system operator that the concerned market parties (Consumer, Supplier and BRP appointed for a Delivery Point) are aware and agree with such participation. In this way, at least the following consents are identified as relevant[13]:

- The Consumer's mandate delivered to the ESP for the service participation at the Delivery Point level;
- The confirmation that corresponding metering data (and other relevant data, e.g. master/structural data) can be exchanged with the impacted market parties and the system operator;

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[11] As introduced earlier in this design note, the metering / submetering requirements / Real time data exchange constraints are not discussed here but are investigated in a separate stream which will present its conclusion in WG CCMD.

[12] The possibilities to combine participation to multiple service for the same delivery point and the same timeframe still needs to be investigated and is not part of the scope of this design note. This will be further discussed in WG CCMD begin 2023.

[13] This list might be extended based on market parties' feedback and once design is finalized

Side note related to the implementation of CCMD design

ELIA will start from the information already collected in existing operational processes and tools to minimize the impact on Energy Service Providers in the exchange of information listed above. New data exchange will only be requested whenever relevant and for parameters not known to ELIA yet.

5.3 Step 2 – Repartition key

This step only concerns the services ‘supply split’ and ‘energy communities’, as the service ‘flexibility’ is triggered by an activation from ELIA.

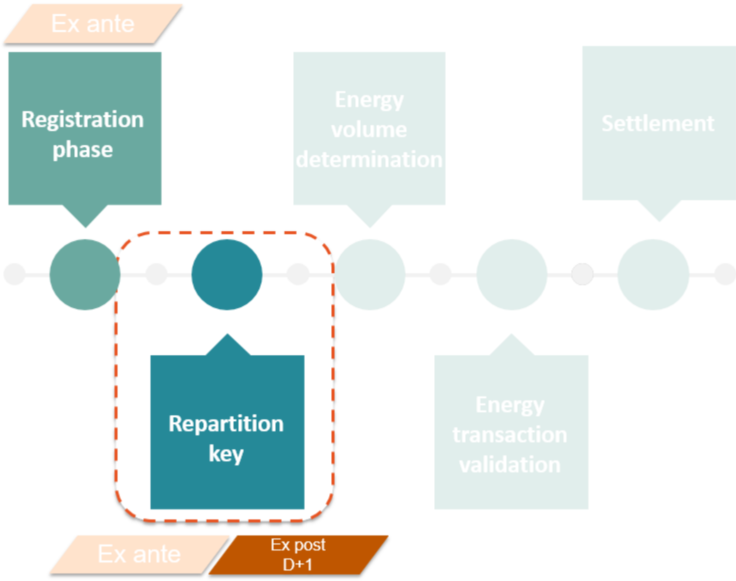

Figure 21 – 5 steps of CCMD design. Step 2 – Repartition key

5.3.1 Energy communities

At this stage, the ESP has successfully registered one or multiple Delivery Points and assigned them to the service ‘Energy Communities’. The ESP is now allowed to introduce the parameters which will be used by the system operator for the energy volume determination (third step of the process, detailed in section 5.4 below), together with a validity period (QH(s) for which these principles apply).

A repartition key represents the principles followed by an energy community to distribute energy between its members and contains at least the following criteria:

- the EAN_DP(s) of the source Delivery Point (which transfers energy) and the EAN_DP(s) of the destination Delivery Point (which receives energy). For the energy transaction to be valid, both EANs need to be part of the registered list for the energy community service; and

- the rule that the system operator will use to determine a volume of energy for a specific quarter-hour; and
- the timestamp.

To maximize possibilities for energy communities to perform smart allocations within their members, ELIA lists below a first batch of possibilities that – if confirmed relevant by market parties – will be implemented in 2023. In addition to this list, **market parties are invited to share their own needs as feedback to the consultation of this design note so their feasibility can be further assessed**. To start with, the following three repartition keys are proposed. A combination of more than one repartition key is also a possibility.

Finally, it is important to also specify that the repartition keys specified below could also be implemented for the source Delivery Points. The current examples below only illustrate the application of repartition key to the destination Delivery Points.

1st repartition key – Percentages

For this repartition key, the ESP indicates with a percentage how the injection produced within the community must be shared. To do so, the ESP has 2 options:

1) Individual consideration of each injection Delivery Point part of the community. This option allows him to indicate precisely how to share produced energy and to modify the repartition key in function of the injection Delivery Point.
2) Pooling of all produced energy – per quarter hour – within the community.

To allow self-consumption, the ESP is allowed to indicate a percentage of the energy produced – to be shared within the community – lower than 100 %.

On the consumption side, the ESP indicates the percentage of produced energy that is shared with each offtake delivery point. The example below gives a concrete example.

Source Delivery Points			Destination Delivery Points		
DP ID	QH	Percentage injection shared	DP ID	QH	Percentage of shared injection covering delivery point offtake
DP 5	12:00 – 12:15	90 %	DP 1	12:00 – 12:15	10 %
DP 6	12:00 – 12:15	25 %	DP 2	12:00 – 12:15	40 %
			DP 3	12:00 – 12:15	20 %
			DP 4	12:00 – 12:15	30 %

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Figure 22- Example of energy community repartition key using percentages

With this example, the ESP indicates to the system operator that for the quarter from 12:00 to 12:15, the measured production of DP 5 and DP 6 are partially shared with community members 1,2,3 and 4.

Assuming measured injection of DP 5 and DP 6 are respectively 1 MWh and 3 MWh for the said QH, the energy shared with community members corresponds to 90 % of 1 MWh + 25 % of 3MWh. From this energy volume of 1,65 MWh (= 1*0,9 + 3*0,25), 10 % is then allocated to community member 1, provided that measured offtake on DP1 is higher or equal to these 165 KWh. Same reasoning applies for DP 2, 3 and 4.

By default, unless specified (see the 3rd repartition key hereunder) otherwise, excess of energy (if any) remains in the portfolio of the BRP responsible for the corresponding source Delivery Point(s).

2nd repartition key – Priorities

In this repartition key, the ESP can select an order following which the energy will be allocated. The example below gives a concrete application.

Source Delivery Points		
DP ID	QH	Percentage injection shared
DP 5	12:00 – 12:15	90 %
DP 6	12:00 – 12:15	25 %

Destination Delivery Points			
DP ID	QH	Priorities	Percentage
DP 1	12:00 – 12:15	4	
DP 2	12:00 – 12:15	1	100 %
DP 3	12:00 – 12:15	3	
DP 4	12:00 – 12:15	2	50 %

Figure 23 – Illustration of the repartition key based on priorities

With this example, the ESP indicates to the system operator that for the quarter from 12:00 to 12:15, the measured production of DP 5 and DP 6 are partially shared with community members 1,2,3 and 4.

Assuming measured injection of DP 5 and DP6 are respectively 1 MWh and 3 MWh for the said QH, the energy shared with community members corresponds to 90 % of 1 MWh + 25 % of 3MWh.

Community member 2 (DP2) has the priority and sees his offtake measured for the same QH entirely covered by the volume of energy to share. If some energy remains, the community member with the 2nd priority ranking sees 50 % of offtake covered.

The repartition key based on priorities can be combined with the percentages, as illustrated above.

3rd repartition key – Excess of energy

The ESP may indicate to the system operator what to do with the excess energy for a specific timeframe, if any energy is left after applying the selected repartition key(s). If no rule is determined by the ESP, the excess of energy is allocated by default to the injection delivery Point(s).

As indicated in the section 0 of this document, the proposed design focuses so far on 3 services: energy communities, supply split and flexibility. The option to sell excess energy to another party outside of the energy community (via peer to peer exchange) will only become possible from the moment the service peer to peer is implemented.

Timing constraint

ESP is allowed to change its repartition key **dynamically and up to a quarter hour granularity.** It may be submitted to the system operator until **the end of the day (rolling window, D+1) following the quarter-hour concerned (D).**

An ex-post repartition key communication allows ESPs to optimally organize their energy transactions without having to deal with forecast errors. Seen this repartition key only represents an indication on how to determine – based on certified quarter-hour measurements – the energy volume of an energy transaction, ELIA does not identify impacts of this additional procedure on existing market mechanisms.

Finally, several communications are foreseen with Suppliers and BRPs (see section 5.7) to help them cope with the additional variability caused by active Consumers and their participation in CCMD services.

5.3.2 Supply split

For the service 'supply split', the information provided by the ESP at the registration stage is enough for the system operator to determine the energy volume. Indeed, based on the start and end date given by the ESP for a Delivery Point, the system operator will calculate energy volume every quarter hour during which energy is measured. The entire consumption or injection of a delivery point is transferred to the responsible supplier in the context of the supply split service[14].

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[14] ELIA is well aware that the scope of the supply split service presented in this document does not cover yet all possible applications (e.g: supply split in the context of moving electrical vehicle). The proposed market design will therefore evolve accordingly to cover these use cases in the beginning of 2023. These needed evolutions will first be discussed in Working Group CCMD.

5.4 Step 3 - Energy volume determination

At this step, all relevant information shared by the ESP during the registration phase and communication of dedicated parameters allows the system operator to **calculate the energy volume**.

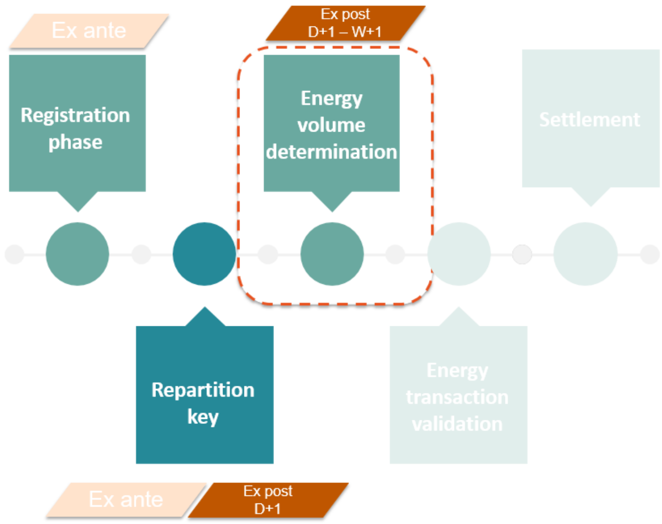

Figure 24 – 5 steps of CCMD design. Step 3: Energy volume determination

5.4.1 Energy volume determination for flexibility services

With regards to the energy volume determination for flexibility in balancing services, ELIA refers to the product specificities (e.g., baseline methodology) detailed in their respective terms and conditions and will not repeat them here. It is however important to mention that due to the design evolution towards an individual correction principle, **individual energy volumes need to be determined at Delivery Point level**.

5.4.2 Energy volume determination for supply split and energy communities

The system operator is responsible for all energy volume determination. For the service 'supply split', he will calculate energy volumes for every quarter hour and as long as the corresponding Delivery Point remains registered for the service. In this case, the energy volume corresponds to the measurement at Delivery Point level.

For the service 'energy communities', the system operator will calculate energy volumes for each quarter-hour and Delivery Points for which a repartition key has been communicated by the ESP (cfr. second step of the process in section 0), using the corresponding repartition key given by the ESP.

5.4.3 Timing applicable to the energy volume determination

For TSO connected Delivery Points, ELIA ambitions to calculate the energy volumes in the days following the quarter hour concerned. This with the intention to quickly share the validated energy transactions (see section 5.5) with relevant stakeholders (a.o: suppliers and BRPs). The purpose of this communication is to support Suppliers and BRPs in improving their forecasts and by doing so, better integrating the effects of active Consumer participation to CCMD services. This communication must be seen as an additional information flow and does not influence the timing of the BRP allocation process (M+1).

Side note related to the implementation of CCMD design

Operational processes and tools supporting the energy volume determination are already implemented today to determine some energy volumes referred to in this design note (a.o. the Flexhub for balancing services,…).

Whenever relevant, those tools and processes can be re-used (possibly with some adaptations) to minimize implementation impact on both system operators and market parties.

5.5 Step 4 – Energy transaction validation

Now that the energy volume has been determined by the system operator based on the repartition key provided by the ESP during the second step of this process (for supply split and energy communities) or following the services requirements (for flexibility services), the system operator is able to create and validate the corresponding **energy transaction**. Even though those two actions are described below in separate sections to provide more clarity for the reader, both will probably be considered as one step in the implementation later on. Furthermore, it is important to remind ELIA's intention to extend this concept of energy transaction to additional CCMD services in the future (such as peer to peer).

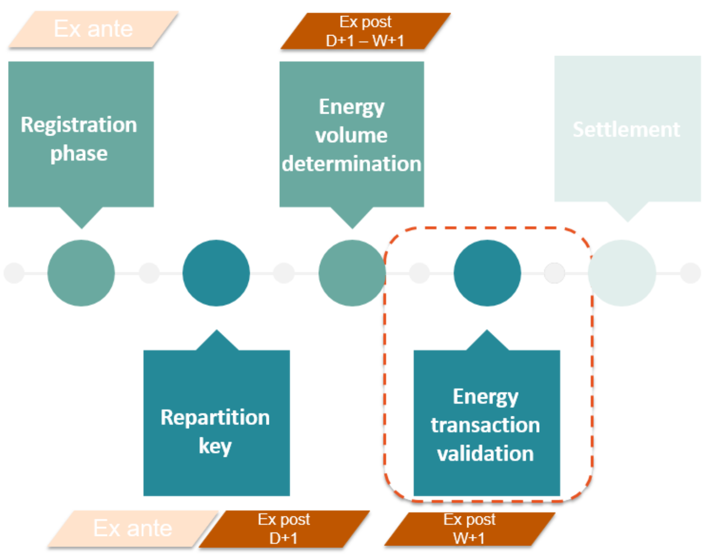

Figure 25 – 5 step of CCMD design – Step 4: Energy transaction validation

5.5.1 Creation of an energy transaction

An energy transaction contains the following attributes:

- An energy volume (kWh), which has been calculated by the system operator based on certified metering data and based on the repartition key set by the Energy System Provider;
- The EAN of the "source Delivery Point" of the transferred energy;
- The type of source Delivery Point (Injection / Offtake);
- The EAN of the "destination Delivery Point" to which the transferred energy is allocated;
- The type of destination Delivery Point (Injection / Offtake);
- The timestamp (quarter-hour basis);
- The service under which this energy transaction is created.

It is the **system operator responsibility to create an energy transaction**. For each quarter hour, its creation is triggered as soon as the following conditions are met:

- Both Delivery Point's EAN included in the energy transaction are registered by the ESP and associated to the same service;
- An Energy volume different than zero has been determined by the system operator (see section 5.4).

5.5.2 Validation of an energy transaction

The system operator verifies at least[15] the following elements prior to the validation of an energy transaction, in addition to the criteria's used to create an energy transaction (see above):

- The system operator verifies that the calculated energy volume is lower or equal to the maximal flexibility volume (injection / offtake) registered by the ESP for the Delivery Point;
- If one of the Delivery Points is also part of another energy transaction related to the same service for the same timestamp, the sum of the energy volumes of all transactions is lower or equal to the maximal flexibility volume registered by the ESP for the Delivery Point.

[15] Additional validation rules might be proposed based on market parties' feedback to the public consultation of this design note.

Side note related to the implementation of CCMD design

An energy transaction will be created for each quarter hour, delivery point and service registered by an Energy Service Provider. In tomorrow's energy system with many active consumers and numerous flexible assets available at residential levels, system operators expect to create and validate thousands of energy transactions each day. This won't be possible without **strong, flexible and consumer oriented tools** adapted to these processes.

One of these tools has already been introduced to market parties in the context of previous Consumer Centric Market Design discussions (CCMD White paper, Working Groups CCMD…): **the Exchange of Energy Block hub.** This hub's main functionalities will be:

- The creation and validation of energy transactions;
- The data exchange with market parties (BRPs, Suppliers, ESP…);
- The data exchange with existing tools for settlement processes (e.g. FlexHub, ATRIAS,…).

Such functionalities are essential to minimize implementation and administrative burden for impacted market parties (e.g. Suppliers) and to guarantee consistency with existing procedures (e.g. BRP perimeter correction or suppliers allocation by ATRIAS).

For all these reasons, ELIA strongly believes that the EoEB hub should become a **common hub managed by all system operators**. By doing so, such hub will ensure that **a unique, harmonized and standardized communication between all market parties is implemented, independent of a delivery point's localization or connection level**.

5.6 Step 5 - Settlement

At this stage, energy transactions that have been validated by system operators are used in the settlement processes related to the supplier and the BRPs.

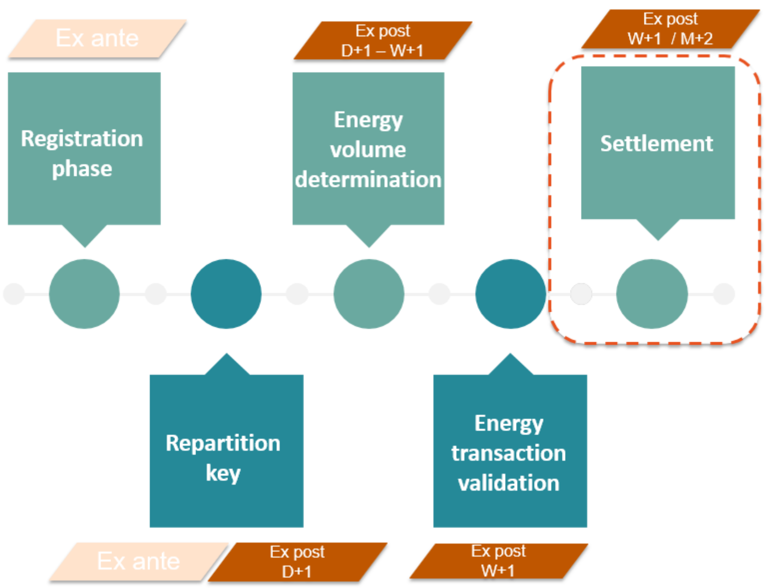

Figure 26 – 5 step of CCMD design. Step 5 - settlement

5.6.1 BRP Perimeter correction

BRP perimeter correction is necessary as from the moment an independent ESP participates to a CCMD service to **neutralize the effect of active Consumer participation** on the BRP responsible for the Access Point.

Concretely, the BRP perimeter is corrected based on the validated energy transaction determined by the system operator following the modalities described earlier in this document. Such correction applies regardless of existence of bilateral contracts between involved market parties. In this way, the BRP responsible for the source Delivery Point sees his perimeter reduced by the energy volume while the BRP responsible for the destination Delivery Point sees his perimeter increased with the same volume.

Process for BRPfsp Perimeter specific to flexibility service

In addition to the BRP perimeter corrections related to an exchange/transfer of energy between BRPs detailed above, an additional process for the BRPfsp perimeter determination happens in the context of flexibility being delivered for FRR balancing services. This concerns the BRP of the Flexibility Service Provider which is adjusted with the requested volume of flexibility ("Ereq"). This adjustment is independent of the CCMD market model presented in this design note.

5.6.2 Supplier compensation

In addition to the correction of BRP perimeters, there is a need to compensate the supplier at Access Point to neutralize the effect of the energy transaction. As explained in section 4.4, ELIA identifies two possible way forward. The individual correction of the offtake, which is applicable to all CCMD services and the establishment of a contractual relationship between FSP and Supplier, which applies specifically to the service 'explicit flexibility'.

1) **The individual correction of the offtake**

   In this methodology**, the measured energy corrected with the volume of the energy transaction is directly invoiced by the Supplier to the Consumer**. This will allow the Supplier of the Access Point to properly invoice, at supply price, the commodity to his Consumer. To facilitate the settlement process, the system operator will communicate the corrected measurements to the Supplier. The correction will be based on the energy volume component coming from the validated energy transaction.

2) **The establishment of a contractual relationship between the supplier and the FSP**

   In this methodology, the **measured energy is not corrected with the volume of the energy transaction for the Supplier[16].** To financially compensate the Supplier at Access Point, an additional contractual relation between the Supplier and the FSP is therefore required. The financial compensation invoiced from the Supplier to the FSP is based on the supply price (e.g: for residential consumers, supply prices are public and could therefore be applied by default for this mechanism). To facilitate the settlement process, the system operator will

[16] Correction is well performed in the perimeter of the BRP

communicate the energy transactions to the Supplier and the FSP, who will have to organize with each other for the contractual terms of the financial compensation.

Side note

ELIA believes that the optimal implementation of the supplier's compensation principle is to have an integration within ATRIAS (for DSO connected Delivery Points). Such integration supposes a **correction of the metering values** (to reflect the volume shared within the energy transactions) and the establishment of a temporary solution covering the time needed to adapt ATRIAS. This situation corresponds to the option 1 above.

However, the establishment of a contractual relation between the supplier and the FSP to settle at supply price the transferred energy based on individual volumes **implies an additional invoicing process between FSP and Supplier** (parallel to and not compatible with ATRIAS).

As already expressed in this document, **ELIA invites market parties to specifically to state their preference as part of their feedback to this public consultation**.

5.7 Notifications to relevant market parties

This section clarifies what are the additional (on top of the existing communication implemented in balancing services and BRP allocation process) **information flows from the system operator to market parties**. Those market parties are defined here as the ones influenced by an energy transaction: the Energy Service Provider, the Supplier of the Access Point and Delivery Point, the BRP of the Access Point and Delivery Point, the Grid User or the Access Contract Holder.

Such communication happens at two different moments in the process, as illustrated in the scheme below.

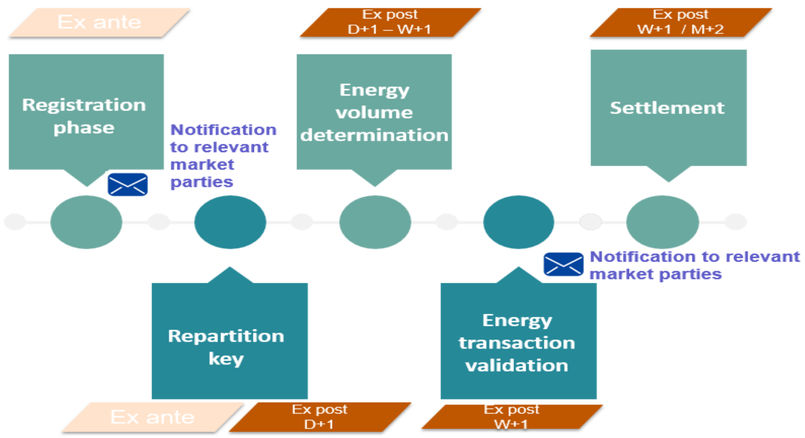

Figure 27 – Notifications towards relevant market parties in the context of CCMD

5.7.1 Notification after the registration phase

Once a Delivery Point is successfully registered by an Energy Service Provider and associated to a CCMD Service, a notification is sent to concerned market parties to inform them about the registration. The objective of such notification is to make those market parties aware of a potential participation of flexible assets behind the access point to CCMD services as such participation may influence the volumes they are responsible for.

The notification contains the following information:

- EAN of the Access Point;
- EAN of the Delivery Point;
- Type of CCMD service(s) for which the Delivery Point is registered;
- Start and End date to indicate the timeframe during which the Delivery Point might participate to a service;
- Maximal volume of flexibility registered for that service (upward and downward);

5.7.2 Notification after the energy transaction validation

In addition to the notification foreseen after the successful registration of a Delivery Point, the system operator proposes a second communication once an energy transaction is created and verified by the system operator. This communication happens in the days following the concerned quarter hour and aims to support suppliers and BRPs in their forecasting exercise. It must be seen as an additional information flow, complementing the currently implemented notifications in electricity markets. Furthermore, as the corresponding energy volume is determined based on non-validated metering data, it is important to underline the possible correction of said volume according to the current settlement process.

All information included in the energy transaction will be accessible and visible to the concerned market parties (a.o: ESP, suppliers and BRPs). An additional information could also be shared – if market parties confirm its relevancy – in the context of energy communities: the repartition keys used by the system operator to determine the energy volume of a quarter hour.

6 Next steps

This CCMD design note summarizes the key design features presented to market parties in 2022 in Working Groups CCMD. It focuses on three concrete applications: explicit flexibility, supply split and energy communities (with focus on energy sharing). The document is now proposed for public consultation with market parties, with the deadline to answer set to 20th January 2023.

ELIA intends to present an overview of received reactions and alternative design proposals (whenever relevant) on 2nd of February 2023, during Working Group CCMD. In parallel, bilateral discussions may be organized with stakeholders to further clarify received feedback and/or approach specific design problematic.

Once agreed upon, the adapted CCMD design needs to be translated into relevant regulatory framework (e.g: BRP contract) and into concrete set of rules, procedures and tools to support them. ELIA's ambition is to allow market parties to participate to these three services by end of 2023, for TSO connected Delivery Points.

The scheme below illustrating these next steps was presented in the Working Groups CCMD earlier in 2022.

In parallel, ELIA and Distribution System Operators will continue to collaborate to ensure design and operational consistency and compatibility, independent from the voltage level or geographical localization of a Delivery Point. **ELIA's ambition is to gradually apply CCMD principles to DSO connected Delivery Points by end 2024, thanks to a common Exchange of Energy Block Hub**.

Finally, ELIA will propose in parallel additional design clarifications on the elements listed below. Some aspects need to be tackled prior to the first participation with TSO connected Delivery Points while others may be approached in parallel. These clarifications will be discussed in Working Groups CCMD and may lead to additional CCMD design notes.

- Evolution to a Real-Time Price;

- Peer-to-peer exchanges ;
- A solution for Grid Fee mechanism;
- A solution for data access management: structural data, asset registry, consent management and data acquisition;
- A review of the metering/measurement device requirements.

7 CONCLUSIONS

The purpose of Consumer Centric Market Design is to propose a generic design solution aligned with expected electricity market evolutions where active Consumers get involved into existing (e.g. Flexibility) and new (e.g. Supply split and energy communities) services through numerous flexible appliances (e.g. Electric vehicles, heat pumps, solar panels…).

This generic design solution is centered on the **concept of individual correction**. This correction is essential to **neutralize the impact** of active Consumer participation (direct participation or via an independent Energy Service Provider) with flexibility sources that may be located behind the head meter. Indeed, such participation – if not properly corrected – would otherwise negatively influence the Supplier and BRP responsible for the Access Point.

In the context of balancing services and ID/DA markets, a correction mechanism (Transfer of Energy) already exists today. Such mechanism focuses on an **aggregated correction** performed at portfolio level. This design choice was justified at that time (2017) to guarantee confidentiality for both the Flexibility Service Provider (which faced important business development costs to identify and attract additional flexibility) and the Consumer (confidentiality gave him protection against the risk of additional contractual or financial conditions imposed by their Supplier when willing to valorize flexibility via an independent FSP).

However, ELIA believes that the **aggregated correction approach cannot be extended as such** to new services (energy communities, supply split…) and to numerous new flexible assets (mostly low voltage) because of the following limitations:

- The **current ToE mechanism is time and resources consuming** for independent FSPs, **limiting the market access to new market parties**. Indeed, the ToE requires the determination of a transfer price, which is negotiated with the Supplier and (in situation where no agreements are reached) the commission (CREG). Such approach cannot be imposed to FSPs when opening market to low voltage level, seen the number of flexible assets at stake.
- The definition of a **correct transfer price will even become more difficult in the future**, seen the volatility of the electricity prices and variety of supply contracts. In addition, low voltage flexibility assets are expected to be activated more often than those connected to medium or high voltage because of lower activation costs, increasing the difficulty to end up with a right transfer price.
- At residential level, it is common for a Consumer to change his Supplier. With a ToE mechanism such freedom might be endangered because of the incentives an FSP might give to his Consumers to stay with the same Supplier (and by doing so, avoiding him to renegotiate with the new Supplier).
- Finally, the ToE mechanism consists of several options (transfer price, opt-out, and pass-through), each one being translated into specific procedures. This menu of possibilities generates confusion and unnecessary complexity, while the **CCMD proposes a single generic solution applicable independent of the service, voltage level and bilateral agreements**.

In addition, ELIA observes that **the question of confidentiality**, which was the main driver to go for an aggregated correction mechanism in 2017, **is no longer an issue.** Indeed, many new flexibility sources are now **effortlessly accessible to Flexibility Service Providers**. Furthermore, Consumers do not feel anymore the need to “hide” their flexibility from their head Supplier and BRP but are using it on the opposite as an additional argument in their negotiations to obtain better supply contract.

The Consumer Centric Market Design proposed by ELIA offers a **generic solution** – based on individual correction principle – **applicable independent of the service** (flexibility, energy communities, supply split and future ones), **and voltage level of the Delivery Points**. This allows to propose one single and aligned solution that **applies to cross system operator configurations** (e.g. an energy transaction that involves Delivery Points located both on DSO and TSO grids). In addition, administrative and time constraints are lifted for market parties as **CCMD does not impose to reach out an agreement through bilateral negotiations.**

Consumer Centric Market Design implements this individual correction through the notion **of energy transaction.** An energy transaction consists of an **exchange of energy** (such energy volume is calculated by the system operator based on the information given by the Energy Service Provider) **between two counterparts**: the source Delivery Point and the destination Delivery Point. Such **transaction is created and validated by the system operator.**

Validated energy transactions are accessible and communicated to concerned market parties (Suppliers, ESP, BRPs) to facilitate their forecast's improvements and support their settlement process. In addition, the energy volume of those transactions will be integrated into the existing allocation processes whenever relevant (e.g ATRIAS) and will lead to BRP perimeter correction.