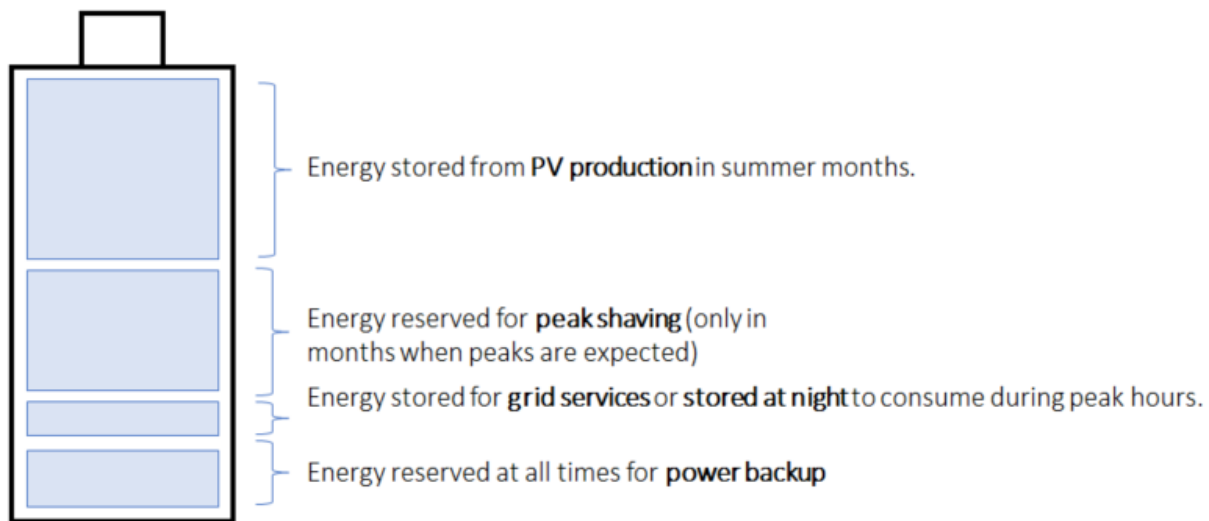


Public consultation on Terms and Conditions for balancing service providers for Frequency Containment Reserve (FCR) – ReVolta comments

Partitioning of batteries capacities

ReVolta is developing a new concept of partitioning of batteries capacities. This allows for a faster economic return on a battery investment. The principle is as follow: Batteries are installed to perform a main task (store energy from PV panels, peak-shaving). The capacity required to perform those tasks is not constant, and depend on the weather and other parameters. The unused capacity of the battery can therefore, during those times, be used to provide FCR services.

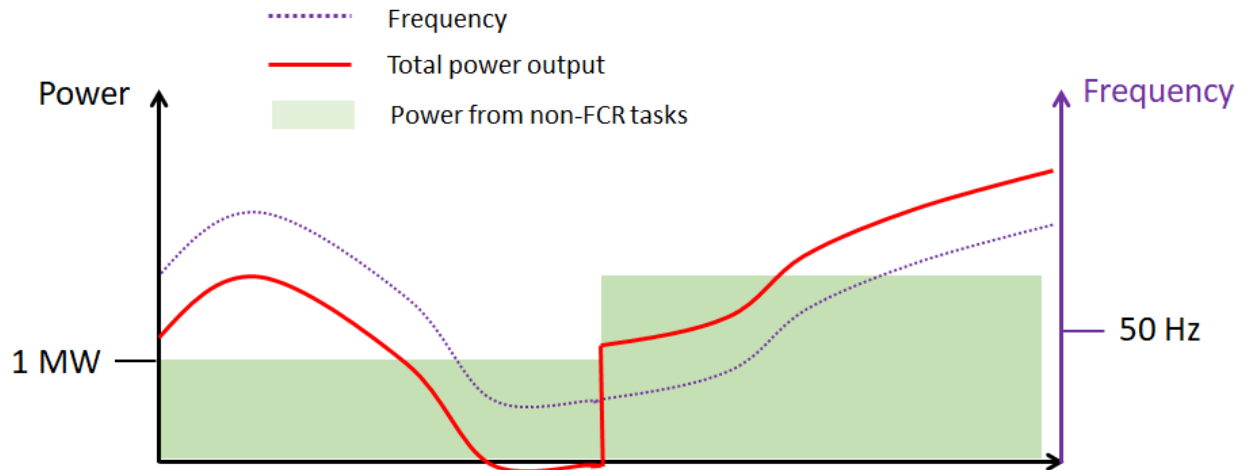


Problem to integrate FCR services

The capacities partitioned for each task will operate independently from one another. This means that the capacity reserved for FCR will not change, and will not be affected by the other tasks of the battery. This concept will provide Elia with a significant aggregated capacity to be used as a FCR service. However this poses a new challenge, which is not yet solvable with the current terms and condition.

Only the total power output of the battery will be measured, with no possibility to know which part of the power is coming from FCR service, and which part is coming from non-FCR tasks. This means that the equations used to compute the power supplied in the availability test and in the activation control must be improved for this specific situation.

The following example shows a simplified typical situation that can arise:



The power coming from non-FCR tasks is first constant at 1MW, and then jumps and remains constant at 2MW. There should be a way to communicate in real-time this data to Elia, for example in the form of a value “CH/DCH non_FCR” that is communicated in real life and that can be included in the relevant formula.

Availability test – compliance criteria

The baseline should include the new value, so that the power used for other tasks are not included in the baseline:

$$baseline = \frac{1}{20} \sum P_{meas} - CH/DCH \text{ Correction} - CH/DCH \text{ non_FCR} + FCR \text{ requested}$$

The power supplied should also include this new value:

$$Power \text{ supplied} = \max[baseline - (P_{meas} - CH/DCH \text{ non_FCR}); 0]$$

The idea is to consider only the part of the capacity which is due to the FCR service (the difference between the green part and the red line in the figure).

Activation control

Similarly, the new value should be used in the computation of $P_{meas_{before}}$ and $P_{meas_{after}}$

Alternative

We suggest this new value as a basis for discussion, but we remain open to new propositions and controls if they are necessary.