



FPS Economy, S.M.E.s, Self-employed and Energy

## **ECOFLEX**

*With the support of the Energy Transition Fund*

**Report on the Advisory Board (AB) meeting 3, December 10<sup>th</sup>, 2024**

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**Abstract for dissemination (PU)**

This document presents the second Advisory Board meeting of the ECOFLEX project.

## 1. ECOFLEX AB members and roles

The ECOFLEX Advisory Board (AB) will offer broad expert and user consultation. It is assembled with different actors in the value chain in Belgium (TSO, aggregators, technical parties and knowledge partners) and its objective is to follow the project progress and steer the project planning. The members of the AB are:

Name	Company	E-mail	Comment
Alexandra Vanhuyse	Snowball		online
Anton Koninckx	VEKA		Not available on 10 December
Bart Vannoppen	VOLTA		
Guillaume Cambier	ORES		Not available on 10 December
Thomas Buisseret	ORES		Not available on 10 December
Luc Huysmans	FEBEG		Online
Marijn Maenhoudt	CREG		Not available on 10 December
Michel Verschuere	YUSO		Not available on 10 December
Kevin Milis	Synergrid		
Simon Lachi	RESA		Not available on 10 December
Simon Gerard	RESA		Not available on 10 December
Eric Monami	Edora		
Mathieu Waucomont	CWAPE		Not available on 10 December
Jo Robbelein	FOD Economie SPF Economie		Not available on 10 December

Alan Delferiere	FOD Economie SPF Economie	Not available on 10 December
Louise Adam	Synergrid	

## 2. Third AB meeting

The 3<sup>th</sup> AB meeting took place on December 10<sup>th</sup> 2024, on the premises of Cluster Tweed in Liege. The agenda included the following items:

- Welcome, AB members and Partner representatives introduction
- Project overview and feedback
- WP4: EV scheduler and user interface
- WP5: EMS
- Universal Flexibility Platform
- Break
- Demonstration approach in different pilot
- Q&A
- Next steps and closure of the meeting

Advisory Board members who participated:

- Luc Huysmans (FEBEG)
- Alexandra Vanhuyse (Snowball)
- Bart Vannoppen (VOLTA)
- Kevin Milis (SYNERGRID)
- Louise Adam (SYNERGRID)
- Eric Monami (EDORA)

Project partners who participated in the AB meeting:

- Andy Putratama (VUB)
- Saeed Naghdizadegan Jahromi (VUB)
- Gilles Van Kriekinghe (VUB)

- Rémy Cleenwerck (UGENT)
- Jan Desmet (UGENT)
- Marc Vermeeren (FLUX50)
- Antonio Sutura (Haulogy)
- Gilles Mahy (Flexcity)
- Carlo Caracciolo (Flexcity)
- Andreas Theys (Pluginvest)
- Aurelie Dubois (Ideta)
- Jean-Christophe Blocqueau (ideta)
- Remy Balegamire Baraka (Cluster Tweed)
- Cédric Brüll (Cluster Tweed)
- Renaud Dachouffe (Cluster Tweed)

## 2.1 Outcome

This third AB meeting covered the actual insights and the status of the project. The main work packages and the related deliverables were presented.

During the break a lot of 1-to-1 conversations filled the room.

During the Q&A session, some questions and feedback was raised from members of the AB, leading to interesting feedback and knowledge sharing. The project partners also had some questions for the Advisory Board members.

Finally the next actions and the communications and dissemination approach for the last project year was presented.

## 3. Q&A session

### **Q1: Kevin Milis (Synergrid):**

On slide 28, you presented some results for different EMS steering approaches. Ranging from rule-based to data-based approaches, with the next steps to participate in aFRR etc. What happens if the forecasting is bad, ‘how does a data-based approach work in that case?’

*[Rémy - UGent]* The idea of the presented paper was to demonstrate different EMS methodologies, e.g. rule-based, model predictive control (MPC) and TreeC. To this end, the starting point of the paper is to evaluate the different approaches against each other, regardless of the forecasting. Thus in a first attempt, the forecasting is assumed to be perfect as forecasting on its own is a priori another topic.

**Q2: Kevin Milis (Synergrid):**

A follow-up question on the EMSs: how do you provide the baselines?

*[Antonio - Haulogy]* The UFP does not provide the baselines, it is the responsibility of the EMS to provide a baseline and this can be done based on a forecast.

**Q3: Kevin Milis (Synergrid):**

But how can you trust your data, what if the baseline provided by the EMS is not accurate?

*[Antonio - Haulogy]* This could be done through metering, but we agree that this needs to be checked.

**Q4: Louise Adam (Synergrid):**

What optimization are you using for the EV scheduler, could you provide more information?

*[Gilles Van Kriekinghe - VUB]* The algorithm we use for the optimization is based on a model predictive control, where we consider the EV driver's preferences, the building consumption, the local PV generation etc. and this is optimized every 1min, in order to adapt the setpoints based on the forecasting etc. And the decision changes on a 15min-basis.

**Q5: Gilles Van Kriekinghe (VUB):**

How can we predict the baseline in day-ahead modus, if the behaviour changes and is not predictable?

*[Antonio - Haulogy]* This could be intraday as well, it is not mandatory to the day-ahead and you could provide a ‘best guess’ of what the baseline would look like. It is unlike for the aFRR which needs to be very accurate, since a mismatch will result in a penalty.

**Remark from Gilles Mahy (Flexcity):**

The term “baseline” is often misunderstood. With baseline, we refer to the real-time consumption that you would have in case you were not activated to provide flexibility services. The delta between the baseline and the actual consumption on that day is the delivered flexibility.

There is a distinction between this and the contracted flexibility which refers to the capacity that you will have available at a certain time and for a certain period. The latter is more complex and is based on probabilities and forecasting and must be shared to the BRP every 4sec.

*[Antonio - Haulogy]* Following-up on this, how can we estimate the imbalance price / forecast it?

*[Gilles Mahy - Flexcity]* This would also include the baseline and estimate the delta.

*[Saeed Jahromi – VUB]* And how does it work for the unbalance market?

*[Gilles Mahy - Flexcity]* There is no such thing as an unbalance market. It simply does not exist, but what you can have, is a peer-to-peer contract with a BRP and get remunerated for your (provided) flexibility. (Apart from this, Elia has defined 3 markets for balancing services).

**Remark from Rémy Cleenwerck (UGent):**

On slides 18-20, I did an assessment of the EV potential to participate to the aFRR market. The historical data was provided by the Pluginvest site, thus for a commercial building with typical office hours and 91 EV chargers (11/22kW). However as you can see, the results showcase that due to (i) the connection times of the EVs in this context (office building) and (ii) limited amounts of charging needs, the aFRR potential is very low if we look at a delivery period of 4h. Indeed, the capacity for a 4h duration that could be reserved is restricted to approx. 50kW.

While it is noticeable that the EV potential to participate on the imbalance market is huge, with peaks that can be shifted of approx. 400kW.

*[Kevin - Synergrid]* This results are very promising and the flexibility is lower than I expected. This might interest Elia. It would be opportune to present such results/analysis and the methodology to Elia and eventually compare these with the hypothesis of the adequacy reports they published.

*[Andreas Theys - Pluginvest]* To follow-up, we recently exported a complete (anonymized) dataset covering a 6 months period to Elia and from the preliminary analysis that we performed we can conclude that for similar sites (e.g. office premises), they showcase the same behaviour.

*[Gilles Mahy - Flexcity]* The energy part shows a huge potential indeed for imbalance steering, the impact of shifting such volumes is huge.

*[Rémy - UGent]* Also, from this brief analysis I derived that for office buildings with a lot of probabilities for the EV driver's needs aFRR is not interesting. However, I personally see a massive opportunity for the logistic sector where the (electric) vans have fixed daily patterns and can thus more easily be predicted.

#### **Q6: Marc Vermeeren (Flux50)**

Why do you think submetering for e-charging assets or heat pumps, proposed by several parties, has not yet been widely implemented?

*Kevin [Synergrid]:* This is not ready yet as we realised it's highly complex, plus in the end who's role is it for the data collection, data curation etc.? Besides, who will get the authorization and what about the legal aspects.

*Jan Desmet [UGent]:* To add extra complexity to the problem, from mid-June onwards there will be some changes in the REDIII and the EMD-5, allowing consumers to have two energy suppliers for the same EAN. Now comes the next question, 'what is the definition of behind-the-meter if submetering is present'?

*Gilles (Flexcity):* It is mainly the electricity suppliers that have the means (and advantages) to provide multiple contracts to 1 EAN.

#### **Q7: Marc Vermeeren (Flux50)**

Do you expect in short/medium term a participation of smart EV charging in explicit/implicit flexibility? For which target groups (home, business, semi-public, public, fast charging, . . .)

*Gilles Mahy [Flexcity]:* On the small-scale (behind-the-meter), they can already be found. Using price-signals such as Jedlix has done is not new. However, at the scale of industry this is more innovative and the question remains, who wants to take the risks? For the residential market, there are already commercial offers from Powernaut or Lifepower for an integration with a BRP and Pleevi (and other start-ups) for the implicit flexibility.

**Q8: Marc Vermeeren (Flux50)**

Do you expect to encounter legal barriers when unlocking flexibility from those smaller assets?

*Marc Vermeeren [Flux50]:* Xheni (Ugent) has prepared a document on legislation about Flexibility on different levels: EU, Belgium, regions. We'll ask her if the document is already mature enough to share it with the ab members. She responded that it's a little bit too early. The document will be published later on.

**Q9: Marc Vermeeren (Flux50)**

Do you see triggers for a larger adoption of dynamic price contracts, as implicit flexibility mechanisms?

*Marc Vermeeren [Flux50]:* we see that in Norway 80% of retail contracts are based on dynamic pricing, while in the Netherlands we talk about 3% and in Belgium 0,x%.

*Gilles Van Kriekinge [VUB]:* There is a huge value. However, I also found within my simulations that there is a conflict with the capacity tariff (in Flanders) and that if the price is very low, it can become a burden and you can not provide flex. due to the capacity tariff.

*Bart Vannoppen [Volta]:* regulators should draw rules so that V2G can be used for charging at the office and discharge for instance at home. This could trigger a larger adaptation but will definitely be flanked by legal barriers.

*Gilles Mahy [Flexcity]:* Octopus Energy already has a time-of-use contract.

*Carlo Caracciolo [Flexcity]:* The problem is that people do not like taking risks, and are afraid to be exposed to uncertainty. Further, the lack of knowledge by the public is immense. Plus: the energy suppliers do not have any incentives to change the current way. They are not triggered to change, as there is no benefits for them.