



# Strategic Reserve User Guide



Disclaimer: This document has no legal value and is established with the purpose to help Grid Users to deal with the Strategic Reserve. This document should always be aligned with the two following documents: the “Functioning Rules of strategic reserve” and the “Procedure for Constitution of strategic reserve”. In case of mismatches, the Functioning Rules prevail and are to be considered as valid reference. Please note that some of the published data are more recently updated than others. The accuracy is variable from data to data. Please always look attentively to the hypotheses taken when interpreting any published data.

## Introduction

This document explains where an ARP or any other market party can find the necessary information on the Elia website, related to the strategic reserve (SR) mechanism. Please pay attention that the content of this document is intended for persons with an advanced knowledge on the subject; basic information is not always explained, but can notably be found in the [SR product sheet](#). The main assumptions taken are systematically stated and it is explained how the data should be understood.

- The document is divided in three sections: “Anticipation”, “Getting ready” and “Real-time Management”. This should help ARPs during any potential activation of the strategic reserve.
- The “Anticipation” section gathers the data already available several days ahead. Those data could help ARPs in their estimation of the probability that the strategic reserve could be activated in the upcoming days.
- The “Getting ready” section gathers the data available one day before an activation of the strategic reserve. At this moment, the Economic and/or Technical Trigger can be activated (or not) giving a more accurate information about the probability of an SR activation the next day. Especially during SR activations, the ARPs have to prepare themselves to be as much as possible in a balanced position.
- The “Real-time Management” section gathers all data that are crucial for ARPs during the event of a SR activation. Basically, the real-time status of the SR activation as well as the cross-border situation and the balancing situation.

The same structure is followed in the annex section for published information not directly related to the SR but that still might help ARPs to prepare themselves to SR activations.

## ANTICIPATION

### Understanding the Strategic Reserve

General information about the SR mechanism can be found on the ELIA website under the page “**Strategic Reserves Implementation Task Force**”. Here you can find the agenda of the Task Force for the winter 2016-2017, the legal calendar for the coming winter 2015-2016 and also the results from the consultations. Furthermore, under the section of products & services on the Elia website, two important documents can be consulted:

- The “**Functioning Rules of strategic reserve**” (further referred to as “Functioning Rules”) including, among others, the indicators that are taken into account to detect a shortage situation and the principles related to the activation by ELIA of the strategic reserve.
- The “**Procedure for Constitution of strategic reserve**” explaining the modalities of the procedure for constitution of the strategic reserve.

## GETTING READY

### Strategic Reserve Submenu

In the menu “Grid Data”, there is a submenu “Strategic Reserve”. There you can find real time information about SR activations:

- User Guide and documentation
- Status Activation
- RSS Feed
- SR Capacity

The “**RSS Feed**” (Grid Data>Strategic Reserve>RSS Feed) for strategic reserve webpage shows text messages describing the last updates of SR activations and needs. Anybody can register for free to the flow and receive warning emails each time a new feed is created on this webpage. The RSS feed will be sent from the moment the Strategic Reserve supplier receives a notification request from Elia. This way Elia assures that all market parties are informed on exactly the same time.<sup>1</sup>

The “**SR Capacity**” (Grid Data>Strategic Reserve>SR Capacity) section shows a table with two important data:

- **SR Capacity Day Ahead (MW per H)**: The total volume of strategic reserve available that can be sold on Belpex Day Ahead in case of an Economic Trigger which is equal to the volume of SGR available<sup>2</sup>;
- **Economic Trigger volume (MW per H)**: Effective volume sold on Belpex after an Economical Trigger occurrence.

<sup>1</sup> Please be aware that on the Elia website only the current status is displayed. This means that the notification only becomes visible from the moment it actually started.

<sup>2</sup> Prior to the day-ahead market coupling, ELIA informs Belpex on the total available volumes (based on the Pmax Available that the SGR providers sent to Elia each day according to CIPU procedures) of SGR per quarter-hour for the next day. The contracted SR suppliers inform ELIA on their available volume in a DA basis: SGR available volumes are notified to Elia prior to the day-ahead market coupling while SDR available volumes are known by Elia only after the Belpex day-ahead market coupling closing and are thus not taken into account by Belpex for the volume at disposal of the SRM market segment.

## Day ahead

| Time             | Strategic Reserve Capacity (MW) -SGR | Strategic Reserve Sold on Belpex (MW) |
|------------------|--------------------------------------|---------------------------------------|
| 29/10/2015 00:00 | 0,00                                 | -                                     |
| 29/10/2015 00:15 | 0,00                                 | -                                     |
| 29/10/2015 00:30 | 0,00                                 | -                                     |
| 29/10/2015 00:45 | 0,00                                 | -                                     |
| 29/10/2015 01:00 | 0,00                                 | -                                     |
| 29/10/2015 01:15 | 0,00                                 | -                                     |
| 29/10/2015 01:30 | 0,00                                 | -                                     |
| 29/10/2015 01:45 | 0,00                                 | -                                     |
| 29/10/2015 02:00 | 0,00                                 | -                                     |

Remark: the numbers in this table are fictive and for illustrative purposes only.

The “**SR Status Activation**” (Grid Data>Strategic Reserve>SR Status Activation) webpage shows visually what is explained in the RSS Feed for SR. There is a first section with real-time information with the different statuses placed in a chronological order from left to right:

- Detection
- Notification
- Prolongation
- Verification
- Delivery
- Stop

To avoid any confusion, please note that for a given SR activation we often make reference to:

- The Detection gate (moment when an Economic and/or a Technical Trigger is detected);
- The Notification gate (start of the warm-up period);
- The Verification gate (start of the ramp-up period);
- The start of the Delivery period (end of the ramp-up period and start of the period during which the SR should deliver the required SGR/SDR);
- The activation Stop (the moment when the SR activation is finished or stopped earlier than foreseen).

In this section, only the Detection gate is explained. For more explanation about the other SR statuses please see section “Real-Time Management”.

Below, an example of the content of the SR Status Activation page when the warm-up period has been stopped is shown. The first part of the page shows the intraday situation (see Real-Time section for more information), the second part shows information about the possible occurrence of an Economic and/or a Technical Trigger for the next day.

# No Foreseen SR Activation

## Economic and Technical Profile information

Last publication ----/--/-- --:--

Currently, there is no economical or technical trigger detected for 15/10/2015

## Day - Ahead

## Economic and Technical Profile information

Last publication 14/10/2015 18:13

An Economic and Technical Trigger have been detected for the strategic reserves Elia operates.

As a consequence, an activation of strategic reserves from 15/10/2015 17:00 until 15/10/2015 20:00 is expected.

During this period,

the expected volumes of activated strategic reserves will evolve between 387.36 MW and 800 MW.

Economic Trigger Detection from 15/10/2015 17:00 until 15/10/2015 19:00:

- Max profile: 200 MW

- Min profile: 200 MW

Technical Trigger Detection from 15/10/2015 17:00 until 15/10/2015 20:00

- Max profile: 800 MW

- Min profile: 187.36 MW

Total Economical + Technical Detection from 15/10/2015 17:00 until 15/10/2015 19:00

- Total Max profile: 800 MW

- Total Min profile: 387.36 MW

### Disclaimer:

Please be careful, the timing and the activated volumes can still change until the Ramp-up period

In case of an actual Economic and/or Technical Trigger activation, the expected timing and activated SR volumes are also communicated, as you can see in the figure below. **Please be careful when interpreting the expected timing and activated volumes.** Those values are best estimates that ELIA calculates day-ahead. The values will become more accurate when approaching the SR delivery time. The picture below shows how it will be presented on the ELIA's website: It is an example of the content of the SR Status Activation page in case of an Economic and/or Technical Trigger detection.

Remark: the numbers in this table are fictive and for illustrative purposes only.

The **Economic Trigger** (see §6.4.1 of the Functioning Rules) is activated when a risk of structural shortage<sup>3</sup> has been detected on the Belpex DAM (Day Ahead Market). In other words, if the total volume of electrical energy offer is not sufficient to cover the total volume of electrical energy demand expressed in terms of Limited Offtake Order at the Maximum Order Price on the market as explained in the Belpex Market Rules<sup>4</sup>.

<sup>3</sup> Structural shortage of the zone: situation during which the total consumption level of the coupling zone cannot be covered by the offer of installed production in the Belgium grid, excluding the contracted Balancing Reserves, including the importation possibilities and the energy available on the market (defined in Electricity Act, art; 2,54°).

<sup>4</sup> See [www.belpex.be](http://www.belpex.be)

In this case, Belpex will offer an additional volume coming from the Strategic Reserve of ELIA in order to meet the demand on the Belpex DAM. If the additional volume is not sufficient to meet the demand on the Belpex SRM Market Segment, the SR volumes will be spread pro-rata among the demand bids. Afterwards ELIA will publish the following message on the RSS feed with the following text:

*An economic trigger has been detected for the strategic reserve Elia operates. As a consequence, a need for strategic reserves from 13/10/2015 18:00 until 13/10/2015 19:00 is expected. During this period, the strategic reserve will be activated in order to cover the needed volumes which are expected to vary between 50,0 MW and 50,0 MW.*

*Disclaimer: Please be careful, the timing and volumes mentioned here are only those that have been identified on Belpex (Economic Trigger only). The timing and the effective activated volumes can still change until the Verification gate. One economic trigger can cause several activations of strategic reserve.*

The **Technical Trigger** (see §6.4.2 of the Functioning Rules) is activated in day ahead or in real-time when ELIA identifies, based on its own analyses, a risk of structural shortage on the system. The indicators regarding the status of the system that are used for the detection of a risk of structural shortage as well as how an alarm of a risk of structural shortage is triggered are described in the Functioning Rules. When a Technical trigger is detected, the following message in the RSS feed is published:

*A technical trigger has been detected for the strategic reserve Elia operates. As a consequence, a need for the strategic reserve from 15/09/2015 05:00 until 15/09/2015 06:15 is expected. During this period, the strategic reserve will be activated in order to cover the needed volumes which are expected to vary between 20 MW and 75 MW.*

*Disclaimer: Please be careful, the timing and the actual activated volumes can still change until the Verification gate. One technical trigger can cause several activations of strategic reserve.*

### ELIA Grid Available Regulation Capacity (ARC)

ELIA publishes on its website the available regulating volume that can be activated to offset the imbalances and the marginal prices of the bids for activating those volumes. The Available Regulation Capacity serves as a source to calculate the Structural Shortage Indicator (SSI) and the proxy price<sup>5</sup>. If there is a strategic reserve volume activated that is bigger than 0 MW<sup>6</sup>, and there is no structural shortage, then the (downwards or upwards) imbalance prices (POS or NEG) will be equal to the prices showed in the table “bidding prices per volume level” (see below). Depending on the level of the NRV, the imbalance price will be equal to marginal price in the corresponding column of the table. For example, a NRV of 345MW between 00:45 and 1:00 corresponds to a NRV in the range of 300MW and 400MW. As a consequence, the imbalance price will be 315.00€/MWh.

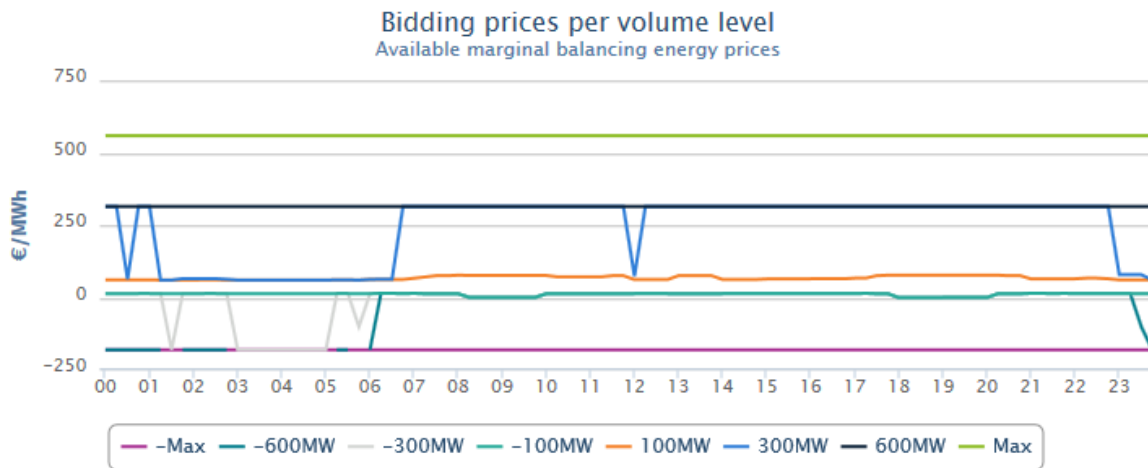
|               | Marginal prices (€/MWh) for activation of |         |         |         |         |         |         |         |         |        |        |        |        |        |        |        |        |        |
|---------------|-------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Quarter       | -Max                                      | -800 MW | -700 MW | -600 MW | -500 MW | -400 MW | -300 MW | -200 MW | -100 MW | 100 MW | 200 MW | 300 MW | 400 MW | 500 MW | 600 MW | 700 MW | 800 MW | Max    |
| 00:00 > 00:15 | -180.00                                   |         | -180.00 | -180.00 | -180.00 | 14.22   | 14.22   | 14.22   | 14.22   | 62.34  | 66.10  | 315.00 | 315.00 | 315.00 | 315.00 | 315.00 | 315.00 | 559.76 |
| 00:15 > 00:30 | -180.00                                   |         |         | -180.00 | -180.00 | -180.00 | 14.48   | 14.48   | 14.48   | 61.64  | 61.64  | 315.00 | 315.00 | 315.00 | 315.00 | 315.00 | 315.00 | 559.76 |
| 00:30 > 00:45 | -180.00                                   |         |         | -180.00 | -180.00 | -180.00 | 14.01   | 14.01   | 14.01   | 61.58  | 61.58  | 64.09  | 315.00 | 315.00 | 315.00 | 315.00 | 315.00 | 559.76 |
| 00:45 > 01:00 | -180.00                                   |         |         | -180.00 | -180.00 | -180.00 | 14.48   | 14.48   | 14.48   | 61.64  | 61.64  | 315.00 | 315.00 | 315.00 | 315.00 | 315.00 | 315.00 | 559.76 |
| 01:00 > 01:15 | -180.00                                   |         |         | -180.00 | -180.00 | -180.00 | 14.48   | 14.48   | 14.48   | 62.34  | 62.34  | 315.00 | 315.00 | 315.00 | 315.00 | 315.00 | 315.00 | 559.76 |

The same data is also available under the form of a graph.

<sup>5</sup> For more information on the calculation of the SSI and proxy price, see § 6.7 of the Functioning Rules

<sup>6</sup> There is also an injection of Strategic Reserve during a test activation of SR or during the warm-up period.





## REAL-TIME MANAGEMENT

### Activation Warnings

ELIA provides two pages on its website in order to share as quickly as possible (close to real-time) with the ARPs the activation status of the Strategic Reserve from the Economic and/or Technical Triggers to the end of an eventual activation.

The “**RSS Feed**” (Grid Data>Strategic Reserve>RSS Feed) for strategic reserve webpage shows text messages describing the current situation of the SR mechanism. Anybody can register to this flow and receive warning mails each time a new feed is created on this webpage.

The “**Status Activation**” (Grid Data>Strategic Reserve>Status Activation) webpage shows visually what is explained in the RSS Feed. There is a first section with intraday information with the different statuses of a SR activation:

- Detection;
- Notification;
- Prolongation;
- Verification;
- Delivery;
- Stop.

The different activation steps take into account the necessary delays for the SGR and SDR suppliers to get ready for injection/curtailment while still allowing ELIA to keep some flexibility (cancellation, delay of the activation, etc.) as long as possible before the delivery period. Please read carefully the §6.2.2 and §6.3.2 of the **Functioning Rules of SR** for more detail.

- The **period between Detection and the Notification gate** is described in the section “Getting ready” because this indicator can already appear in day-ahead and it corresponds to the Economic and Technical Triggers.
- The **Warm-up period**. Between the Detection and the Notification gate, ELIA selects the suppliers to be activated (see §6.5 Functioning Rules). The selected SGR and SDR suppliers receive a notification from ELIA with the verification time. The RSS feed gives the start and end time of the earliest warm-up period.<sup>7</sup> However during this notification, Elia can choose to prolong the warm-up period or to cancel it. In the former case, the status changes to Prolongation. This will also be visible as the current status of the activation (instead another unit is already in the del in ‘Status Activation’ (if no other unit in delivery,...) The warm-up period will only start at the time announced in the RSS feed message or when the status activation changes. For more information about the Notification gate, please consult § 6.4.3 of the Functioning Rules. The status activation will be in “notification” status, when at least one SGR or SDR unit is in the warm-up period.

<sup>7</sup> Please be aware that on the Elia website only the current status is displayed. This means that the notification only becomes visible from the moment it actually starts. However, the RSS feed will be sent from the moment the Strategic Reserve supplier receives a notification request from Elia.

The following message will appear in the RSS feed to announce the Notification gate:

*There is a notification of strategic reserve (i.e. start of the warm-up period) foreseen for at least one of the selected Strategic Reserve suppliers. This warm-up period will run from 26/10/2015 14:30 and 26/10/2015 15:00.*

*Disclaimer: Please be careful, it can be decided that the Delivery is not needed and that the warm-up period must be stopped or prolonged.*

The following message will appear in the RSS feed to announce the prolongation:

*The warm-up period is prolonged for at least one of the selected Strategic Reserve suppliers. Thereby, the prolongation period has been reached and will run from 26/10/2015 13:00 and 26/10/2015 15:00.*

*Disclaimer: Please be careful, it can also be decided that the Delivery is not needed and that the warm-up period must be stopped.*

- The **Ramp-up period** starts when the selected SDR/SGR units have finished the warm-up preparations. When the ramp-up period starts, it means that the need is confirmed and that the **SGR units** can continue the ramp-up towards their Pmin injection level and the **SDR units** can continue the ramp-down towards their shedding limit. From this moment on, the injection/curtailment is confirmed. For more information about the ramp-up period, please consult §6.4.3 of the Functioning Rules. The status activation will be in “verification” status, when at least one SGR or SDR unit is in the ramp-up period.

The following message will appear in the RSS feed to announce the Verification gate:

*There is a verification of strategic reserve (i.e. start of the ramp-up period) foreseen for at least one of the selected Strategic Reserve suppliers. This means that the injection/curtailment of the activated volumes of the strategic reserve is now confirmed. This warm-up period will run from 27/10/2015 15:30 until 27/10/2015 16:00. During the Delivery period, the expected volumes of the activated strategic reserve will evolve between 30 MW and 58 MW.*

*Disclaimer: Please be careful, the Delivery period should start at the end of the ramp-up period but it is still possible to stop the SR activation before the start of the Delivery period or to change the activated volume and the end time of the Delivery period.*

- The **Delivery period**. When the activation enters the start of the Delivery period, the SDR and SGR units should have reached their target levels. The status activation will be in “Delivery” status, when at least one SGR or SDR unit is in the Delivery period.

The following message will be displayed in the RSS Feed to announce the Delivery period:

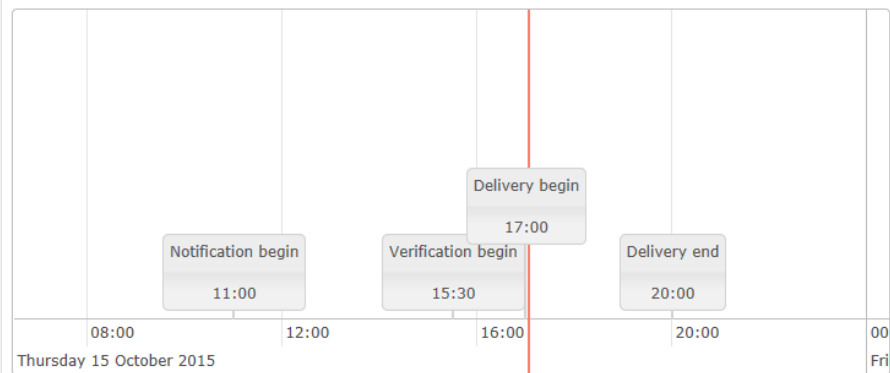
*There is a delivery of strategic reserve foreseen for at least one of the selected Strategic Reserve suppliers. The selected providers will follow their strategic reserves activation program from 27/10/2015 16:00 until 27/10/2015 17:00. During this period, the activated volumes of the strategic reserve will evolve between 30 MW and 58 MW.*

*Disclaimer: Please be careful, the Delivery period can still be stopped or the volumes changed at any moment by Elia if the activated volumes are not necessary anymore or if the activated volumes do not fit with the actual need.*

Furthermore, on the “**SR Status Activation**” (Grid Data>Strategic Reserve>SR Status Activation) a visualization of the status can be found, as shown in the picture below.



## SR Delivery

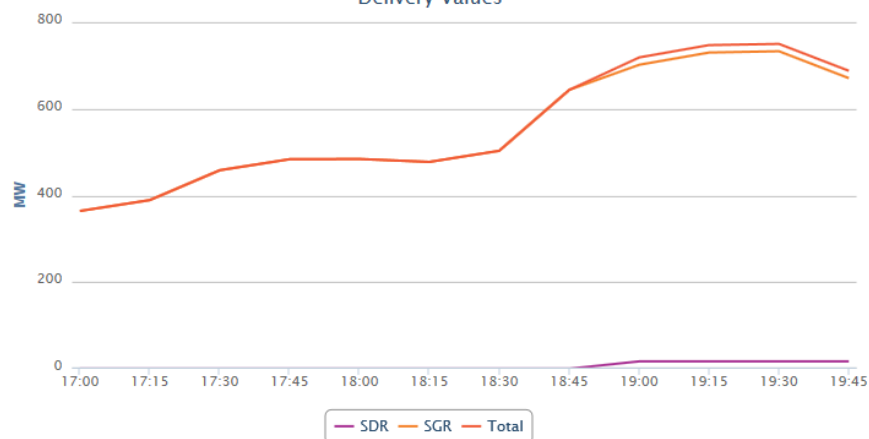


There is a delivery of strategic reserve foreseen for at least one of the selected Strategic Reserve suppliers. The selected providers will follow their strategic reserves activation program from Thu Oct 15 2015 17:00:00 GMT+0200 (Romance Daylight Time) until 15/10/2015 20:00. During this period, the activated volumes of the strategic reserve will evolve between 364 MW and 750 MW.

**Disclaimer:**

Please be careful, the Delivery period can still be stopped or the activated volumes changed at any moment by Elia if the activated volumes do not fit with the actual need.

## Delivery Values



Economic and Technical Profile information

- The **Activation Stop** means that the SR activation has been stopped.

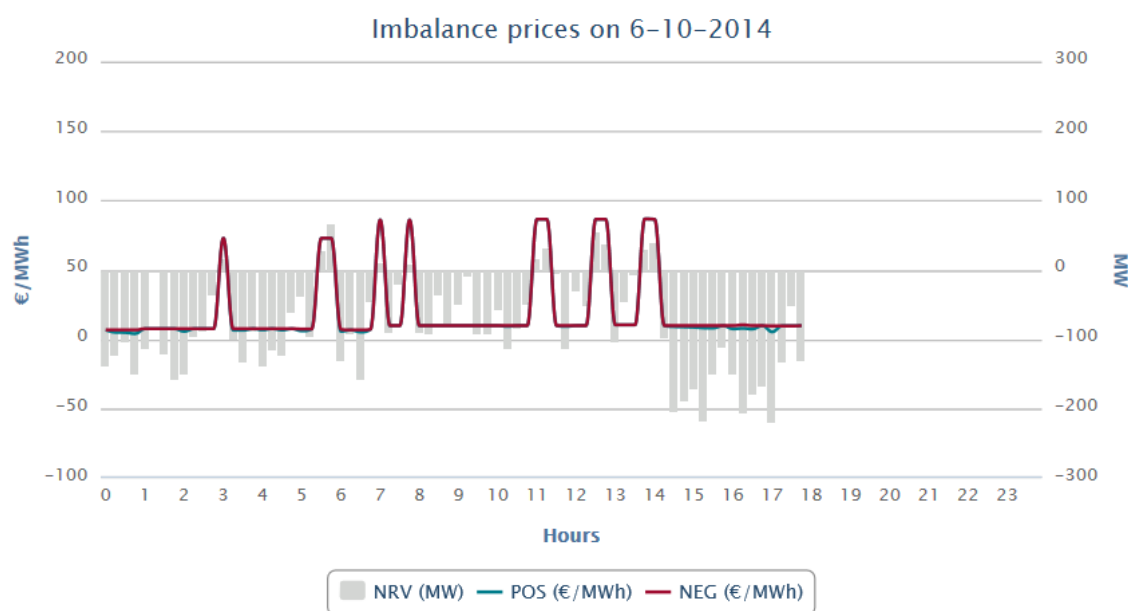
## ELIA Grid Balancing Situation

To follow the balancing situation on the ELIA Grid is crucial for ARPs during any SR activation. The imbalance prices might sharply increase during the activation period (see §6.7 of the Functioning Rules to better understand the importance of the balancing prices mechanism).

In order to help the ARPs to take this parameter into account, ELIA publishes on its website:

- The current **System Imbalance (SI) as well as the current Net Regulation Volume (NRV)**. Those data are refreshed every 2 minutes and can be consulted by any user (Grid Data>Balancing>Using Regulation Capacity for the NRV values and Grid Data>Balancing>Imbalance Prices for the SI). The volumes of energy injected in the Belgian coupling zone by a SR unit will be counted in the NRV calculus except for the volumes supplied on the Belpex SRM. Please consult §6.6 of the Functioning Rules for more detail. The ex-post values are published every 5 minutes after real-time. These values are calculated quarterly and can be downloaded following Grid Data>Balancing>Using Regulation Capacity for the NRV values and Grid Data>Balancing>Imbalance Prices for the SI.

- The **RSS Feed** (Grid Data > Strategic Reserve > RSS Feed) section for the balancing warnings. Anybody can register to this flow and receive warning mails each time a new feed is created on this webpage. This is a separate RSS feed from the Strategic Reserves warnings.
- The **Available Regulation Capacity (ARC)** shows the volumes that can be activated to offset imbalances and the marginal prices for activating those volumes. Please go to the “Getting Ready” section for more information. The Available Regulation Capacity serves as a source to calculate the Structural Shortage Indicator (SSI) and the proxy price.<sup>8</sup>
- The **Using Regulation Capacity (URC)** shows the activated regulation volumes and the corresponding activation prices. On top of that, the activated SR volumes as well as the SR activation prices are displayed. To understand how those imbalances prices are calculated during a SR activation, please consult § 6.7.2 of the Functioning Rules.
- The **Imbalance prices** (for upwards and downwards regulation) per quarter hour for the current day are displayed on a graph. The Net Regulation Value (NRV) is showed on the same graph.



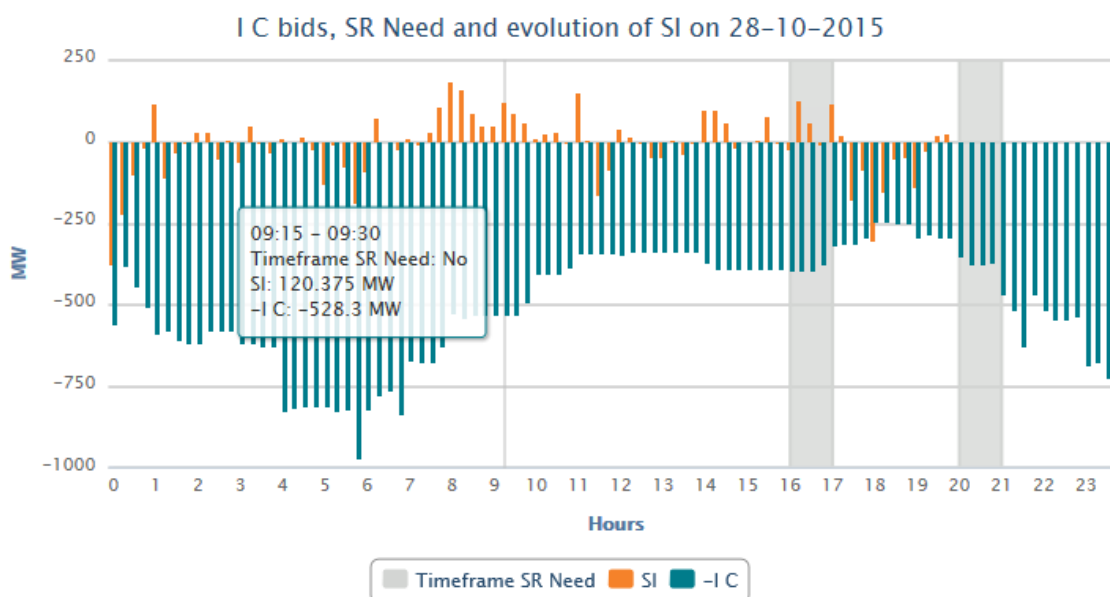
Below the graph showing the imbalance prices, an additional graph is added to indicate the current need for strategic reserves. The graph contains per quarter of hour the following information:

- The total of available Incremental Coordinable bids;
- The System Imbalance;
- Indication of a need for Strategic Reserves: There is a need for SR if the Economic and/or Technical Profile is triggered and bigger than 0 MW.

**Important disclaimer:** When the strategic reserve volume that is activated is bigger than 0 MW, the imbalance tariffs calculus is adapted accordingly. That means that the columns alpha, MIP and MDP are not used for the calculation of the imbalance prices (POS and NEG). The imbalance prices (POS and NEG) can either reach €4.500/MWh or can be administratively calculated using the bid prices of the available regulation volume per volume level (see below section: “ELIA Grid Available Regulation Capacity (ARC)”). To understand the exact formula behind the calculus of the imbalance prices please consult §6.7.2 of the Functioning Rules.

The corresponding data can be consulted on the same page in the form of a table and can be downloaded from the ELIA’s website. The two columns on the right of this table show the upwards and downwards imbalance price per quarter of an hour.

<sup>8</sup> For more information on the calculation of the SSI and proxy price, see § 6.7 of the Functioning Rules



| Quarter       | NRV (MW) | SI (MW)  | $\sigma$ (€/MWh) | MIP (€/MWh) | MDP (€/MWh) | SR (€/MWh) | SI < -I C (MW) | POS (€/MWh) | NEG (€/MWh) |
|---------------|----------|----------|------------------|-------------|-------------|------------|----------------|-------------|-------------|
| 00:00 > 00:15 | 32,154   | -377,128 | 2,56             | 0,00        | 0,00        |            |                | 0,00        | 2,56        |
| 00:15 > 00:30 | 141,000  | -218,680 | 2,85             | 0,00        | 0,00        |            |                | 0,00        | 2,85        |
| 00:30 > 00:45 | 115,848  | -98,459  | 0,00             | 0,00        | 0,00        |            |                | 0,00        | 0,00        |
| 00:45 > 01:00 | -8,684   | -19,639  | 0,00             | 0,00        | 0,00        |            |                | 0,00        | 0,00        |
| 01:00 > 01:15 | -82,093  | 116,642  | 0,00             | 0,00        | 0,00        |            |                | 0,00        | 0,00        |
| 01:15 > 01:30 | 116,360  | -111,107 | 0,00             | 0,00        | 0,00        | 59,73      |                | 59,73       | 59,73       |
| 01:30 > 01:45 | 96,973   | -34,464  | 0,00             | 0,00        | 0,00        | 58,30      |                | 58,30       | 58,30       |

## ANNEXES

## ANTICIPATION

### ELIA Grid Week Ahead Load Forecasts

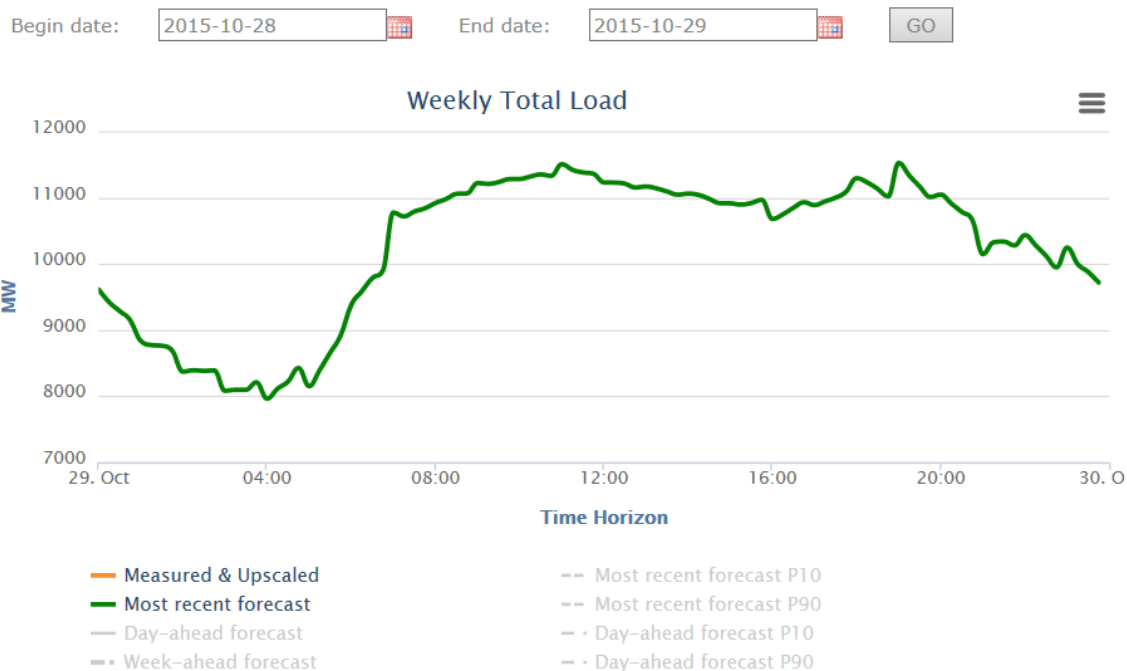
ELIA publishes week ahead load forecasts on its website. This information can be consulted on the following [webpage](#). The ELIA grid load is based on injections of electrical energy into the ELIA grid. It incorporates the net generation of the (local) power stations that inject power into the grid at a voltage of at least 30 kV and the balance of imports and exports. Please be careful about the interpretation of those data because several hypotheses have been taken:

- Generation facilities that are connected at a voltage of less than 30 kV in the distribution networks are only included if a net injection into the Elia grid is being measured.
- The energy needed to pump water into the storage tanks of the pump-storage power stations connected to the Elia grid is deducted from the total.

The published ELIA grid load forecast is purely informational as large deviations can occur on days with varying output levels of decentralized generation.

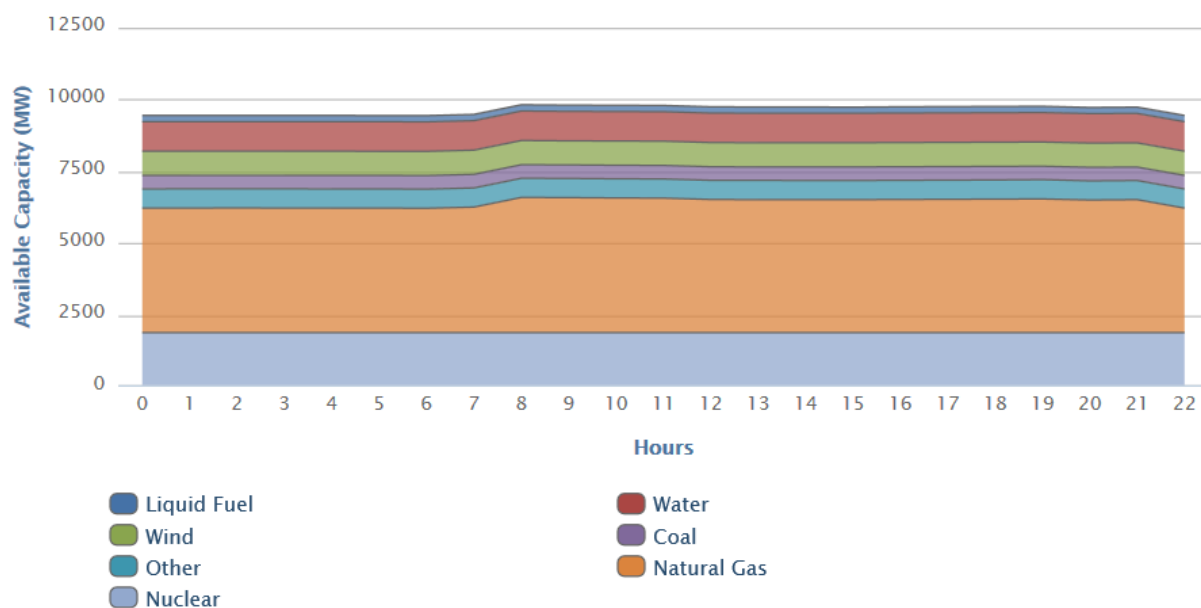
Below, a screenshot is shown of the weekly forecast of a given day. You can navigate on the forecasted week by choosing different begin –and end dates.

## Total Load: weekly view



## ELIA Grid Generation Capacity Forecasts

ELIA publishes the available hourly generation capacity of facilities with a CIPU contract on its website. This information can be consulted on the following [webpage](#). This forecast covers a period extending from one day ahead to the end of the current year. The forecast of the current day is represented graphically, per fuel type, on the webpage (see picture hereunder). To consult the forecasts for the next days, an excel file can be downloaded via a link available below the graph. The available generation capacity forecasts for CIPU units with more than 100 MW capacity can also be consulted on this webpage.

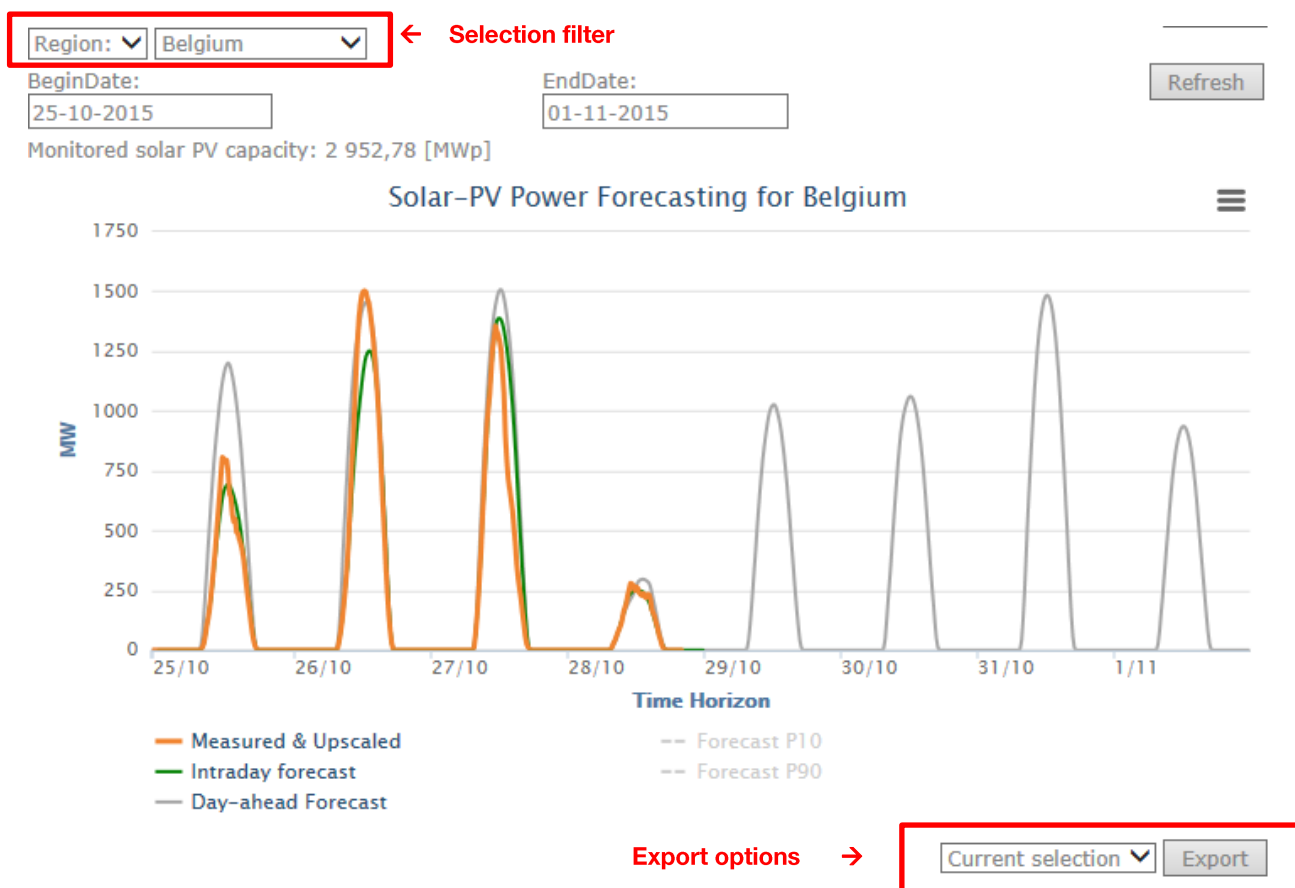


ELIA also publishes an overview of planned and unplanned outages of generation units with a nominal power greater than 100 MW. This information can be consulted on the following [webpage](#).

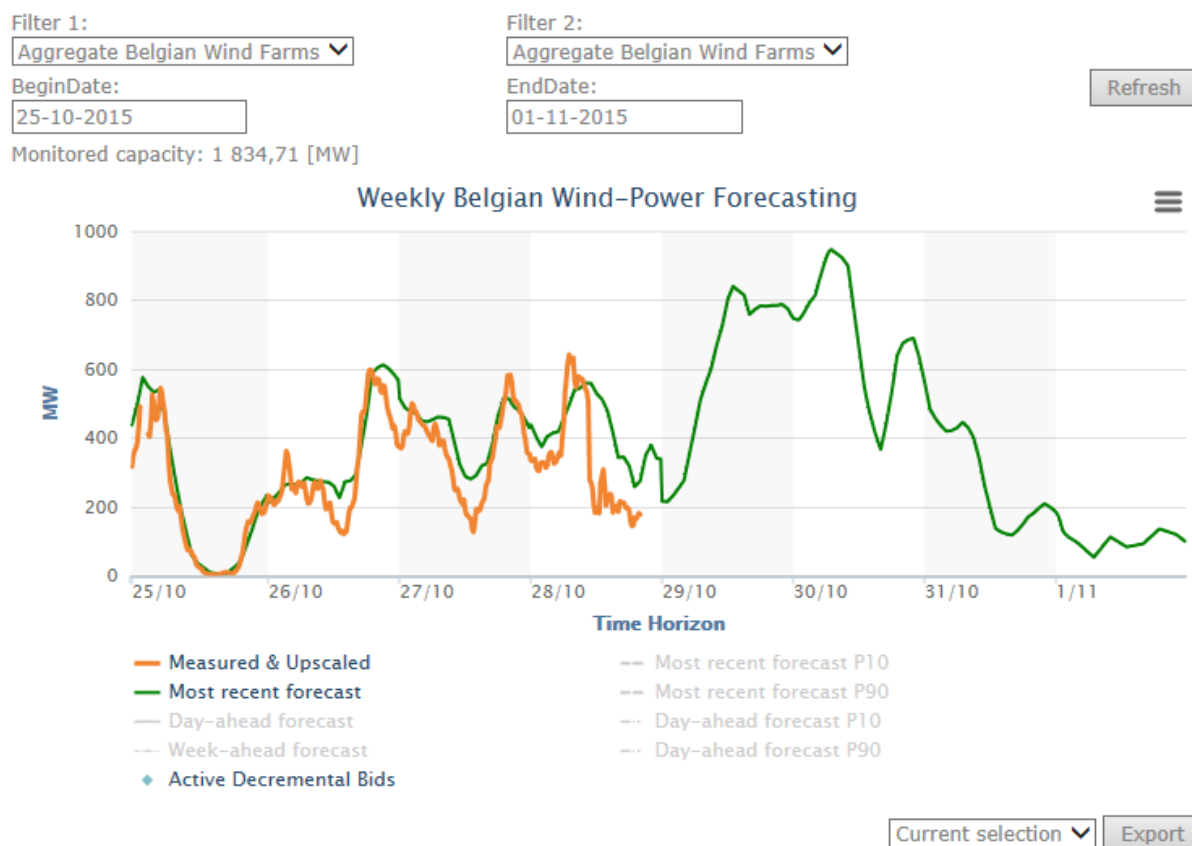
### ELIA Grid Renewable Generation Forecasts

ELIA publishes on its website the wind and solar power generation forecasts. The wind power generation forecasts can be consulted on the following [webpage](#) while the solar power generation forecasts can be consulted on the following [webpage](#).

For solar power generation, the webpage shows an aggregate forecast of the PV-solar power generation for today up until the **next three days**. Using the selection filter the latter will vary according to the geographic region selected (provincial, regional or country level). The picture below shows how the graph is represented on the website. [Here you can find more about the hypotheses taken to build these forecasts.](#)



For wind power generation, the webpage shows an aggregate forecast of the wind power generation for the **next seven days**. This varies depending on the selected filter (filter 1: onshore vs. offshore wind farms; filter 2: wind farms connected to ELIA vs. DSO). The following picture shows how the graph is represented on the website. [Here you can find more about the hypotheses taken to build these forecasts.](#)



### ELIA Grid Cross-border Capacity Forecasts

ELIA publishes on its website the week ahead border capacity between France and Belgium and between The Netherlands and Belgium. To understand how those values are calculated, please visit the following page.

## GETTING READY

### ELIA Grid Day-ahead Load Forecasts

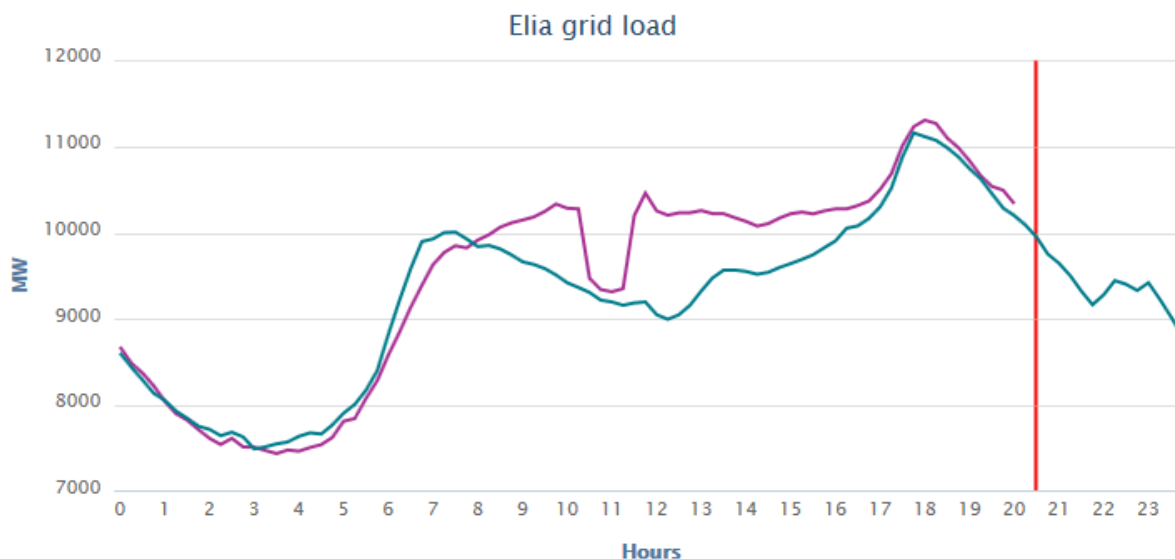
ELIA publishes Day-Ahead load forecasts on its website. This information can be consulted on the following webpage. The Elia-grid load is based on injections of electrical energy into the Elia grid. It incorporates the net generation of the (local) power stations that inject power into the grid at a voltage of at least 30 kV and the balance of imports and exports. Please be careful about the interpretation of those data because several hypotheses have been taken:

- Generation facilities that are connected at a voltage of less than 30 kV in the distribution networks are only included if a net injection into the Elia grid is being measured.
- The energy needed to pump water into the storage tanks of the pump-storage power stations connected to the Elia grid is deducted from the total.

The published Elia-grid load forecast is therefore purely informational as large deviations can occur on days with varying output levels of decentralized generation.

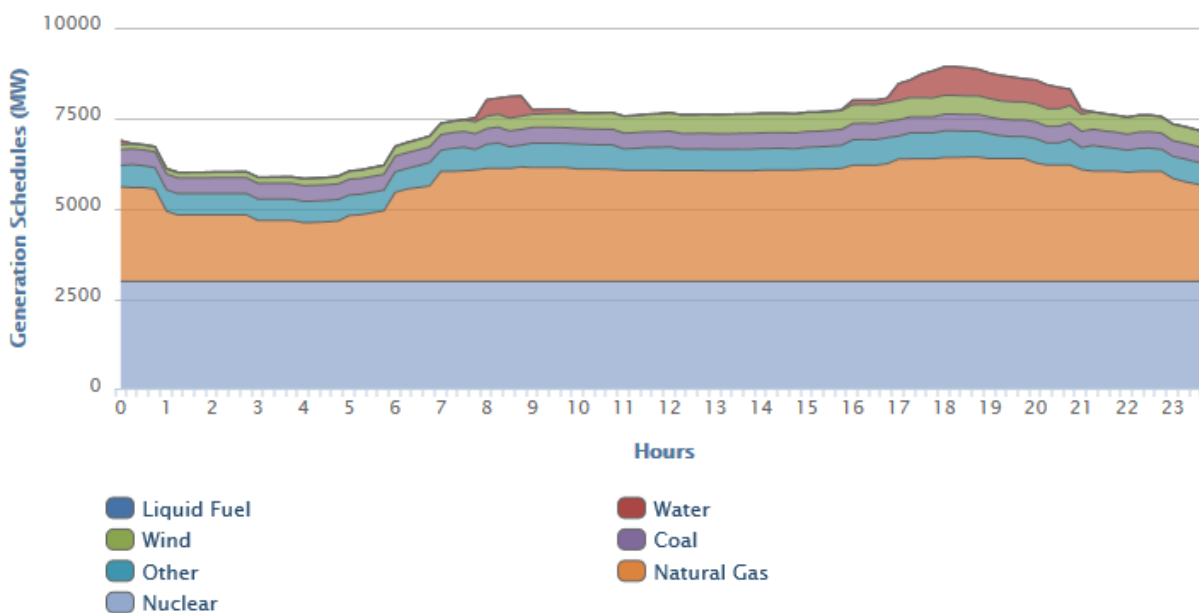
Hereunder, is shown a screenshot of the day-ahead forecast (grey line) of a given day. On the same graph, the actual load (pink line), the forecast of the previous day (dark green) and the forecast for the next day (light green) are shown. The red line shows the current quarter of an hour.





### ELIA Grid Generation Schedule

ELIA publishes on its website information on the values of the generation schedules submitted one day in advance by ARPs. The values are based on ARPs' generation unit nominations (by fuel type). Hereunder, you can see a picture showing how it is represented on the webpage. It is also possible to download the quarter-hourly data from a link situated at the end of the webpage.



### ELIA Grid Day-ahead Renewable Forecasts

ELIA publishes on its website the wind and solar power generation forecasts. The wind power generation forecasts can be consulted on the following [webpage](#) while the solar power generation forecasts can be consulted on the following [webpage](#). For more detail about those pages, please consult ELIA Grid Renewable Generation Forecasts section.

### ELIA Grid Nominated Cross-border Capacity

ELIA publishes on its website the day-ahead total cross-border nominated capacity as well as the split of the cross-border nominated capacity between France and Belgium and between The Netherlands and Belgium. The nominated values correspond to the cross-border capacity that has already been bought on the market while the daily cross-border capacities (France-Belgium and The Netherlands-Belgium) show the maximum available cross-border capacity. The difference between the maximum available and the nominated capacities give the remaining cross-border capacities.

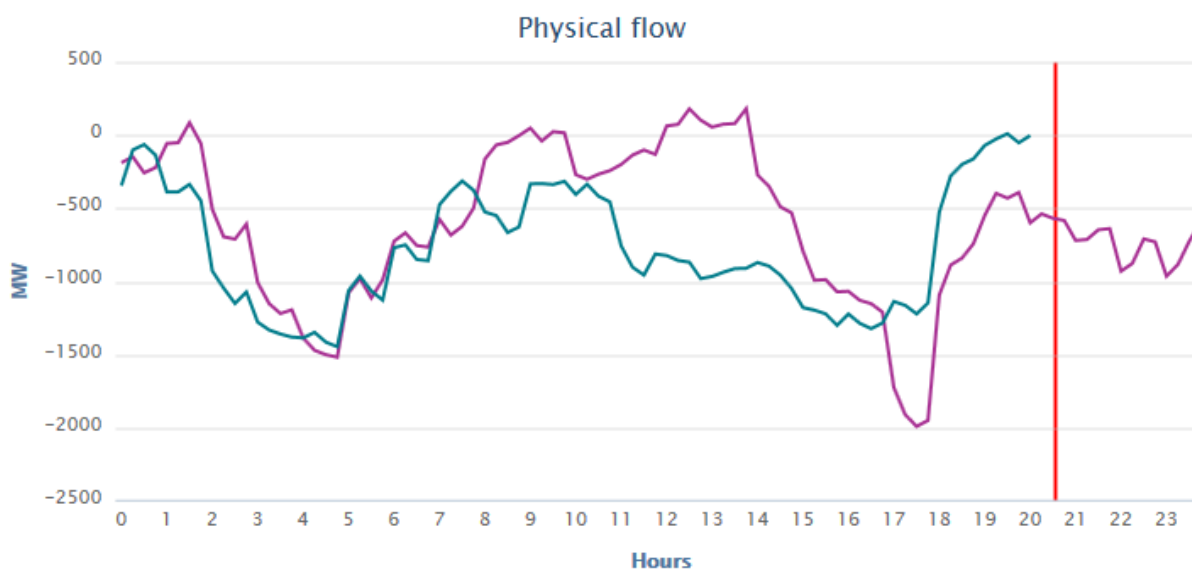
To understand how those values are calculated, please visit [the following page](#).

## REAL-TIME MANAGEMENT

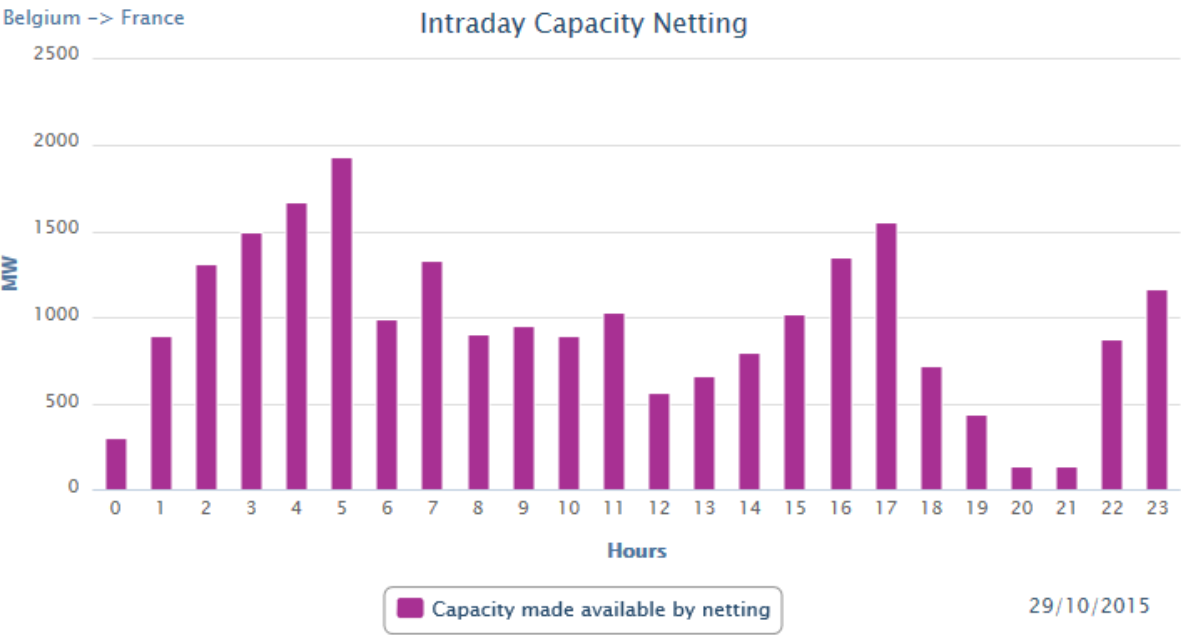
### ELIA Grid Cross-border Physical Flows

ELIA publishes the real-time exchanges of energy, observed at borders. Those cross-border physical flows are distinguished from commercial flows, which correspond to the exchange programs (nominated capacity) scheduled by market players using cross-border mechanisms.

A screenshot of the physical flows between France and Belgium of the previous day (pink line) and the physical flows of the current day (green line) for a given day is shown. Similar information can be consulted on the same page for the border between Belgium and The Netherlands as well as the import/export balance of Belgium.



ELIA publishes also the intraday cross-border capacity for energy exchanges between Belgium and France and between Belgium and The Netherlands. A screenshot shows the intraday capacity made available by netting flows going from Belgium to France.



Should you require assistance or more information, please don't hesitate to contact [balancing.publications@elia.be](mailto:balancing.publications@elia.be).