Product Design Group:
"Multiple Supply Contracts for Adjustable Appliances"
Meeting of September 29th, 2022

Participants:

51 participants from the companies and organizations listed in the tables below attended the meeting.

System Operators		(14 participants)
Marnix	Schots	Fluvius
Thomas	Tomme	Fluvius
Ellen	Dekens	Fluvius
Sven	Van den Bosch	Fluvius
Rik	Deruyter	Ores
Aurélie	Lepair	Ores
Michel	Paque	RESA
Murielle	Coheur	RESA
Daphné	Benzennou	Sibelga
Jacques	Glorieux	Arewal
Kristien	Clement-Nyns	Elia
Hans	Vandenbroucke	Elia
Bruno	Blontrock	Synergrid
Luc	Vercruyssen	Synergrid / Facilitator

Market Actors		(28 participants)
Pol	Robeys	Accenture
Sven	Van Holle	Accenture
Sarah	Kaviani	Aspiravi
Stefan	De Schouwer	Atrias
Michaël	Piron	Belgrid
Fabienne	Marchal	Clef-SCRL
Emmanuel	De Corte	Colruyt Group
Steven	Vandenhende	Elindus
Tom	Strosse	Eneco
Jean-Francois	Williame	Eneco
Ruben	Laleman	Engie Belgium
Michael	Van Bossuyt	FEBELIEC
Vincent	Deblocq	FEBEG
Pierre-Henri	Gresse	Flexide-energy
Patrick	Devos	Flux50
Harm	Vervoort	Haulogy
Freek	Couttenier	Huduma Business Services
Karen	Verhegghe	Luminus
Chris	Celis	Ode
Wannes	Demarcke	Ode

Chris	Elbers	Odot
Annabelle	Jacquet	TotalEnergies
Guillaume	Vanstraelen	TotalEnergies
Romain	Japsenne	TotalEnergies
Gina	Counegrachts	TotalEnergies
Eriksson	Evert	Vlaanderen
William	Stinissen	Volta
Ruddy	Certyn	/

Regulators		**(9 participants)**
Nick	Haaker	BRUGEL
Farid	Fodil-Pacha	BRUGEL
Karine	Sargsyan	BRUGEL
Frédéric	Jacquemin	CWAPE
Gérard	Naert	CWAPE
Stéphane	Marchand	CWAPE
Tim	Mertens	VREG
Marc	Michiels	VREG
Anke	Uytterhoeven	VREG

The Product Design Group meeting started at 9h30.

The meeting agenda is the following:

1. Options for optimization
2. Contractual framework and reporting
3. Other open issues
4. Planning and next steps

A slide deck covering the different topics is presented. The comments hereafter relate to this presentation and the different agenda items.

Minutes of meeting

1. Options for optimization

The DSOs ask the audience whether there are remarks or questions regarding the introduction of the physical configuration of the meter setup.

FEBELIEC asks whether the residential setup shown is also applicable to a business (medium voltage) setup. The DSOs reassure that they have not forgotten to take into account the potential difference between LV and MV customers and confirm that the example was based on a LV (low voltage) customer. The MV (medium voltage) scenario will be partly addressed further along the presentation. FEBELIEC acknowledges the confirmation and indicates that they will list possible differences between LV and MV customers, that are to be considered.

FEBELIEC continues by asking whether Closed Distribution Systems (CDS) are considered independently, since there is an existing track developing this pathway. The DSOs confirm that Closed Distribution Systems are not considered here and adds that the voltage level (LV or MV) will not make a difference in the example shown. The DSOs envision the same options for LV and MV systems, since the principles and computations are the same, but the implementation might be different due to, for example, the number of submeters.

ODE remarks that it should not be specified how many submeters there are, nor what is behind those submeters (EV and AA in the example given), because even a battery, heat pump or other adjustable appliances may be considered. ODE concludes that the example shown is a good start, but further development might be necessary. The DSOs take note of the comment and clarify that the principles are not limited to two submeters, as shown in this example. The example was kept simple to keep the schemas understandable and readable in the following options, since they are much more intricate. The example can be extended to other submeters, as well as a different number of submeters.

After presenting the first optimization (option 1), the DSOs ask the audience whether there are remarks or questions regarding option 1, i.e. "*No optimization*".

FEBELIEC asks whether the schema can be scaled up to, for example, 25 meters. The DSOs confirm that with regards to the calculation this is indeed no problem, but issues may arise when, for example, information from one submeter is missing. The scenario also becomes more complex with an increasing amount of submeters.

FEBELIEC continues by asking whether the accuracy of the submeters' metering need to match the metering of the head meter, as this would lead to a significant cost against limited impact. The DSOs explain that this is a regulatory question and that, from a DSO point of view, a minimum accuracy level is to be defined for the submeters.
FEBELIEC asks whether these meters will be DSO-configured meters or if other commercial meters are also acceptable. The DSOs answer that this was the subject of the vision on submetering, independent from Multiple Supply Contracts, in which semi-regulated submeters are also allowed as long as the data is available to the DSO. The debate today concerns the role of the DSOs in terms of validation, estimation, etc. FEBELIEC clarifies that

many industrial clients make use of meters with a higher accuracy than required by the DSO, due to process regulation requirements, so that the accuracy might be lower but also higher.

After presenting option 2 (i.e.: "*Gridfee optimization*"), the DSOs ask the audience whether there are remarks or questions. No remarks or questions followed from the audience.

Similarly, after explaining option 3 (i.e.: "*Gridfee and Commodity optimization*"), the DSO reiterate their question.

FEBELIEC asks for further clarification with regards to the difference between options 2 and 3 from a supplier's perspective. The DSOs explain that, in the case of option 2, the two measuring points (Meter 1 and Meter 3 on the slide) have the same grid fee, but different suppliers and commodity volumes. The DSOs continue to explain that:

- Supplier 1 (Meter 1) will have to compensate the customer 4 units of injection on Meter 1 assigned to his or her contract, while supplier 3 (Meter 3) will have to charge the customer with the EV 10 units of offtake on Meter 3 assigned to his or her contract.
- The total volumes in the market are actually higher than what is exchanged or measured on the grid, as we only measure 6 units of offtake on Meter 2 (Grid).
- The sum of the two remains the same, of course (10-4=6) but in terms of contractual and financial value, the 4 units on Meter 1 will be valued at the injection price, whereas the 10 units on Meter 3 will be charged based on the offtake price.
- Thus, in option 2, the self-consumption is valued at injection price.
- The difference with option 3 is that the self-consumption is preferentially assigned to compensate the other volumes or contracts on the same meter (Meter 1), provided it is not a physical offtake from the grid.

FEBELIEC intervenes by explaining that option 3 describes the situation of a household owning the house, as well as the EV, thus giving them no reason to make a distinction between Meter 1 and Meter 3, while option 2 describes a situation in which the EV is leased and the distinction is desirable. The DSOs confirm this and explain that, on the one hand, option 2 is more likely in the case that your leasing company or employer pays for your EV, because you will not want to give them your self-consumption or own production for free. Option 3, on the other hand, describes a situation that is more likely if a same grid user is paying for both contracts, with a different supplier. In this situation, the grid user will want to keep the value of his own production as high as possible. The DSOs further explain that more nuance is possible, since in option 2, parties (leasing company, employer, etc. and grid user) could agree bilaterally to compensate the customer for the local production. From the DSO or CMS perspective, these 2 options were inspired by the difference between the grid users for the two contracts: the same grid user for both contracts or a different grid user for each contract.

FEBELIEC understands and validates the 2 options, but wonders how the imbalance will be spread between the actors present on the Access Point. The DSOs explain that it is assumed that the different suppliers are informed about all the contracts behind the access point on which they are active. Furthermore, they will receive information to forecast and make estimates about the injection and offtake volumes. It is thus assumed that the suppliers and Balance Responsible Parties (BRPs) involved make forecasts based on the actual situation (in the case of option 2, a situation where you will have a higher offtake and some virtual injection). We assume that the supplier and BRPs factor this in in their nominations and

positions; as such, their imbalance is computed on the basis of what actually enters the market.

ODE comments that option 3 does not always signify a commodity optimization, since the price of injection might be higher than the offtake price (e.g. in the case of dynamic prices). The DSOs clarify that they are – by principle – unaware of the contracts of the customer and that the optimization therefore refers to a volume optimization, and not a financial optimization.

The DSOs explain the last and fourth option (i.e.: "*Choice of optimization*").

FEBELIEC comments that the mentioned algorithm might be different for MV applications. Furthermore, FEBELIEC asks whether it is possible to have a submeter under another submeter, since this might be interesting in a company context. The DSOs' proposal is to only have a single layer of submeters and not allow for submeters under other submeters. The DSOs also indicate that this subject will be addressed further along the presentation, where this discussion can be continued, and clarify that it is assumed that there is only one algorithm, not to be selected by the customer. The customer's choice is whether or not he or she desires to optimize a certain market head point, which will impact the grid fee and/or commodity computation, according to the algorithm defined in the applicable regulatory framework.

ODE intervenes, suggesting it could be interesting to introduce a system of prioritization amongst the meters, which would allow priority consumption of the self-consumption. The DSOs answer that this would result in a less transparent and predictable system for the LV customers, but also for the other market parties. Furthermore, this would make the customer's choice of optimization more complicated and the DSOs would have to keep track of these choices. The DSOs conclude that this option will not be considered at the moment.

LUMINUS thanks the DSOs for the clear explanation, but wonders what would happen in case of overproduction (a value on the A- on the main meter) in option 4, in which simultaneous self-consumption is chosen. The DSOs respond that this was verified internally and it was concluded that the same computation logic can be applied. In fact, through the computation, the DSOs ensure that there is no compensation of additional volumes (if for instance there would be injection on the main meter). Of course the DSOs cannot know either the actual consumption and production of the home and the battery or the local production. Hence, the assumption that there are 4 virtual injections on that computed meter is consistent with all the measurements available to the DSO but it is of course still possible that there is more production and more consumption which is not measured, ending up with the same difference (i.e. difference of 4 in the example).
Finally, responding a written comment from ODE, the DSOs confirm that this process is similar in the case of multiple submeters.

ODE asks to clarify whether all injection of multiple submeters is assigned to the main meter. The DSOs clarify that the injection is never assigned to the main meter, but to the computed home, since the contracts are assigned to the different submeters and the computed "rest of the home".

Ores intervenes by saying that it would be interesting to further elaborate on this example. Fluvius agrees and repeats that all these scenarios are covered by the 3-step computation approach that was presented.

Since there are no further questions regarding the subject, the facilitator suggests moving on to the summary of the optimization options.

After presenting the optimization summary, the DSOs indicate that they would like to better understand what options are relevant for the market and in which timeframe, keeping in mind that the complexity increases from option 1 ("*No optimization*") to option 4 ("*Choice of optimization*").

A poll is conducted to open the discussion and to get a first sense of the relevance of different options on the one hand and of the option that would be most needed in the short term on the other hand. The poll is meant to open the discussion and further feedback from participants is expected by the DSOs.

The poll results that were discussed during the meeting are based on 22 votes and seem to indicate that option 4 ("*Choice of optimization*") is the most relevant option in absolute terms, but that option 3 ("*Gridfee and Commodity optimization*") would be most needed option in the short term (~1 year).

The facilitator continues by asking the audience for feedback with regards to these choices.

ODE starts by saying that he is surprised by the fact that option 1 "*No optimization*" is put forward. ODE continues by explaining that it is difficult for them to have a clear view on the best choice between option 2 and 3 as the commodity optimization can have an adverse effect on the value of self-consumption (e.g. the injection value will generally be higher on a fixed contract compared to another point). The DSOs respond that it is important to look at all use cases because the case of the gridfee in option 2 is quite easy to understand as we can look at the offtake only (at low voltage level at least). In the case of option 3, where the customer wants to optimize commodity, the customer is required to decide how the volumes should be exchanged from one sub-installation to the other. Hence besides the higher complexity involved in option 3, it might also appear less comfortable for market parties.

FEBELIEC tends to agree with regards to LV, but not MV, since the use cases are completely different (third-party batteries…). The DSOs respond by asking whether this complexity needs to be introduced in the market model and the data that the DSOs exchange with the market parties. In other words, the question is whether the market parties want DSOs to manipulate the data or whether they prefer to receive gross volumes and to let the customer that wants to optimize choose the same supplier with an all-encompassing offer. In the case of manipulated data, the supplier and its BRP have to buy and sell volumes according to the manipulated data.

FEBELIEC repeats that what they want (at MV level) is to have the possibility to have different suppliers and to split up different consumptions and injections in chunks. The DSOs confirm that they aim to provide the possibility of having different suppliers (and for this possibility to exist in all of the 4 presented options), but that the question remains which volumes the

market parties would like to receive from the DSOs: gross volumes or volumes taking into account part of the production on the site.

FEBELIEC responds that what matters is not to pay the grid fees twice. The DSOs repeat that this is the case for all options 2, 3 and 4, where the only difference is the commodity itself. FEBELIEC agrees, but also sees use cases in which option 4 ("*Choice of optimization*") is desirable since it includes option 2 ("*Gridfee optimization*") and option 3 ("*Gridfee and Commodity optimization*").

The DSOs repeat that the second question in the poll refers to the short-term needs, for which option 4 is a big step. FEBELIEC agrees, but reiterates that given the current energy crisis and the consequential demand for flexibility, the need for option 4 arises. If this is not possible on the short term, options 2 or 3 are needed with the possible expansion to option 4 in the future.

The DSOs ask for clarification about why option 4 ("*Choice of optimization*") allows to leverage more flexibility. FEBELIEC explains that option 4 allows to split up different assets in order to correspond to different products from grid operators. The DSOs explain that this is possible with option 2 as well and that options 3 or 4 will consist of simple decision rules that cannot be changed by the customer at will, in line with social cost considerations. FEBELIEC reiterates that it refers to business settings at MV level, with big volumes (power), in which not all assets are owned by the same parties, and in which case option 4 allows to better exploit all forms of flexibility.
At MV level the DSOs wonder even more whether it make sense for them to implement optimization rules as the context and situation of every site will be different. Considering different – site-specific – situations, the DSOs wonder whether it would not be more relevant that the site manager/owner decides on how the site should be optimized and that they negotiate this with market parties. The DSOs make it clear that they want to promote flexibility at both LV and MV levels but would like to understand how option 4 ("*Choice of optimization*") would allow for more flexibility, as volume optimization relates to self-consumption on the site. A related question is what to do with these self-consumption volumes: not allowing market parties to commercialize it, allowing market parties to commercialize it, or letting market parties choose.
FEBELIEC emphasizes that option 4 is particularly relevant if not all assets on the site belong to one same owner.

ODE agrees that in the long term, option 4 ("*Choice of optimization*") is indeed preferred, while option 1 ("*No optimization*") is least preferred. However, ODE would like to understand the difference between the intermediate option 2 ("*Gridfee optimization*") and option 3 ("*Gridfee and Commodity optimization*") in terms of implementation speed.
The DSOs indicate that they are not able to respond to that question at the moment and that it is too early in the process to consider all the necessary parameters. Further analysis and discussions with all market parties is required (additional messages that are required by the market). Furthermore, the options were presented from 1 to 4 in order of increasing complexity and the fourth option is substantially more complex than the first 3 options since it involves an additional step which aims to group market headpoints (MHPs) into "Optimization Group(s)", as described on slide 11.

TotalEnergies underlines that besides the complexity and implementation questions, the implications on balancing costs, allocation and forecasting models should be considered to decide on which option should be preferred. Without a response to these important balancing, allocation and forecasting questions, it is very difficult to analyse how suppliers can manage options 3 and 4, both for LV and MV use cases.
The DSOs agree and are interested in the market parties' opinion on this matter and how this impacted their decision when choosing between the four options in the poll. The DSOs continue by explaining that:

- in the case of option 2 ("*Gridfee Optimization*", where there is no optimization of the commodity volumes), and considering two suppliers (a first for the adjustable appliance and a second for the rest of the home), the first supplier and his BRP would be responsible for the entire consumption of the adjustable appliance, while the second supplier would be responsible for all the rest, i.e. home consumption and local production (ignoring the presence of the adjustable appliance).
- in the case of option 3 ("*Gridfee + Commodity Optimization*"), the DSO will manipulate the data in order to share the virtual injection volume (i.e. what was produced locally) and compensate this volume with the adjustable appliance (EV for example). The first supplier (for the adjustable appliance or EV) will not be responsible for the whole consumption of the adjustable appliance, but only for the part not compensated by the local production. The second supplier will not be totally responsible for the consumption of the home, as sometimes the injection (local production) will go to the adjustable appliance (e.g. EV) and sometimes the EV might even inject as well and share with the home.

TotalEnergies agrees and emphasize that the question is how volumes could be forecasted, as forecasting is already complex today and these optimization options (3 and 4) only complicate the situation further. TotalEnergies concludes that a clear view on how the volumes can be forecasted is required before considering these optimization options.

FEBELIEC comments that for the examples presented for the different options, the overall balancing position is the same. As such, the balancing is not impacted by the scenarios. FEBELIEC continues by indicating that the balancing question already exists today, for example in the case of solar panels and electric vehicles, where the supplier and the BRP can hardly forecast what will be consumed and injected by the homeowner.
TotalEnergies agrees, but remarks that these optimization options further complicate the issue.

2. Contractual framework and reporting

ODE comments that the risk and responsibility of missing data is to be taken into account and that one option might be to assign the consumption to the meter with the missing data, and to rectify afterwards when the correct data is provided.
The DSOs agree and add that a choice needs to be made between allowing validation and estimation in the case of missing data or considering other options. The DSOs conclude that this needs to be further investigated and that it will have an impact on the contractual framework that needs to be set up.

3. Other open issues

The DSOs ask the audience whether, from a supplier perspective, Smart Regime 3 (SMR3) should be made mandatory.

Luminus states that SMR3 is mandatory in cases where a split is needed.

The DSOs intervene by explaining that the 15-minute values are indeed needed by DSOs in order to carry out the calculations but ask whether SMR3 is needed by suppliers as well. For the DSOs, it is not absolutely necessary from an operational perspective to have the two supply contract in SMR3, as DSOs can do the calculation based on the 15-minute values and share the resulting volumes.

ODE remarks that it could be interesting, from the customers' point of view, to have SMR3 on the main meter in order to detect missing data or defect meters, .
The DSOs respond that a customer is able to obtain their load curve via other avenues and that the question is whether SMR3 should be implemented from a suppliers' perspective.

As there are no further comments, the presentation is continued and the Facilitator reiterates that comments can always be communicated via e-mail after the presentation.

Regarding the number of submeters and submeter layers, the DSOs explain that "a" limit should be set in order to keep complexity under control and ask the audience if they have views on the necessary number of submeters.

FEBELIEC understands that a difference is made between the LV and the MV situations but does not understand why the number of layers is limited to one, as this does not change the computations.
The DSOs respond that adding sublayer(s) would increase the complexity and that this complexity might jeopardize the DSOs' capacity to ensure that all commercialized volumes on one access point are consistent.
The DSOs state that more submeter layers could be considered, provided the system established locally communicates one data stream to the DSO.
FEBELIEC proposes to start the development with the one-layer limit but, to the extent that it is possible, to maintain the possibility of scaling towards more submeter layers, as it might be relevant in a medium voltage context.

ODE indicates that the clear priority for them is to have a decent amount of submeters, regardless of the previously discussed optimization option (2, 3 or 4), and that they would consider a minimum of 6 submeters as a lower limit, and preferably no limit at all.

4. Planning and next steps

The objective is set to have a vision paper by the end of the year 2022. A draft version of this vision paper will be available before mid-November and will be shared with the participants for discussion during the next PDG meeting on 24 November.

In the meantime, feedback can be sent to marketconsultation@synergid.be, by the 21st of October at the latest.

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The following table summarizes the comments received from market parties during the meeting and the way DSOs intend to address these.

Comment	DSOs' response
FEBELIEC remarks that there is an important difference between LV and MV customers, which results in different requirements with regards to the type of compensation, amount of submeters, layers of submeters, …	The DSOs envision the same options for LV and MV systems, since the principles and computations are the same, but the implementation might be different due to the different use cases and requirements.
ODE states that the number of submeters is a priority and that it should preferably not be limited. In the case of limitation, it should not be restricted to a threshold below 6 submeters.	The DSOs are of the opinion that a limit needs to be set to the number of submeters and propose to set this limit to 6.
FEBELIEC proposes to start with a limit in terms of submeter layers but suggests to maintain, to the extent that it is possible, the option for more layers during the development.	The DSOs agree with the approach and while working with a number of submeter layers limited to one, they will try to maintain the possibility to scale up towards more submeters.