Electronic Data Platform
User Manual - Fluxys

All Fluxys operational data on the Belgian territory

18/09/2024	Last updated version

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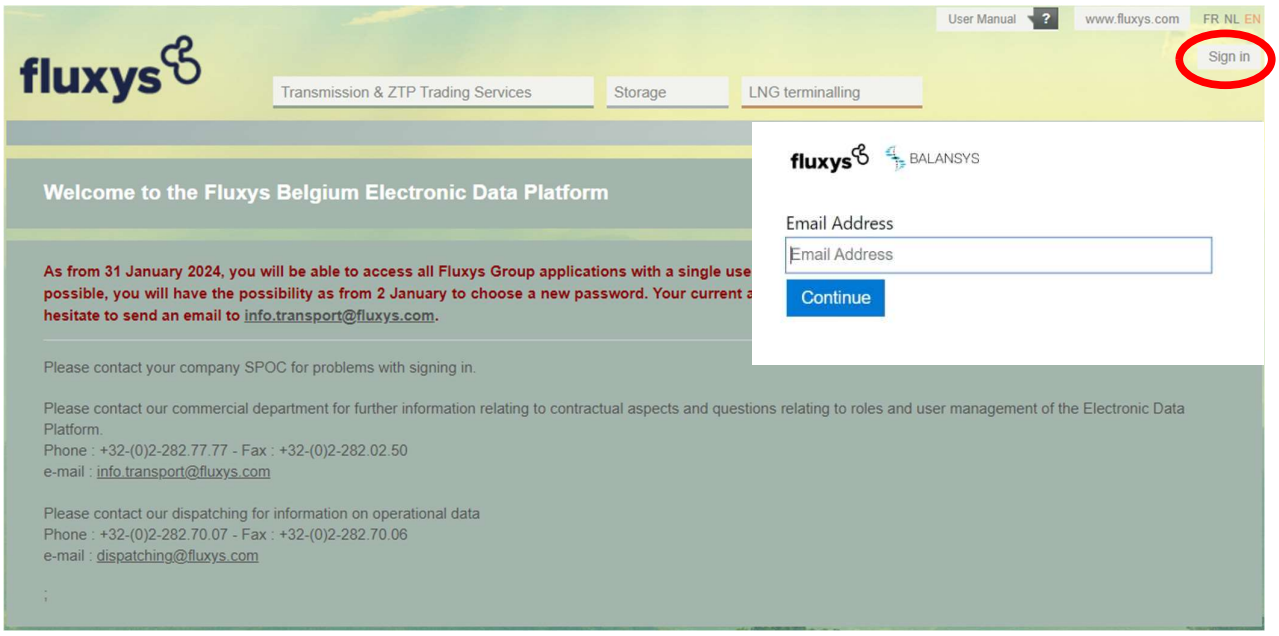
1. Introduction

In the framework of the execution of Transmission & ZTP Trading, Storage and LNG Terminalling Services under the Standard Transmission Agreement, the Standard Storage Agreement and/or the LNG Terminal Agreements, Fluxys offers grid user access to and use of the Electronic Data Platform with the Electronic Booking System included. Such access will be granted to grid user representatives, further referred to as users, on a non-exclusive and non-transferable basis and as from the moment those users become registered.

Fluxys is for commercial, operational and regulatory purposes offering different access rights to the Electronic Data Platform. The following distinction is made depending on the type of data made available:

- Public data is data made available to anyone without access restriction placed on such kind of data,
- Private data is data made available to a specific grid user, with restricted use depending on the access rights granted to the user of the Electronic Data Platform. The menu items with the symbol are only privately accessible. Depending on his role (which was defined by the SPOC) he may or may not access all functionality shown on this screen.

In order to access the Electronic Data Platform user must log in via https://gasdata.fluxys.com/ For an optimal use of the data platform, we advise you to use the browser Google Chrome / Microsoft Edge.



1.1 Glossary

Agreement	Generic naming for STA (Standard Transmission Agreement), SSA (Standard Storage Agreement), LTA (LNG Terminalling Agreement), LTL (LNG Agreement for LNG Truck Loading), LTSA (LNG Transshipment Services Agreement), CSA (Capacity Subscription Agreement), LSA (LNG Service Agreement)
ACT	Access Code for Transmission
Business Party (BP)	A Business Party is a company with whom Fluxys does business (i.e. has a capacity contract). In Fluxys' ICT systems, a Business Party typically is limited to one of the possible activities (Transmission – Storage – Terminal) in which Fluxys or one of its subsidiaries is the operator. In other words, if the same company is active for all three activities (i.e. has an active STA, SSA and LTA), it will be technically registered as different business parties in the respective ICT system of the concerned activity.
Electronic Booking System (EBS)	Part of the Electronic Data Platform provided by the TSO which allows Grid Users to subscribe transmission services.
Electronic Data Platform (EDP)	The internet application offered by Fluxys to the Fluxys Service User on which Fluxys and its affiliates shall give access to both public and private data and its associated Electronic Booking System through which the Grid User can subscribe transmission services.
Extranet-Administrator (Ex SPOC)	Fluxys Service User Representative appointed by the Fluxys Service User according to procedures set forth in the Agreements (STA, SSA, LTA) who shall be the contact person between the Fluxys Service User and Fluxys Belgium and its affiliates, and who is entitled to do the administration setup. An Extranet-Administrator is always defined for a Business Party Association (BPA) and an activity. The Extranet-Administrator can only define user rights for the BPA and the Fluxys activity that is associated to him/her.
Fluxys	Can either be Fluxys Belgium as Fluxys LNG.
Fluxys activity	Fluxys has three regulated commercial activities, being Transmission, Terminal and Storage.
Fluxys Service User	The Fluxys Service User is a generic naming for Transmission Service User, Storage User, Terminal User.
Transmission Service User	Generic naming used in this document only for Grid User, Gas User, TSO.

User	The user that is associated to a BPA. This user can sign in to the EDP and to the EBS with a user name and password.
Working Hours	From Monday to Friday between 9 am and 6 pm Belgian Local Time, except during bank holidays in Belgium or the TSO's general holiday schedule.

1.2 Availability and use of the EDP and EBS

The Electronic Data Platform and Electronic Booking System are intended to be accessible 24 hours per day and 7 days a week. Assistance in case of technical problems or unavailability of the EDP or EBS for whatsoever reason or the helpdesk will only be ensured by Fluxys or one of its affiliates during Working Hours.

Fluxys and any of its affiliates reserve the right to suspend or otherwise limit the availability of part or all of the EDP or EBS at any moment to make all modifications likely to improve or expand its operation or simply to ensure its maintenance. The Fluxys Service User will be notified in due time of any change in the EDP or EBS or any such unavailability. Fluxys and any of its affiliates will use its reasonable endeavours to keep such unavailability to a minimum.

The use of the EDP, and the data published on it, is at the user's own discretion and risk. Data on EDP may contain inaccuracies.

1.3 Extranet-Administrator & users

Upon registration of Extranet-Administrator(s), Fluxys will create a user account for the Extranet-Administrator and associate this account to the relevant BP. A Extranet-Administrator is a specific type of user, who acts as a Single Point Of Contact role for one or more Fluxys contexts.

For example, an Extranet-Administrator user in a Terminal context will be able to create and manage users for his BPA in the Terminal context.

The Extranet-Administrator is initially created in the Fluxys Group CRM Platform with the role of 'Extranet – Administrator'.

The Extranet-Administrator user details, such as mobile phone number and e-mail address, are required.
The Extranet-Administrator user will receive an e-mail to proceed with the creation of his/her account.

The Extranet-Administrator needs to complete his/her account creation via the general account set up mechanism explained in the next chapter.

The Extranet-Administrator has administration rights which allows to create & manage users related to the SPOC / BP he/she is a Extranet-Administrator for.

This administration of user rights is to to be done in the Fluxys Group CRM Platform.

These users need to have at least the 'Extranet – Reader' role to access private parts of EDP with reader rights.

More information related to EDP rights & roles can be found in the Fluxys Group CRM Platform user manual.

1.4 Roles & EDP pages

The following overview lists the correspondence between the role defined in Fluxys Group CRM Platform & the different EDP pages:

Role	EDP page
Extranet – Reader	All public & private EDP pages in read only mode.
Extranet – Manager	All EDP pages where registration or validation of transactional data is possible.
Extranet – Allocation Agreement Validator	EDP page to approve the allocation agreements
Extranet – Measurement Index Encoder	EDP page to encode metering index
Extranet - Api Account	Is a role used for automatic downloads, usually executed by an external system that requires private data relating to the grid user.

2. Functionalities for the users (including Extranet-Administrators)

2.1 Creating your account

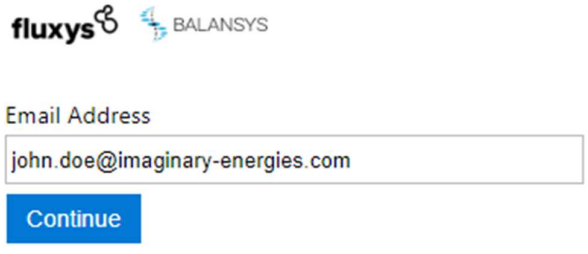
This section will guide you through the process of creating your account during your first-time login and setting up two-factor authentication (2FA) for added security. This process is linked to the Single Sign On (SSO) and is not as such a process specific to EDP.

1. Navigate to EDP

Open your web browser, navigate to EDP [https://gasdata.fluxys.com/] and click on [Sign in]

2. Enter your email address

Enter the email address that has been used to set up your account on the Fluxys platforms. After entering the email address, click the **Continue** button.

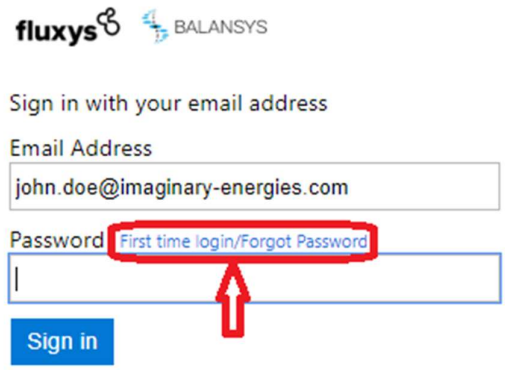


If you receive an error message, please contact your Fluxys point of contact.

- An account could not be found for the provided user ID: Your account was not found our systems.
- Your account has been deactivated: You have waited more than 30 days to activate your account and it has been deactivated for security reasons. The account needs to be reactivated before it can be used.

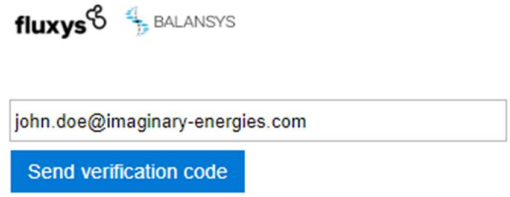
3. Initiate the first-time login flow

As you are logging in for the first time, you need to set a password. In order to do so, click the **First time login** link.



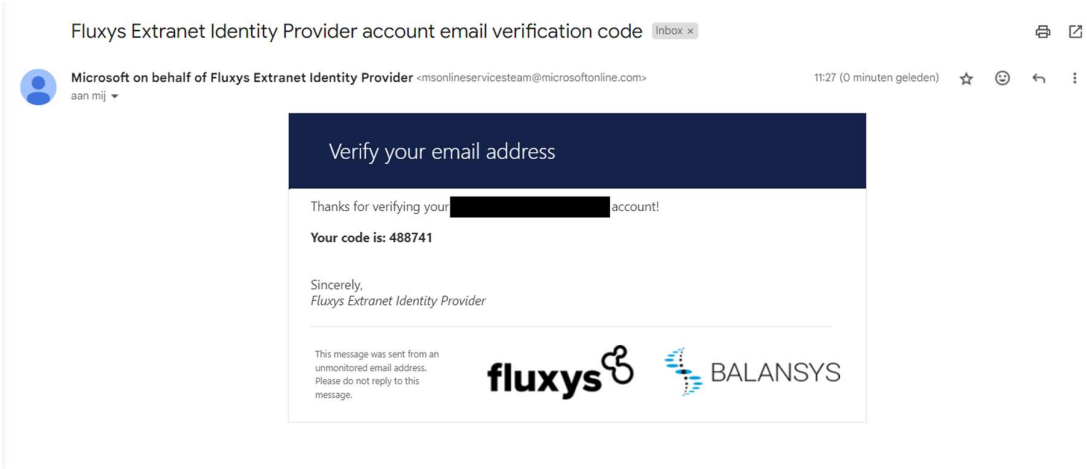
4. Send a verification code

In this step, we validate your identity. By clicking the **Send verification code** button, an email will be sent to your email address with a temporary verification code.



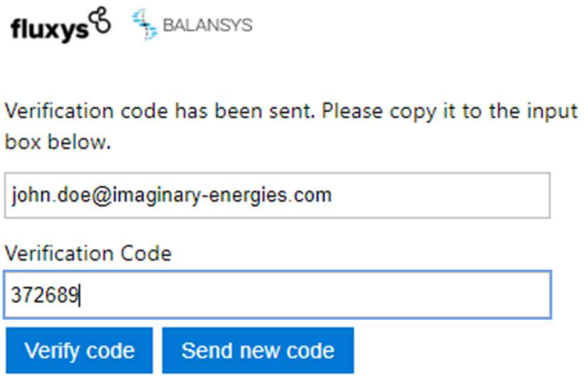
5. Check your email

Wait for the email with the verification code to arrive. Note that the verification code will only be valid for 5 minutes. After 5 minutes, you will need to request a new verification code in order to continue.



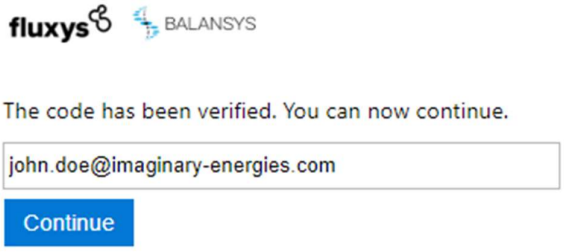
6. Enter the verification code

Enter the verification code on the logon screen and click **Verify code**.



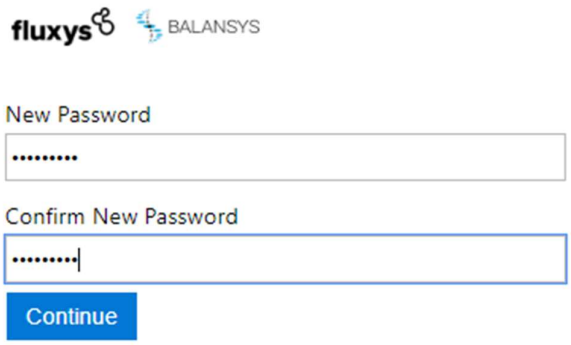
7. Code verification result

If the verification code entered is correct and entered within 5 minutes, you will receive a message that the code has been verified. If your verification code is rejected, please go back to the previous step (using the browser back button) and request a new verification code. Click **Continue** to proceed to the next step.



8. Choose and confirm your password

Enter the password you would like to use for your account.



The allowed password characters are:

- A-Z
- a-z
- 0-9
- @ # $ % ^ & * - _ □ + = [ ] { } | : ‘ , . ? / ` ~ “ ( ) ;

Characters disallowed are:

- Spaces
- Unicode characters
- A . character immediately preceding the '@' symbol.

The password should be between 8-16 characters, and requires 3 out of 4 of the following:

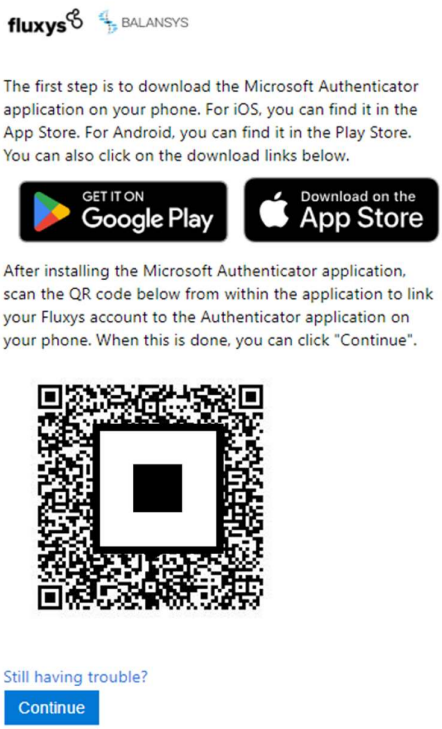
- Lowercase characters
- Uppercase characters
- Numbers (0-9)
- Symbols (see the allowed characters above)

9. Setup a Microsoft Authenticator app account

As a final step, you will register your account in the Microsoft Authenticator app.

An Authenticator app is an application that runs on your mobile phone and generates a number, which you will have to provide next to your password during logon. It's an extra security measure to prevent identity spoofing known as multi-factor authentication.

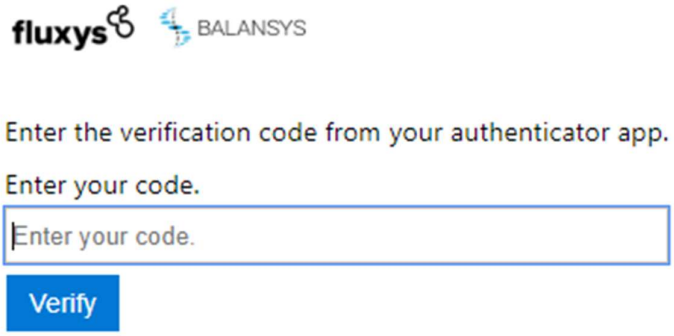
If the Microsoft Authenticator app is not yet installed on your mobile phone, download and install it by following the instructions displayed on-screen. Scan the QR code with your Authenticator app, select **Work account** if asked, and once your account is registered on your mobile device, click **Continue** in your browser.



10. Enter the code generated by the Authenticator app.

Open your registered account in the Authenticator app and copy the displayed number into your browser window. This is to ensure that your account is properly registered in the Authenticator app.

Click **Verify** to verify the generated code and finalize the registration process.

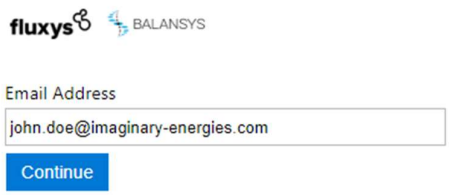
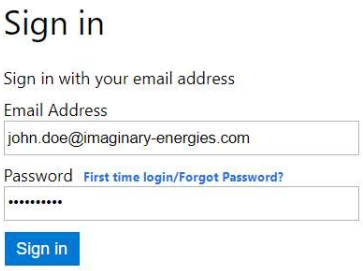
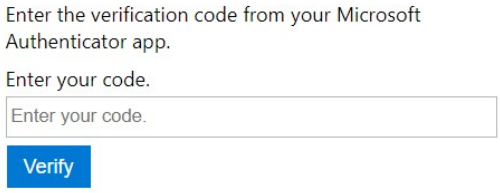


You've successfully logged in and can use these new credentials to log in moving forward!

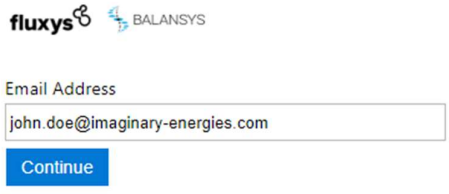
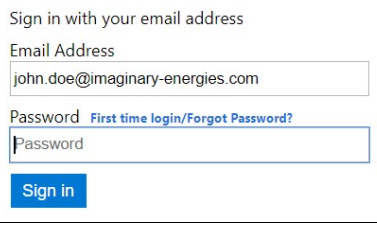
2.2 Logging into EDP

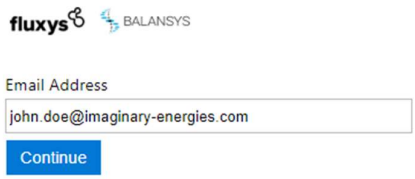
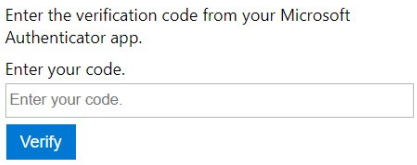
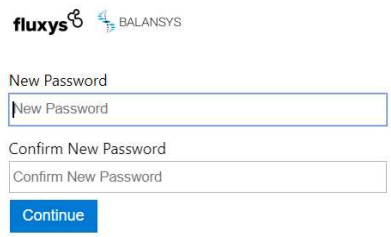
1. Navigate to EDP.

Open your web browser, navigate to EDP [https://gasdata.fluxys.com/] and click on [Sign in]

2. Enter your email address Enter the email address that has been used to set up your account on the Fluxys platforms. After entering the email address, click the **Continue** button.	
3. Enter your password Enter your password and click on **Sign in**.	
4. Enter your verification code Open your Authenticator app and enter the verification code. Then, click on **Verify**.	

2.3 Resetting your password

1. Navigate to EDP. Open your web browser, navigate to EDP [https://gasdata.fluxys.com/] and click on [Sign in]	
2. Enter your email address Enter the email address that has been used to set up your account on the Fluxys platforms. After entering the email address, click the **Continue** button.	
3. Click on "Forgot Password?"	

4. Confirm email for which you want to modify the password	
5. Enter your verification code Open your Authenticator app and enter the verification code. Then, click on **Verify**.	
6. Choose your new password and confirm Once your password is chosen, click on **Continue**.	

2.4 Getting help & support

For any question relating to EDP, please contact your Fluxys point of contact.

2.5 Consult my info

Click on the user name. The following screen appears

The external user can consult his user information, being:

- First name
- Last name
- User ID
- Telephone number
- Mobile phone number
- E-mail address

The user can also consult the information for the SPOCs of his BPA

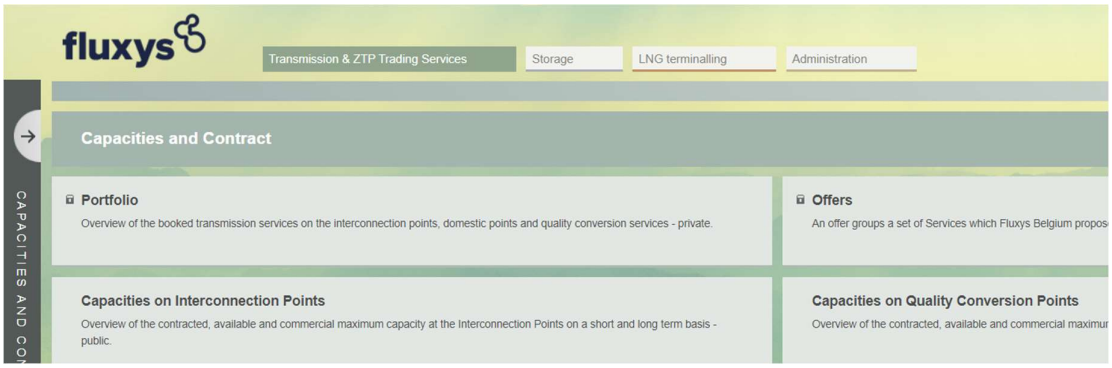
- Name
- Mobile phone number
- E-mail address

3. Transmission & ZTP Trading Services

3.1 Capacities and Contracts

3.1.1 Portfolio

Via the Electronic Data Platform it is possible for the grid user to download his portfolio of contracted services.



Navigate towards "Capacities and Contracts" in the "Transmission & ZTP Trading Services" section on the Electronic Data Platform and select the "Portfolio" tab in order to consult the portfolio.

In the Portfolio screen the grid user can select to export his portfolio to a XML file or a CSV file. This export can be generated as of a specific date for an unlimited period or for a specific period.

Note that this is private data which is made available to a specific grid user only, with restricted use depending on the access rights granted to the user of the Electronic Data Platform, as detailed in Attachment G of the Access Code for Transmission.

3.1.2 Capacities on Interconnection Points

Fluxys publishes the contracted, available and commercial maximum capacities at every interconnection point on its network for the next 15 years.

- Firm Capacity: capacity that is guaranteed under all normal circumstances.
- Backhaul Capacity: offered at unidirectional interconnection points, in the opposite direction of the physical gas flow direction and is usable as long as the resulting physical flow remains in the physical direction of the interconnection point
- Interruptible Capacity: capacity with an interruption probability of 5% based on historical flows.

The following table explains the column names

CCF	Contracted Capacity Firm
ACF	Available Capacity Firm
CMCF	Commercial Maximum Capacity Firm
CCB	Contracted Capacity Backhaul
ACB	Available Capacity Backhaul
CMCB	Commercial Maximum Capacity Backhaul
CCI	Contracted Capacity Interruptible
ACI	Available Capacity Interruptible
CMCI	Commercial Maximum Capacity Interruptible

The set of interconnection points that can be chosen as parameter contains both the interconnection points valid in the former transmission model, and in the new entry-exit transmission model. By default all the interconnection points are checked.

The report shows for each day in the requested period only data for the interconnection points that are valid on that day. Attention, the download can only be done for blocks of 2 years.

3.1.3 Capacities on Domestic Exit Points

Fluxys publishes the contracted, available and technical capacities at each Zone, H and L, of its network with the aggregated set of data for the supply points connected to this Zone.

The following table explains the column names

CCF	Contracted Capacity Firm
ACF	Available Capacity Firm
TC	Technical Capacity

3.1.4 Secondary Market Report

Capacities booked on the secondary market are reported in aggregated form, per interconnection point, direction and type of capacity. The types of capacities are firm, Backhaul and interruptible.

3.1.5 Capacities on Quality conversion Points

Fluxys publishes the contracted, available and commercial maximum capacities at every conversion point on its network.

The following table explains the column names

CCF	Contracted Capacity Firm
ACF	Available Capacity Firm
CMCF	Commercial Maximum Capacity Firm
CCI	Contracted Capacity Interruptible
ACI	Available Capacity Interruptible
CMCI	Commercial Maximum Capacity Interruptible
DF	Demand Factor
SF	Seasonal Factor
MF	Maintenance Factor
IF	Interruption Factor

3.1.6 Congestion Management Procedures

Congestion occurs when a Service Request for Firm Transmission Services at an Interconnection Point or an End User Domestic Exit Point cannot be confirmed due to lack of available Firm Transmission Services and if none of proactive congestion management measures or any other alternatives envisaged between TSO and Grid User have provided for an acceptable solution.

3.1.6.1 Unsuccessful requests for firm capacity

Occurrence of unsuccessful, legally valid requests for firm capacity products with a duration of one month or longer including the number and volume of the unsuccessful requests.

3.1.6.2 Auctions cleared at prices higher than the reserve price

In the case of auctions, where and when firm capacity products with a duration of one month or longer have cleared at prices higher than the reserve price.

3.1.6.3 No firm capacity offer

Where and when no firm capacity product with a duration of one month or longer has been offered in the regular allocation process.

3.1.6.4 Capacity made available through congestion management procedures

Total capacity made available through the application of the congestion-management procedures.

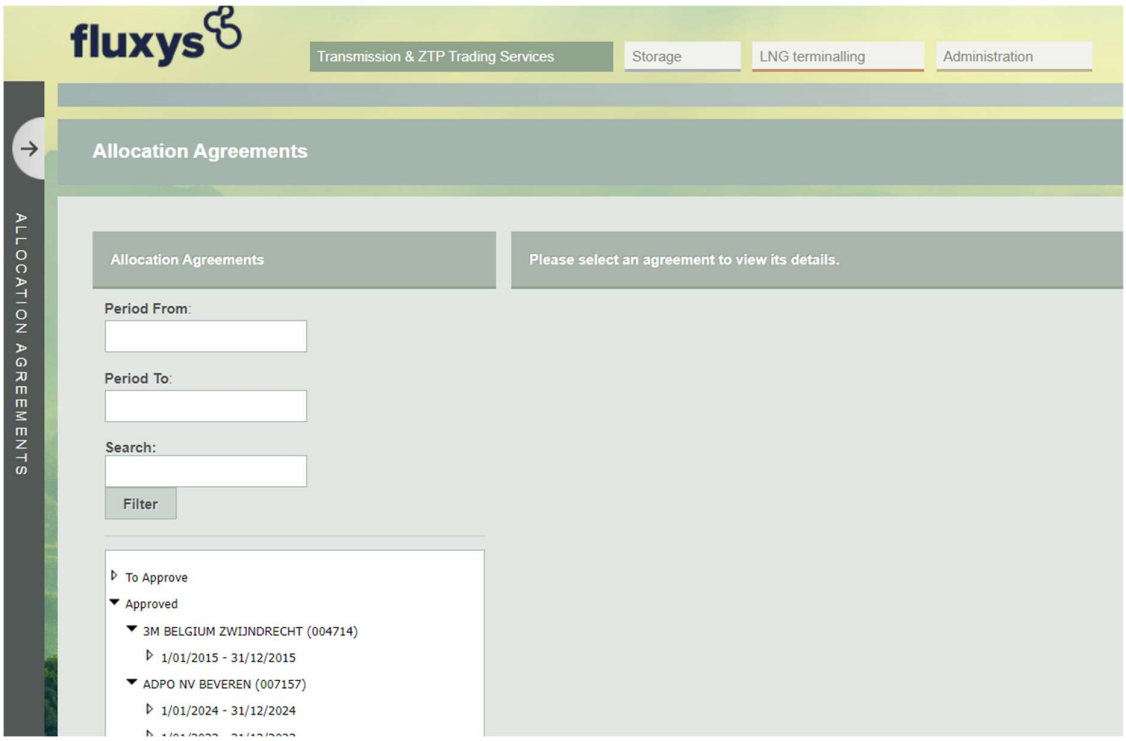
3.1.7 Allocation Agreements

In this section, Allocation Agreements are listed, available for consultation and approval. In the folder tree a distinction is made between:

To Approve : List of the AA to be approved

Approved :

Allocation Agreements which have been signed by all involved parties are listed and available for consultation in this section.
The filter panel gives the possibility to select Allocation Agreements which are relevant for a specific period.
If the user wants to display the Allocation Agreement for a specific period, he should first select the correct period in the tree under the name of the Domestic Exit Point.



The following information is then available:

3.1.7.1 Agreement details :

Validity Period: the period for which the Allocation Agreement is concluded by all involved parties *Approval deadline*: the deadline to meet for the approval of the Allocation Agreement (only relevant if not already approved by all involved parties)

Station Schema: a schema of the receiving station of the Domestic Exit Point (by clicking on the image, the window enlarges)
Allocation rule description: the description of the rule which will be applied to calculate the allocation to the Grid User(s) of the Quantities of Natural Gas offtaken at the Domestic Exit Point.

3.1.7.2 Agreement Approval:

The involved parties: Grid User and Final Costumer
The status of the approval: Approved (to be approved and refused are status which are available)

3.2 *Maintenance*

3.2.1 Works and interventions impact on Interconnection Points

Fluxys publishes the works and interventions impact on interconnection points, describing the following information:

IP	Interconnection Point
Sub Grid	Subgrid to which the interconnection point belongs
Direction	Direction of gas flow
Gas day	Gas day
Gas Hour	Gas hour
CCFB	Contracted Capacity Firm & Backhaul
PIFB	Planned Interruption Firm & Backhaul

UIFB	Unplanned Interruption Firm & Backhaul
RCFB	Remaining Capacity Firm & Backhaul
RCFB %	Remaining Capacity Firm & Backhaul %
CCI	Contracted Capacity Interruptible
PII	Planned Interruption Interruptible
AII	Actual Interruption Interruptible
RCI	Remaining Capacity Interruptible
RCI %	Remaining Capacity Interruptible %
Nature	Nature of Work Maintenance

3.2.2 Works and interventions impact on Domestic Exit Points

Overview of the contracted, available and commercial maximum capacity at the Interconnection Points on long term basis

TSO and Grid User agree to cooperate in the planning and scheduling of any installations, connections, disconnections and removals of relevant facilities so as to facilitate necessary maintenance, repair and replacement works, to reduce necessary interruption periods and to minimize interruptions.

Maintenance, repair or replacement works affecting the MTSRf and/or MTSRb shall be limited in duration and instances insofar as reasonably possible.

3.2.3 Works and interventions impact on Quality Conversion

Overview of works and interventions planned for the current year on the Fluxys Grid that could affect the execution of your transmission contracts on the Quality Conversion Services.

The TSO shall, in accordance with the Standard Transmission Agreement, notify the Grid User on maintenance and its influence on the Real Quality Conversion Capacity of the different Quality Conversion Services.

3.2.4 Verification of Measurement Equipment at Interconnection

Planned Verification of Measurements Equipment at Interconnection Points (in accordance with the Access Code for Transmission, Attachment D: Metering Procedures, section 7.1).

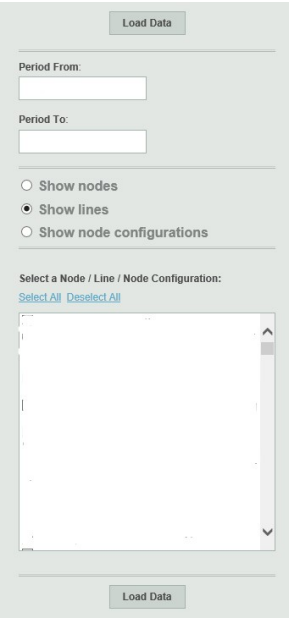
3.3 Metering

3.3.1 Daily refreshed measurements on nodes and lines

The Measurements in this section are refreshed on a daily basis. The user can consult daily measurements on nodes or lines for a selected period (Short or long period (More than 1 month)). The nodes and lines for which the user has or had view rights are available in the treeview. The system will only return results for the selected lines/nodes if the user has view rights for the selected period.

In this case, precise selections are necessary via filters:

- Period: From … to ….
- Show node level or by lines
- Select one or several nodes/lines/node configuration via the selection list



For each node or metering line for each day on the selected period, a line is displayed with the following measurements:

- The **Flow Measurements**: Volume, Energy, GCV, Pressure (absolute pressure – expressed in Bara), Temperature, Gross Volume and Conv. Volume.

- The **Gas Composition** tab displays the measurements of the composition of the gas.

- The **Gas Characteristics** tab displays the measurements retrieved by the gas analysis: Density, Wobbe, NCV, Kref, CO2 EF, GCV and a validation status.

- The status field shows the validation status of the measurements:
  - **No Data**
  - **Raw** data are measurements that are not at all verified or validated
  - **Verified data** means that a preliminary verification check has been done
  - **Validated data** means that extra checks have been executed and that the measurement is considered as accountable

Please note that the all measurements are flow weighted averages (Except Volume and Energy).

The user can also export the measurement information for the selected period in different file formats:
- XML
- CSV (Comma delimited or semicolon delimited)
- Excel

3.3.2 Hourly refreshed measurements on nodes and lines

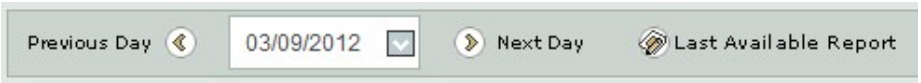
The data is based on the new codification which makes it possible to visualize information on line- level for every type of metering configuration (e.g. 2 meters in series in one metering line).

When opening this section, the Hourly View with flow measurements for the last available hour is displayed for all the nodes.

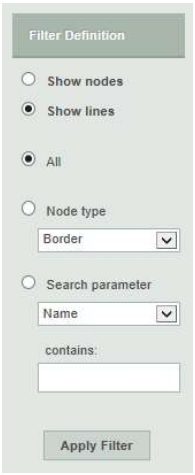
Some filters are available:

- Date: At the top (just below the hourly, daily and monthly tabs) the date selector is located. The date shown is the gasday of the measurements displayed in the measurement grid. The last available report button will automatically select the

current day and hour.



- Show nodes: the measurements on node level
- Show lines: the measurements by lines
- All: No filter is applied.
- Node Type: Filter by border or by supply
- Search parameter:
  - Choice between "Name" or "Codification number"
  - Complete the box "Contains" with the exact "Codification number" or the exact name
  - Apply Filter



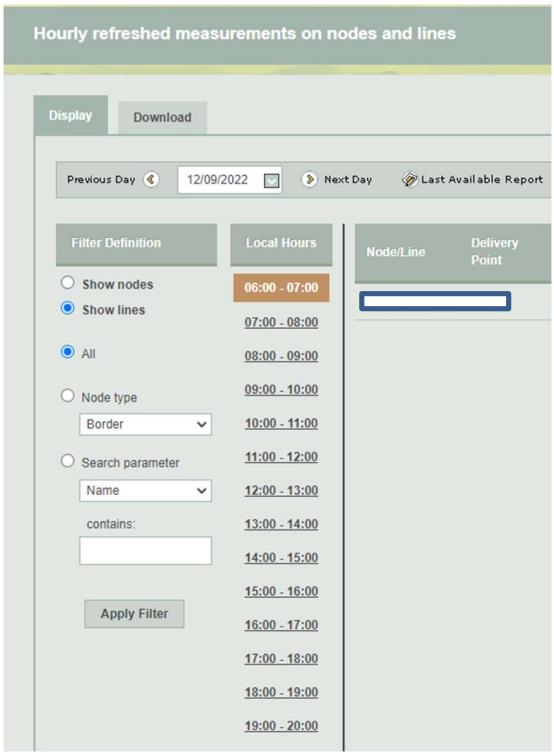
On the left hand side a bar with all the available hours in the selected gasday is presented. Clicking on a specific hour will select this hour and display the measurements of this hour in the measurements grid. When changing the gasday the first gashour of that day is selected.

The center of the screen shows all the flow measurements on the selected gasday and gashour. For each node or metering line, a line is displayed with the following measurements:

- The amount of **Volume** that flowed through the node or metering line (Converted to normal conditions (0°C and 1 atm))
- The amount of **Energy** that flowed through the node or metering line during this hour
- The **GCV** calculated from the gas flow. This value is calculated as the fraction of Energy/Volume.
- The **Pressure** of the gas (absolute pressure – expressed in Bara)
- The **Temperature** of the gas
- The **Gross Volume** is the physical volume of the gas at measured conditions.
- The **VnConv** is the normalized Volume that is measured by the volume converter.
- For a metering line, the value **Weight/In Maintenance** indicates the weight of the line (-1 / 0 / 0,5 / 1). Some examples :
    - If a metering line is in maintenance or subcounting, the weight of the metering line will be '0'.
    - If two meters are installed in the same meteringline, the weight will be '0.5'

This makes that the metering results on node level are the summation of the consumptions (in Volume or Energy) of the different depending metering lines multiplied by their weight.

- The **Status** field shows the validation status of the measurements:
    - **No Data**
    - **Raw** data are measurements that are not at all verified or validated
    - **Verified data** means that a preliminary verification check has been done
    - **Validated data** means that extra checks have been executed and that the measurement is considered as accountable



3.3.2.1 *Download*

There are essentially two main options to download measurement information from the application:

- The user can download the information manually by using the Graphical User Interface.
- It is also possible to address the download feature directly by using the Download URL.

3.3.2.2 *Manual download by the user*

The user can download the required information manually by navigating to the Download section for a certain gasday period on the filtered nodes and metering lines:

- Hourly Flow Measurements on Node

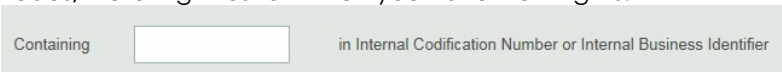
- Hourly Flow Measurements on Metering Line
- Corrected Hourly Flow Measurements on Node
- Corrected Hourly Flow Measurements on Metering Line
- Hourly Gas Analysis on Node
- Daily Gas Analysis on Node

It is possible to choose between two different file formats:
- CSV
- XML

3.3.2.3 Selection in manual download

In general:

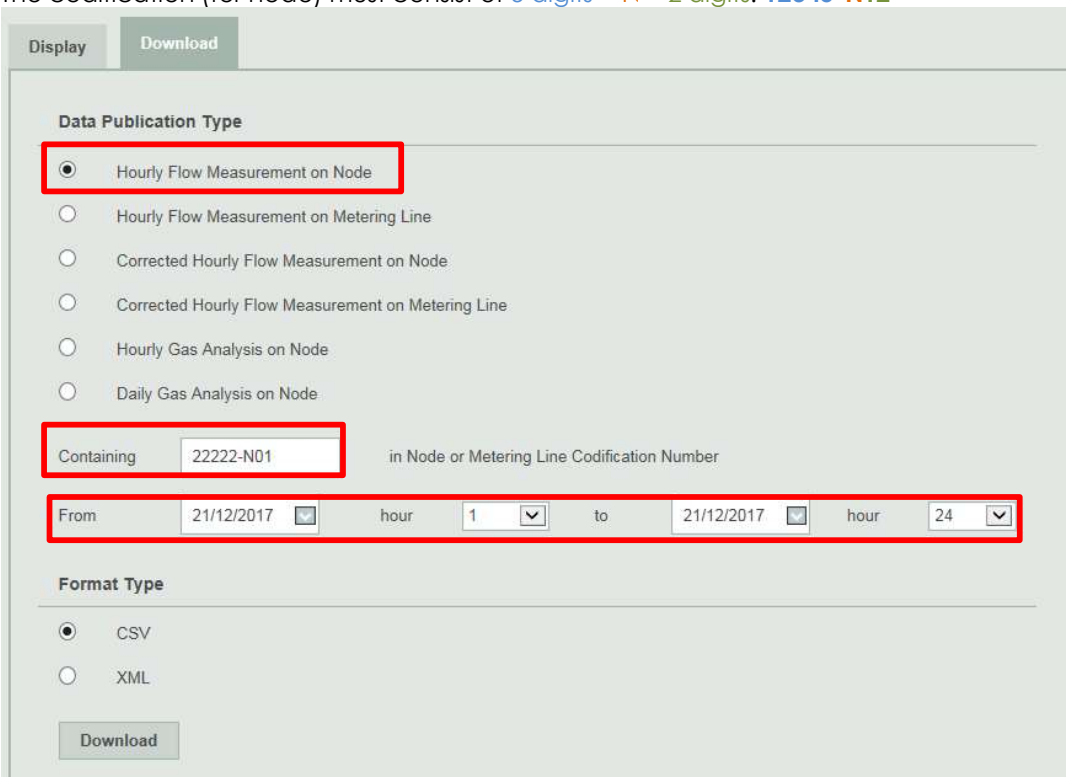
If you do not filter on a node or metering line (in the cell 'containing'), the selected period must not exceed 1 month. The downloaded file will contain all the data of the nodes/metering lines for which you have view rights.



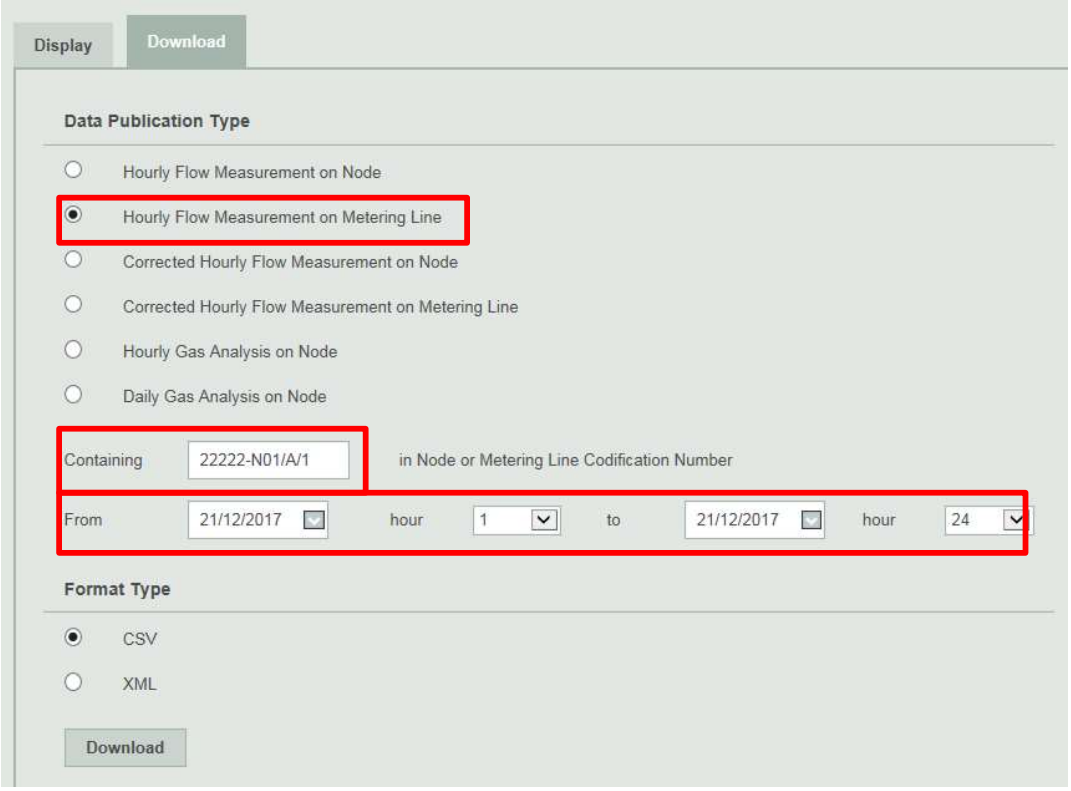
If you filter on a part of a node or metering line (some characters in the cell 'containing'), the selected period must not exceed 1 month. The downloaded file will contain all the data of the nodes/metering lines which contain the characters you put in the filter and for which you have view rights.

Some particularities:

If you select 'Hourly Flow Measurements on Node' or 'Hourly Gas Analysis on Node', and you filter on the exact codification of a node (in cell 'containing').The selected period can be up to 1 year.
Attention: The codification must be absolutely accurate (You can find the codification for nodes and lines in the display section or in topology section).
The codification (for node) must consist of 5 digits + N + 2 digits: **12345-N12**



If you select 'Hourly Flow Measurements on Metering Line', and you filter on the exact codification of a line (in cell 'containing').The selected period can be up to 1 year.
The codification must be absolutely accurate (You can find the codification for nodes and lines in the display section or in topology section).
The codification (for line) must consist of 5 digits + N + 2 digits + / + 1 letter + / + the number of the line: **12345-N12/A/1**



The function "Corrected Hourly Flow Measurements" returns all measurement corrections that have been made during the selected period (Ex: If Fluxys makes corrections on the Measurements of 28/01/2015 on respectively 09.02.2015 and 03.03.2015, these changes will be visible by selecting respectively the period from 01.02.2015 to 28.02.2015 **and** 01.03.2015 to 31.03.2015).

3.3.2.4 Automatic download by an application

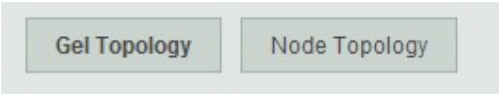
See chapter 6.

6 new downloads based on new codification are available.

3.3.3 Topology

This section provides information about the metering topology elements on which the user has the right to view data. The view rights are derived from the contracts which are based on Gas Exchange Locations. These gas exchange locations can be subdivided in a set of Nodes.

3.3.3.1 Content



A Gas Exchange Location (GEL) consists of node memberships. A node can be a member of a GEL during a given time period. The membership has a weight with which the measurements of the respective node are aggregated in the result for the associated GEL.

All this information can be found per GEL under the button **GEL Topology** (This option is accessible to limited users (It depends of their contractual link with Fluxys)).

Under the **Node Topology** button a drop-down box can be found with all the nodes on which the user has the right to view data.

The whole history of the node and the underlying metering lines are shown after selecting a node. The node history consists of the name changes and the EAN number.

The metering line history consists of the measured before status, operational status and the EAN number.

The data is based on the old and the new codification which makes it possible to visualize information on line-level for every type of metering configuration (e.g. 2 meters in series in one metering line).

3.3.3.2 Download

There are essentially two main options to download topology information from the application:

- The user can download the information manually by using the Graphical User Interface.
- It is also possible to address the download feature directly by using the Download URL.

3.3.3.3 Manual download by the user

The user can download the required information manually by navigating to the Download section. This section provides selections to download the whole history of either:

- Gas Exchange Location Topology: for all GELs on which the user has the right to view data
- Node Topology: for all GELs on which the user has the right to view data

It is possible to choose between two different file formats:

- CSV
- XML

3.3.3.4 Automatic download by an application

See chapter 7.

3.3.4 Further remarks about Metering and Topology

3.3.4.1 Aggregation of measurements

Since a Gas Exchange Location (GEL) consists of a set of nodes and a node consists of a set of metering lines, the measurements for a complete GEL should be aggregated.

We advise to start the aggregation for a complete GEL from the set of nodes and not from the set of metering lines! A metering line can go 'In Maintenance' or the measurements can already be accounted in the measurements of another metering line, i.e. 'Measured Before'.
The measurements on the node level take these two parameters into account and can therefore readily be used for the aggregations.

Example
What is the total energy on gas exchange location A at gas day X, hour Y?

The topology of gas exchange location A at gas day X and hour Y is:
- Membership 1: Node n1, weight w1 = -1
- Membership 2: Node n2, weight w2 = -1
- Membership 3: Node n3, weight w3 = 1

The measurements of nodes n1, n2 and n3 at gas day X and hour Y are:
- Node n1: e1 = 100 kWh

- Node n2: e2 = 200 kWh
- Node n3: e3 = 500 kWh

Calculation
Total energy (e) = e1 * w1 + e2 *w2 + e3*w3
= 100*-1 + 200*-1 + 500*1
= 200 kWh

3.3.4.2 *Real Time Measurement on Interconnection Points*

The Real-time Data screen offers an overview of the last available real-time metering data on GELs for which the current user has a valid real-time metering contract. The user can select to narrow.

down the shown data to a single GEL. Once the screen is opened the available data can be updated by clicking on the Refresh button.

3.3.4.3 *GEL selection*

All GELs available to the user are listed in a drop-down menu. By selecting a single GEL from the list the shown data will be narrowed down to all data belonging to the selected GEL. To return to the general overview the user can select the "All GELs" option from the drop-down menu.

3.3.4.4 *Requesting an update*

The real-time data shown on the screen is not updated automatically after opening the screen. However, in the database the available data will be refreshed with the latest available data every six minutes.

By clicking the Refresh button the user can ask for an update. If the available data has been updated, the most recent version of the metering data will be displayed. The application does not keep track of the real-time value history, so previously shown data is lost after updating the screen.

3.3.4.5 *Download web service*

See chapter 6.

3.3.5 Wobbe Index

This report enables Grid Users to monitor the gas quality of the gas they import into the Belgian network. The gas quality of this imported gas should be in balance with the gas quality of the gas that is exported to the UK.

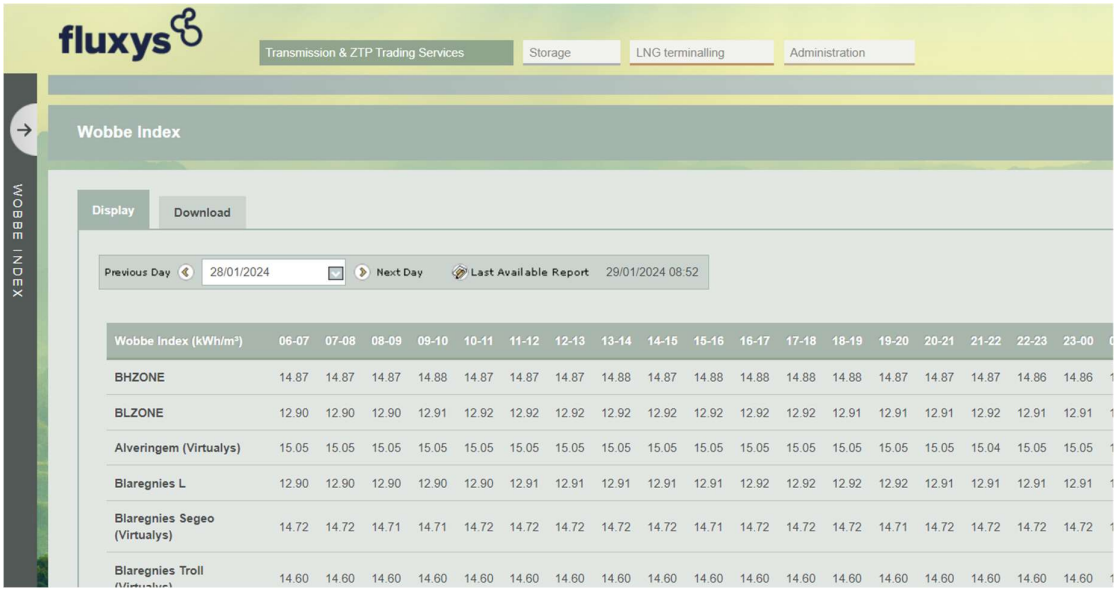
Values for gashours larger than the current gashour are not available, meaning that future gashours and gasdays will be suppressed.

The value for the Wobbe at a certain point and certain gashour can change over time. At anytime the best available value is published.

All Wobbe values are defined on Interconnection Points with underlying nodes, except for 2 values on the H-zone and on the L-zone which are defined as the weighted average of the Wobbe values for all Interconnection Points of such Zones.

Grid Users receive the Wobbe Index in a data format and also downloads are made available. The values contain 2 decimal digits.

Data format

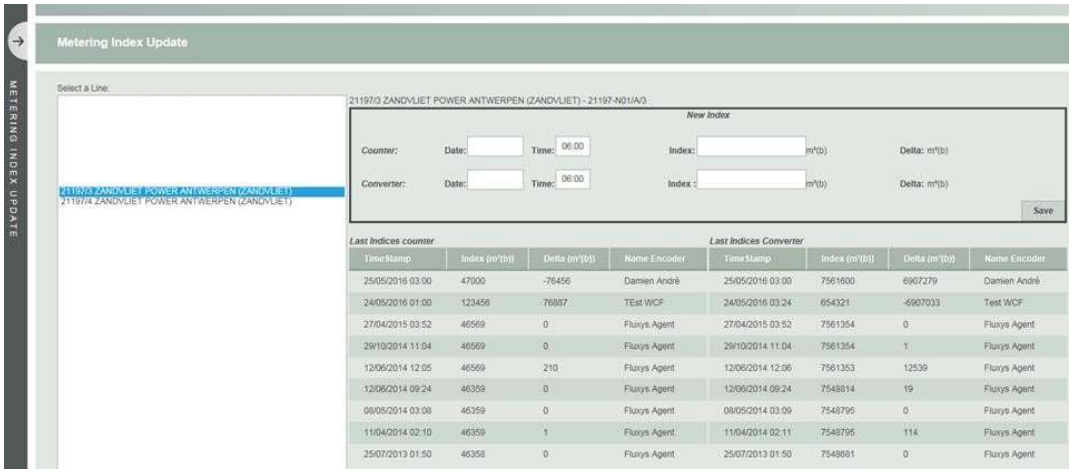


Downloads:

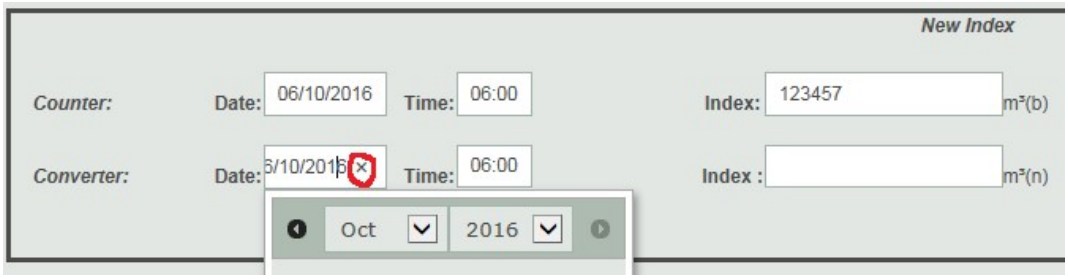
Using the download functionality the Grid User can download, either the latest available report, or he can make a selection of a date range which include the latest available report.
Downloads are made available in CSV and XML formats.

3.3.6 Metering Index Update

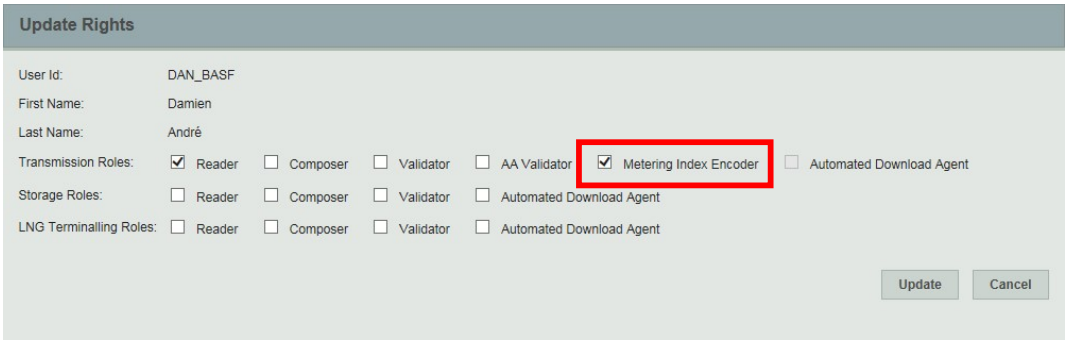
The End-user will have the possibility on one hand to encode the indexreadings of the counter and the convertor, and on the other hand to visualize the indexreadings made by the Fluxys agent.



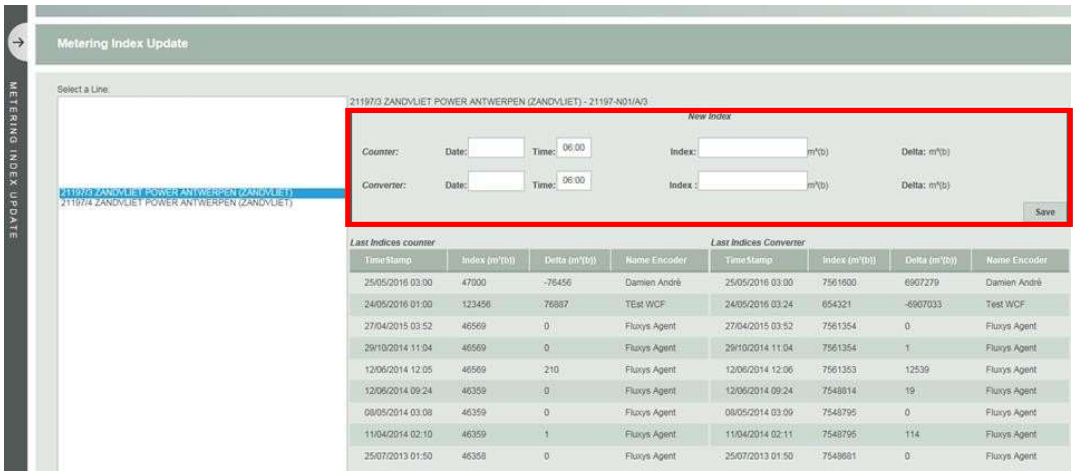
If you only want to enter a counter index, the date for convertor should be 'unchecked'. If not, an alarm will appear indicating that a mandatory field was not filled.



Do not forget to update your rights (new created role: 'Metering index encoder') to have access to encode the metering index.



If the encoding window below does not appear, it means that the selected line is no longer active in our systems (You can check the status of your station / line – In Operation or not - in the Topology section of our platform).

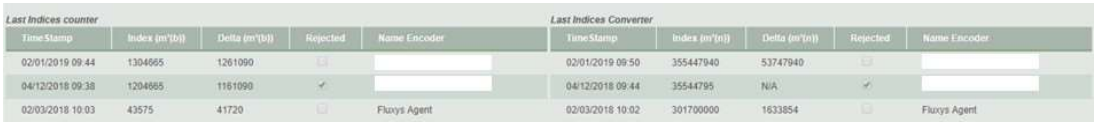


You can download the Metering Index Update - User manual by clicking on

Remarks :

- We recommend a monthly encoding of your indexes (in the first 5 days of the month) for the optimization of our data verification flow (cfr. Operational Procedures (annex to connection agreement § 5.1.7) https://www.fluxys.com/en/products-services/empowering- you/terms-conditions/tandc_fluxys-belgium-connection-end-user)
- When your index is encoded, you can see the delta between the 2 last indexations. If the delta is 'NA' (negative delta), please check that your encoding is correct. If yes, please contact contract.accounting@fluxys.com

- You can find in the summary table a column 'Rejected'. If this one is checked, this means that the index is not been taken into account. In this case, the delta is between the 2 last indexations 'not rejected'.



Last Indices counter

TimeStamp	Index (m³(b))	Delta (m³(b))	Rejected	Name Encoder
02/01/2019 09:44	1304665	1261090	☐	
04/12/2018 09:38	1204665	1161090	✓	
02/03/2018 10:03	43575	41720	☐	Fluxys Agent

Last Indices Converter

TimeStamp	Index (m³(n))	Delta (m³(n))	Rejected	Name Encoder
02/01/2019 09:50	355447940	53747940	☐	
04/12/2018 09:44	35544795	N/A	✓	
02/03/2018 10:02	301700000	1633854	☐	Fluxys Agent

3.3.7 Metrological Inspection Reports

Fluxys provides its customers the Metrological Inspection Reports via this tab.

3.4 Balancing and Allocations

3.4.1 Provisional Hourly Allocations

For a complete description of the Provisional Hourly Allocations data publication, please refer to the annex C1 of the ACT:

3.4.1.1 Purpose

The 'Provisional Hourly Allocation Report' screen gives the ability to navigate through all of the user's Provisional Hourly Allocation reports of the past 3 years. The allocations are categorized by their respective gashour.

3.4.1.2 Published data

For each gashour a list of all provisional allocations is given. Every allocation detail concludes the gashour and gasday, the shipper account, the EDIGAS-code of the location and the allocation value (expressed in kWh).

3.4.1.3 Access to publications

The provisional hourly allocations can be accessed in three different ways: via the display section, the download section and via a download URL.

The display section allows the grid user to view and consult the provisional hourly allocations online and the download section and download URL give the grid user the ability to download the available allocations in different file formats for further usage.

3.4.1.4 Display section

The last available Provisional Hourly Allocation Report will be displayed by default.

If the user wants to display the allocations for a different gashour, then he should first select the correct gasday with the calendar tool at the top left corner of the screen. By default the Allocations first gashour of the day is displayed. Then the correct gashour can be chosen from the bar on the left side of the screen.

Additionally to the allocation data, the generation date and time of the report is displayed on top of the screen.

3.4.1.5 Download section

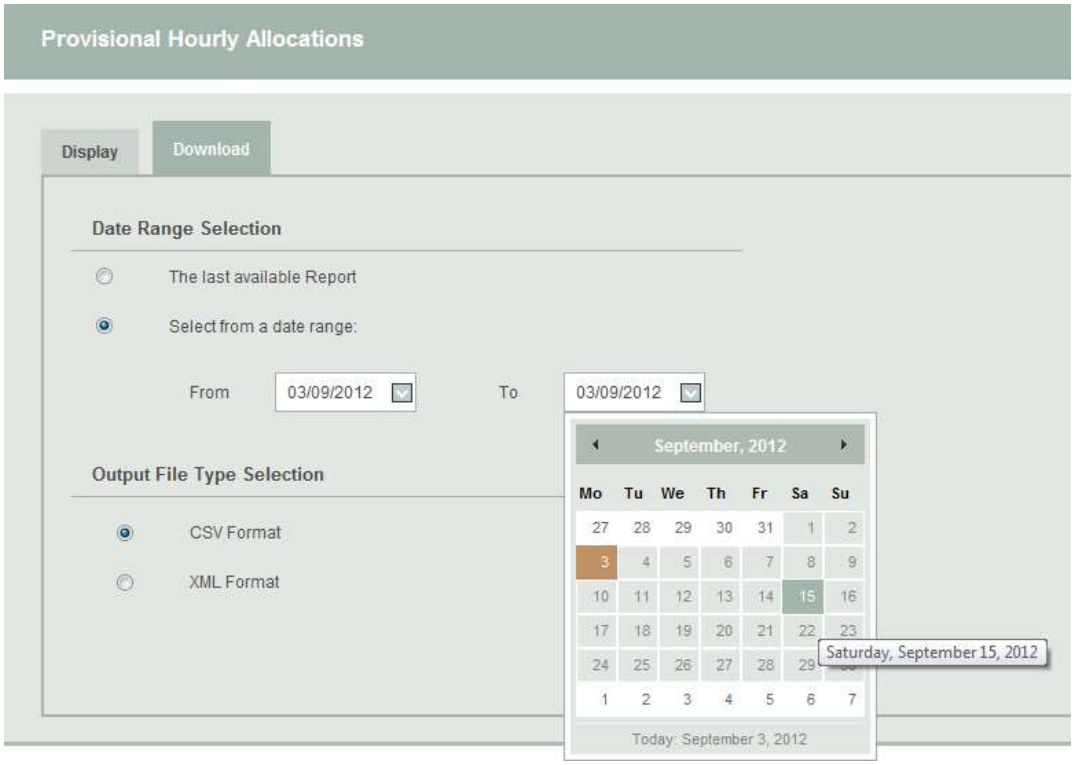
To manually download provisional hourly allocations, the user should select the download tab. The download screen gives two options to download the provisional hourly allocations. The gasday or range of gasdays and the output file format can be chosen by the user.

Date range selection:

- Last available report
  This option returns the provisional hourly allocations for the last gasday.
- Date range:
  Select all the gasdays starting at gasday 'From' until gasday 'To'. The FROM date may not be later in time than the TO date and the maximum date range is limited to one week. The screen automatically changes the FROM or TO date if the maximum date range of one week is exceeded.

Output File Type Selection:
Three file types are available for manual download:

- CSV
- XML



After the user has set the right parameters to download the desired Provisional Hourly Allocations and clicked the Download button, the File Download screen pops up, giving him/her the choice to directly open the file, or to save it.

3.4.1.6 *Automatic download URL*

See chapter 7.

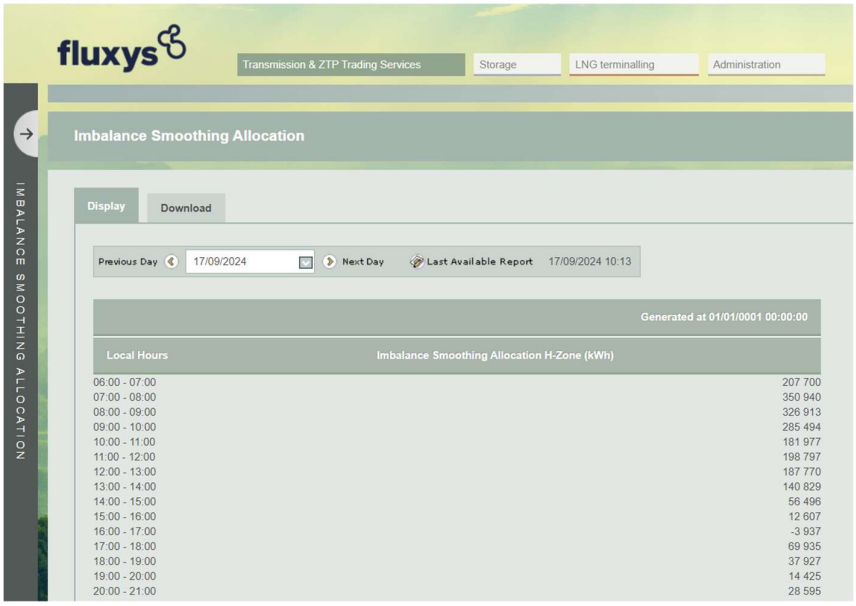
3.4.2 Imbalance Smoothing Allocation

The Imbalance Smoothing Allocation publication holds hourly Imbalance Smoothing Allocations for a specific gasday.

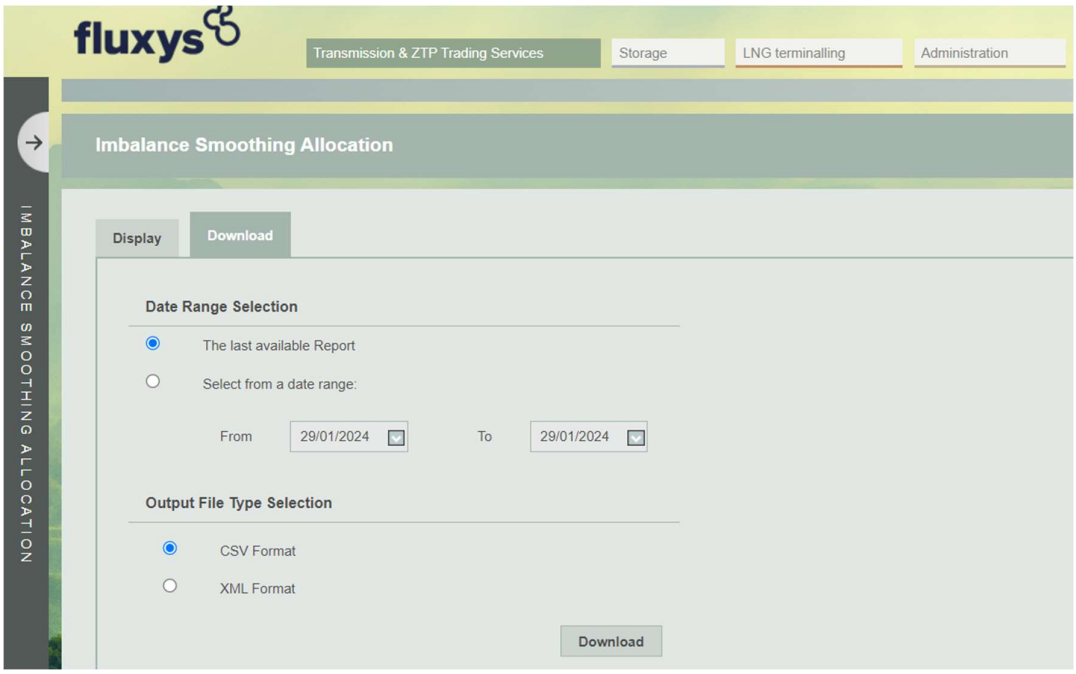
Grid Users receive the Imbalance Smoothing Allocations for the H-zone depending on their activities in a data format and also downloads are made available.

This publication is published every day around 11h30 CET with the latest values for the upcoming 4 gasdays.
All values are rounded to

1kWh. Data format



Downloads:
Using the download functionality the Grid User can download, either the latest available report, or he can make a selection of a date range which include the latest available report.
Downloads are made available in CSV and XML formats.



3.4.3 Temperatures

Daily Equivalent Temperature

Both forecasted and realized values are made available for system users to calculate their tolerances in the balancing system of Fluxys.

The Daily Equivalent Temperature is the sum of 60% of the temperature of Day D, 30% of D-1 and 10% of D-2. The forecasted daily equivalent temperature is based on the latest available realized temperatures and the forecasted daily temperatures.

Degree-day Temperature

The Degree-day Temperature is a measurement reflecting the demand for energy needed to heat buildings.

Degree-day Temperatures are defined relative to the base temperature of 16.5°C: the outside temperature above which a building needs no heating. If the average daily temperature is lower than the base temperature, the degree day temperature is the difference between both:

Example 1: average daily temperature = - 5°C Degree-day temperature = 21.5 Example 2: average daily temperature = 5°C Degree-day temperature = 11.5

If the average daily temperature is equal to or higher than the base temperature, the degree day temperature is zero:

Example 3: average daily temperature = 20°C Degree-day temperature = 0

FDET (°C)	Forecasted Daily Equivalent Temperature
RDET (°C)	Realized Daily Equivalent Temperature
DD (°C)	Degree Days
CDD (°C)	Cumulated Degree Days (start= 1st of October)

3.4.4 Flow data – Allocations for previous Gas Years

The history of daily allocations for interconnection point in entry and exit-mode for period 2005-2011.

3.5 Flow Data

3.5.1 Nominations and Flows on Interconnection Points

Day-Ahead nominations	DAN	The aggregated quantities of gas nominated by all system users for the following gas day at the first nomination window closure at 14.00h
Final Nominations	FN	The aggregated quantities of gas ultimately nominated by all system users for the gas hour/day. These nominations have not yet been confirmed, so they do not take into account any possible restrictions (e.g. constraints, exceeding capacity,...)
Final Confirmations	FC	The aggregated quantities of gas ultimately nominated by all system users for the gas hour/day. These nominations have been matched and confirmed by the TSO.
Allocations	Alloc	Per gas day and per interconnection point the aggregated quantities of gas allocated to all system users having

		nominated gas quantities. Allocations at the interconnection points are provided separately for entry and exit.
Physical Flow	PF	The metered flow at the interconnection point. The data of the Physical Flow is reported on the entry-direction of every Interconnection Point. The sign indicates the direction of the flow, a positive value for incoming borders into the Fluxys- grid and a negative value for outgoing flows.
Measured Gross Calorific Value	GCV	The conversion factor between m³(n) and kWh expressed in kWh/m³(n)

3.5.2 Nominations and Flows on Domestic Exit Points

Nature	Nature	Consumption (negative figure) : quantity consumed by an end-user Production (positive figure) : quantity produced by an end- user/production unit *This are allocations. These quantities do not necessarily enter physically in the FLX' GRID*
Day-Ahead nominations	DAN	The aggregated quantities of gas nominated by all system users for the following gas day at the first nomination window closure at 14.00h
Final Nominations	FN	The aggregated quantities of gas ultimately nominated by all system users for the gas hour/day. These nominations have not yet been confirmed, so they do not take into account any possible restrictions (e.g. constraints, exceeding capacity,...)
Allocations	Alloc	The aggregated quantities of gas allocated to all system users having nominated gas quantities at the exit-points in Belgium, grouped by Client Type
Physical Flow	PF	The aggregated metered flow at the group of Client Type per Balancing Zone
Gross Calorific Value	GCV	The conversion factor between m³(n) and kWh expressed in kWh/m³(n)

3.6 *Invoicing*

3.6.1 Invoices

When the Invoices menu-item is clicked, the Invoices section will open.

In this section all the available invoices are listed in the folders in the left menu.

In the folder tree a distinction is made between

- Entry/Exit Transmission model (for invoices about months as from 10/2015)
- Transport & Transit Model (for invoices about months before 1/10/2012)
- Federal contribution (as from 1/04/2014)

The folders are sorted by the available invoicing dates. By opening a folder the invoices for this invoicing date will be displayed in the middle of the screen.

Note that if you click on the folder, the application will automatically display the first invoice underneath it.

3.6.2 Other invoices – Fluxys Belgium

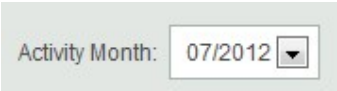
This section of EDP gives access to private data concerning invoices and appendixes for non- regulated activities.

3.6.3 Preliminary Allocation Details

Besides the fully validated allocation details (see 4.6.4), Fluxys also provides a preliminary version of the allocation details. A preliminary version contains the best information at the moment of publication but the data have not yet been fully validated.

3.6.3.1 General Overview

In a drop-down menu near the top of the Consult Preliminary screen the user can select a month for which he wants to see the preliminary allocation details. The drop-down menu will list all months that have preliminary allocation details available. By default the most recent month is selected.



Once the month is selected, the preliminary allocation details for that month are shown. They can be downloaded separately, or with the button "download preliminary allocation details" one can download a zip file containing all the preliminary allocation details.

3.6.3.2 Download

The user can choose between downloading a single allocation detail and downloading all allocation details for the selected month.

3.6.3.3 Single file download

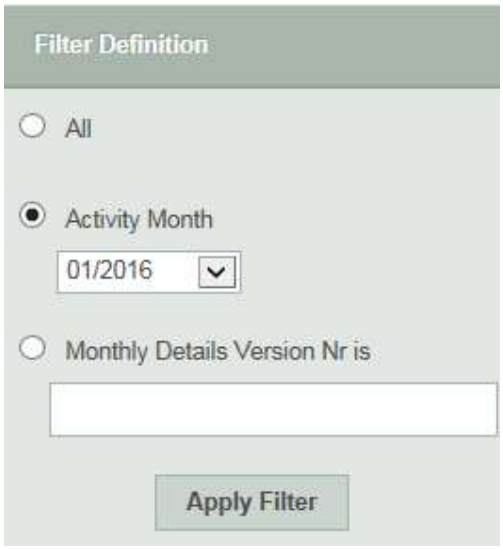
When the user selects the file he wants to download he can choose between immediately opening the file and saving the file to disk. The allocation detail is offered as a CSV file that can be viewed using Excel or notepad.

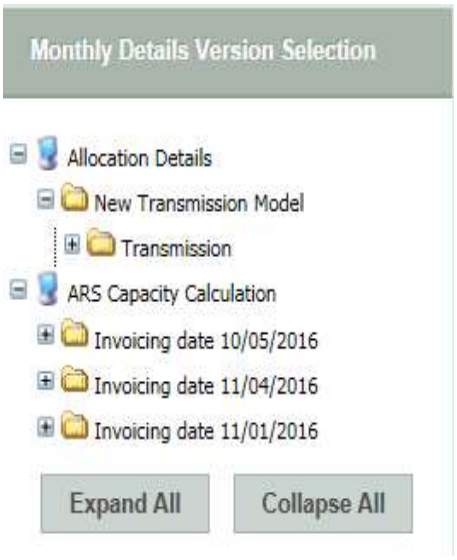
3.6.3.4 Complete download

Again the user will get the choice between viewing and saving the file. When downloading a complete set of allocation details files, the user receives a .zip archive containing all CSV allocation details files for the selected month.

3.6.4 Validated Allocation Details and ARS Capacity

As the filter option "All" is selected on the panel by default, the navigation panel shows all available invoicing months and allocation details versions. The user can use the Navigation Tree to select an allocation detail and view or download the document.

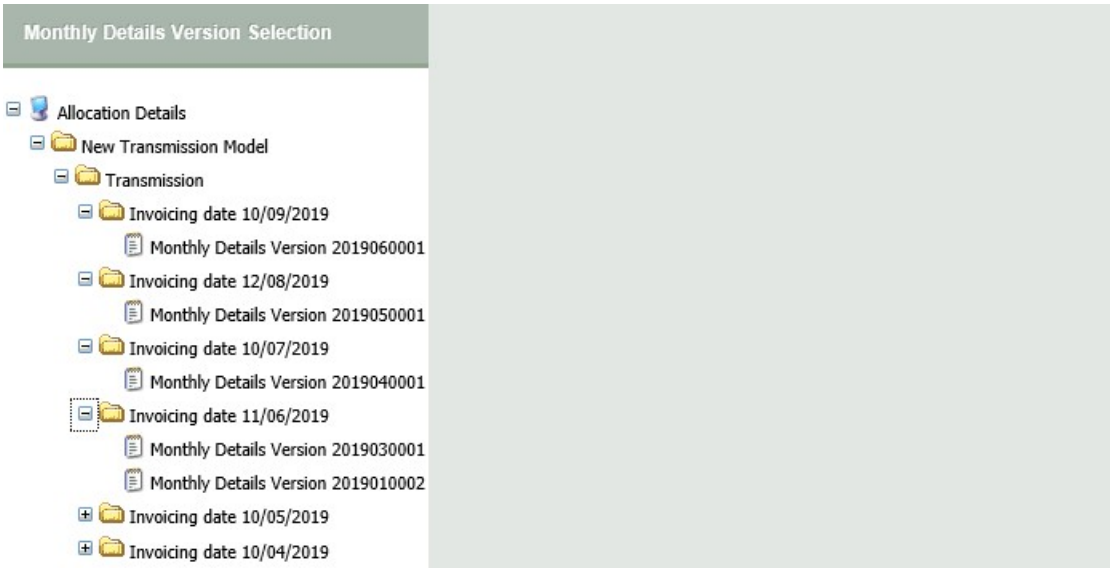




The user can modify the filter applied on the collection of available allocation details organized in the navigation tree. The allocation details are grouped per monthly details version number.

The Navigation Tree, the Filter Panel and the different downloading options will be discussed in the following sections.

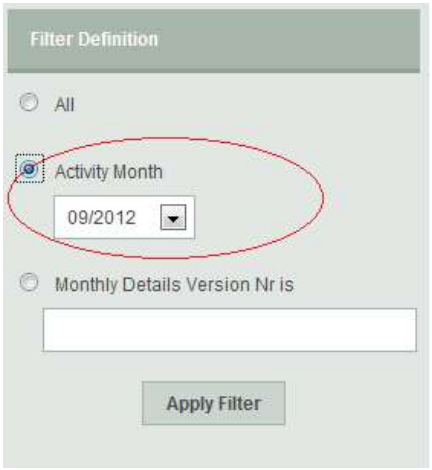
3.6.4.1 Navigation Tree



The navigation provides a tree structure of all invoicing dates (i.e. document date of the allocation details) of the last 3 years and the associated bundled/linked Monthly Details Version Numbers:

- Label 'Allocation Details'.
  This navigation tree is built for the quick navigation through the archived collection of allocation details of the last 3 years. The filter above provides additional browsing facilities and is applicable on the tree content.
- Invoicing Dates (invoicing data available for the past 3 years).
  This level of the navigation tree contains the invoicing dates or document dates of the last 36 invoicing months.
- Monthly Details Version Number
  The user can find all the Monthly Details Version Numbers that are attached/bundled/linked to a particular invoicing date or document date. If a Monthly Details Version Number has been selected in the navigation tree, the user will have the possibility to download all the allocation details associated with that particular Monthly Details Version Number, and related to the invoicing date of the previous level. All the related allocation details for a particular Monthly Details Version Number and Invoicing Month/Document date will be shown in the Allocation Details Download Panel to the right of the Navigation Tree. These particular allocation details can be downloaded separately or all together in a zip file.

3.6.4.2 Filter Panel



=> Only the Monthly Details Versions of Activity Month September 2012 are shown in the navigation tree, even though the invoicing dates contain other Monthly Details Versions

The Filter Panel gives the user the possibility to filter/limit the available Monthly Details Version

Numbers in the navigation tree for easy and quick navigation. After applying a desired filter-option by selecting the preferred filter option and clicking the "Apply Filter" button, this option is highlighted. The filter panel consists of the following criteria/options.

- All
  If this option is chosen, no filter is applied. The option "All" gives all the available Monthly Details Version Numbers grouped by the Invoicing Date (=document date) to which they are linked/bundled.
- Activity Month
  This filter criterion gives the user the option to restrict the available Monthly Details Version Numbers shown in the navigation tree to a pre-defined Activity Month in the combo-box.
- Monthly Details Version Number
  This option offers the possibility to search and request a specific Monthly Details Version Number that fully matches the expression entered in the corresponding edit-box. As so, the user can limit the Monthly Details Version Numbers shown in the navigation tree to one particular version.

3.6.4.3 Download

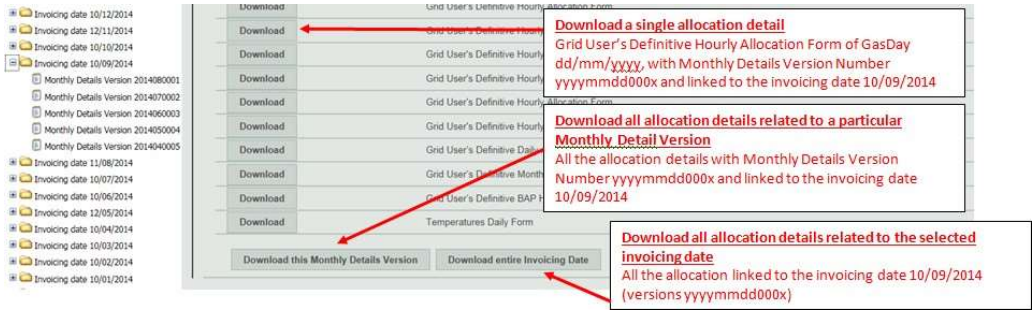
Essentially, there are two different ways in which the download features of the application can be used:

- Download the desired information through the Graphical User Interface.
- Address the download feature directly by using the Download URL.

3.6.4.3.1 Manual download by the user

The user can download the allocation details of a selected invoicing date or linked to the selected Monthly Details Version Number by navigating to the desired invoicing month and Monthly Details Version Number.

If a Monthly Details Version Number has been selected in the navigation tree, all the related allocation details for a particular Monthly Details Version Number and Invoicing Date/Document Date are shown in the Allocation Details Download Panel to the right of the Navigation Tree.



The user has the possibility to choose the granularity of the group of allocation details to download:

- A particular single allocation detail can be downloaded by clicking the download button in front of the associated allocation detail line. Subsequently, this allocation detail file is downloaded as a CSV file which can be opened with either Notepad or Excel, and/or can also be saved to a local drive.
- All the allocation details related to a particular Monthly Details Version Number can be downloaded by selecting the option "Download this Monthly Details Version" and clicking the "Start Download" button. This bundle of allocation details is downloaded as a ZIP file containing all the allocation details in CSV file format.
- The download of all the allocation details of all the allocation details versions related to the selected invoicing date of the previous level is executed by selecting the option "Download entire Invoicing Date", and clicking the "Start Download Button". This group of allocation details is downloaded as a ZIP file containing all the allocation details in

CSV file format.

After the user has initiated a download, the File Download screen pops up giving him/her the choice to either directly open the file or save it.

3.6.4.3.2 Automatic download by an application

See chapter 6.

3.6.5 Monthly Interconnection point account statement

Monthly interconnection point account statement for customers of Fluxys and published every month on Electronic Data Platform.
This report contains the monthly detail of Grid User activities on the BeLux Model.

3.6.6 Monthly ZTP Trading Services statement

Monthly allocation form (based on daily figures) which specify for each individual customer the specific ZTP Trading Services.
For every Month in the Year, a table will be produced for each Counterparty of the Customer containing daily delivery/redelivery information.

Important notice:
Please note that as from 01/10/2017 these reports will no longer exist. The history will remain available.

3.7 Nominations

3.7.1 Final Nominations for previous Gas Years

The history of final daily Shipper Nominations for interconnection point in entry and exit-mode for period 2005-2011.

3.8 Regulatory and contractual documents

3.8.1 Standard Transmission Agreement (STA)

The object of this Agreement is to lay down the terms and conditions upon which the Grid User will be able, on and from the Start Date, to subscribe to Services offered by the TSO and upon which the TSO shall perform such Services.

Subject to the terms and conditions of this Standard Transmission Agreement and the attachment C 1 of the Access Code for Transmission, TSO shall operate and maintain the Transmission Grid in accordance with the applicable regulation.

Subject to the terms and conditions of this Standard Transmission Agreement and the attachment A of the Access Code for Transmission, during the Contract Period, TSO shall provide Grid User with, and Grid User shall pay for, the Transmission Services as Grid User may have subscribed pursuant to any Services Confirmation and/or has been allocated, for the relevant Service Period and in accordance with any terms and conditions set out in the relevant Services Confirmation.

3.8.2 Access Code for Transmission (ACT)

The Access Code for Transmission consists of a standard set of terms and conditions governing regulated access to the Transmission Services offered by the Transmission System Operator to any Grid User on the Transmission Grid operated by Transmission System Operator in accordance with the code of conduct regarding access to the natural gas transmission network, storage facility for natural gas and LNG facility as approved by royal Decree of 23 December 2010 (the Code of Conduct).

The purpose of the Access Code for Transmission is to define the set of rules and procedures governing the Transmission Services offered by Transmission System Operator to Grid Users on the Transmission Grid. In addition to being governed by the Access Code for Transmission, the Transmission Services offered by Transmission System Operator to any Grid User on the Transmission Grid shall be subject to the terms and conditions set out in the Standard Transmission Agreement entered into between Transmission System Operator and any such Grid User.

3.8.3 Tariffs

Overview tariffs, tariff methodology and tariff calculator.

3.8.4 Capacity calculation methodology

Fluxys updates annually its ten-year indicative investment program. These actualizations take into account the evolution of the needs for supply of natural gas, requests for new connections and the new needs of the grid users as a result of market consultations.

In order to actualize the investment program, Fluxys performs simulations on the existing configuration of its grid, based on the data for the expected development as a result of the request for transmission capacity and the estimated evolution of capacities. Different scenarios are investigated taking into account different possible configuration of gas flow, peak consumption and the maximum grid imbalance.

These grid simulations on a largely bi-directional and highly interconnected grid remain a continuous and complex exercise. Based on these transmission grid simulations, the firmness of the capacity of the grid users and end-users can be guaranteed.

3.8.5 Specific requirements of Interconnector Points

Operating conditions and quality requirements at Interconnection Points.

3.8.6 Transmission Program (TP)

The transmission program describes certain information regarding the transmission model and the related services offered by Fluxys for the period running from the start of the Entry/Exit model until 2015 and gives an overview of the services offered by Fluxys Belgium. This transmission program is intended for information purposes and includes information that is set out in detail in the access code for transmission.

3.8.7 Specifications on supply points

The general specifications on the supply points describing the characteristics that the supplied natural gas must meet.

3.8.8 Implementation information

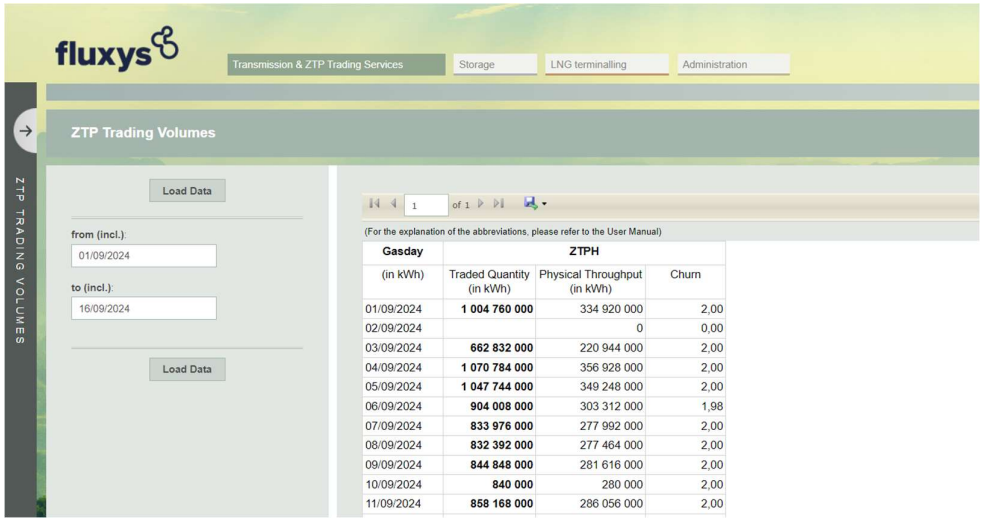
Find here all operational information relating to the implementation of the entry/exit model (templates, data formats,..)

3.9 *ZTP Trading Services*

For a complete description of the ZTP Trading Services, please refer to our Fluxys website.

3.9.1 ZTP Traded Volumes

Overview of the ZTP trading volumes.



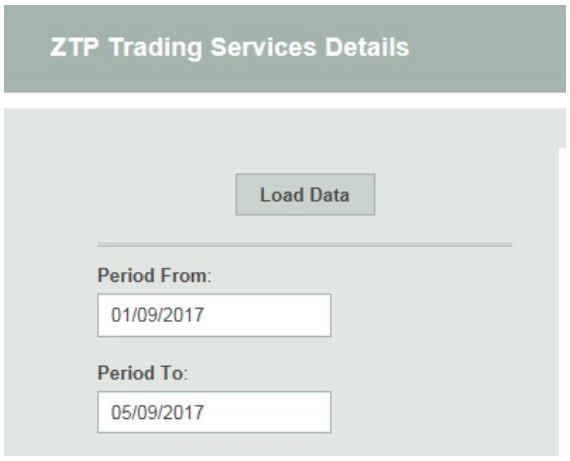
Gasday	ZTPH		
(in kWh)	Traded Quantity (in kWh)	Physical Throughput (in kWh)	Churn
01/09/2024	**1 004 760 000**	334 920 000	2,00
02/09/2024		0	0,00
03/09/2024	**662 832 000**	220 944 000	2,00
04/09/2024	**1 070 784 000**	356 928 000	2,00
05/09/2024	**1 047 744 000**	349 248 000	2,00
06/09/2024	**904 008 000**	303 312 000	1,98
07/09/2024	**833 976 000**	277 992 000	2,00
08/09/2024	**832 392 000**	277 464 000	2,00
09/09/2024	**844 848 000**	281 616 000	2,00
10/09/2024	**840 000**	280 000	2,00
11/09/2024	**858 168 000**	286 056 000	2,00

For a selected period, you can find the following data (by day) for trading points:

- The Traded quantity (kWh)
- The Physical Throughput (kWh)
- The Churn factor

3.9.2 ZTP Trading Services Details (before 01-10-2023)

Overview of the ZTP Trading Services for customers of Fluxys Belgium (Imbalance Pooling Services, Imbalance Transfer Services, Implicit Allocation of Capacity, trade details).



For a selected period, you can find the following data (by hour) for trading points:

- The Imbalance Pooling Services quantity (kWh)
- The Implicit Allocations of Capacity quantity (kWh)
- The status (Forecasted and Provisional)
- The Trading details (kWh)

Imbalance Pooling and Implicit Allocation of Capacity

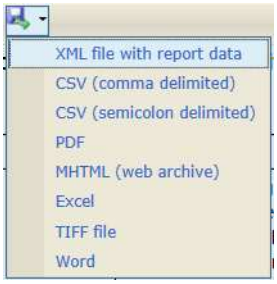
			Imbalance Pooling Service			Implicit Allocation of Capacity (Unbalanced Regime)				
Gas Day	Gas Hour	Status	Imbalance Pooling of the Net Confirmed Title Transfer for the ZTP Physical Trading Service (kWh)	Imbalance Pooling of the Hourly Imbalance of the H Balancing Zone (kWh)	Imbalance Pooling of the Hourly Imbalance of the L Balancing Zone (kWh)	Net off Entry & Exit confirmations IZT, ZPT, LNG, Zeebrugge (kWh)	Sum Entry capacity IZT, ZPT, LNG, Zeebrugge (kWh)	Sum Exit capacity IZT, ZPT, LNG, Zeebrugge (kWh)	Cumulated implicitly allocated Entry Transmission Services for Zeebrugge (kWh)	Cumulated implicitly allocated Exit Transmission Services for Zeebrugge (kWh)

Trading Details

Gas Day	Gas Hour	Trading Service	From	To	Nominated Quantity (kWh)	Confirmed Quantity (kWh)

These data are updated every hour.

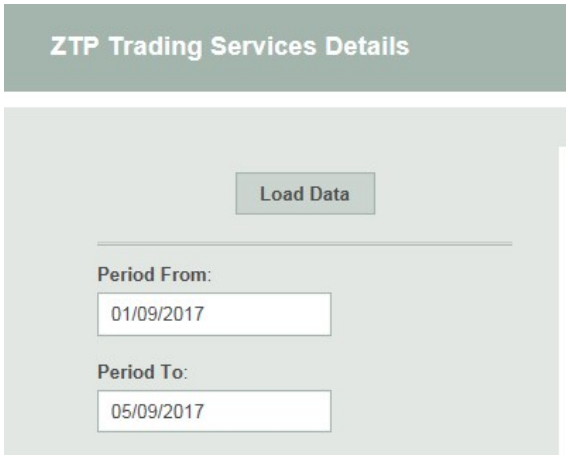
The user can download the information manually.



3.9.3 ZTP Trading Services Details (between 01-10-2023 and 31-08-2024)

As from October 1st, 2023, the existing ZTP Physical and ZTP Notional Trading Services will be merged into a single ZTP Trading Service. By merging the ZTP Physical and the ZTP Notional Trading Services into the ZTP Trading Services, the Imbalance Transfer Service and the Imbalance Pooling Service, offered by Fluxys Belgium, will become obsolete and will no longer exists. For the avoidance of doubt, Implicit allocation of Entry and Exit Services on Zeebrugge IP will continue to be provided but will no longer be done under the Imbalance Transfer Service.

Overview of the ZTP Trading Services for customers of Fluxys Belgium.



For a selected period, you can find the following data (by hour) for trading points:

- The status (Forecasted and Provisional)
- The Trading details (kWh)
- The Imbalance Pooling quantity (kWh)

Trading Details

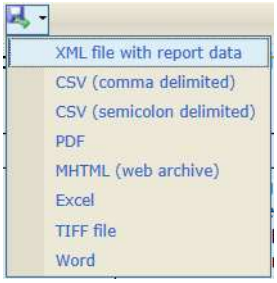
Gas Day	Gas Hour	Trading Service	From	To	Nominated Quantity (kWh)	Confirmed Quantity (kWh)

Imbalance Pooling

			Imbalance Pooling Service	
Gas Day	Gas Hour	Status	Imbalance Pooling of the Hourly Imbalance of the H Balancing Zone (kWh)	Imbalance Pooling of the Hourly Imbalance of the L Balancing Zone (kWh)

These data are updated every hour.

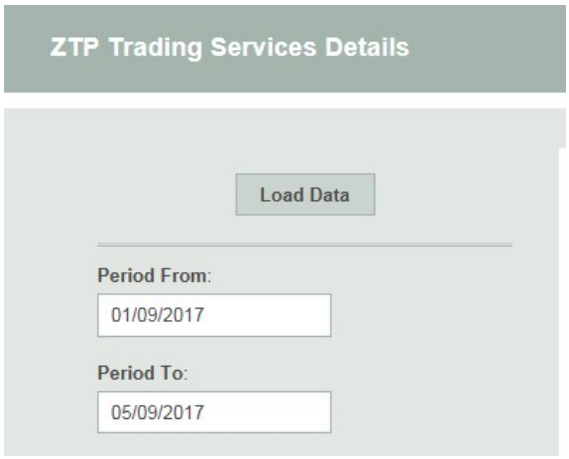
The user can download the information manually.



3.9.4 ZTP Trading Services Details (as of 01-09-2024)

As from September 1st, 2024, in the context of redesign L Gas Market, there will be no more new data available anymore related to the L-gas.

Overview of the ZTP Trading Services for customers of Fluxys Belgium.



For a selected period, you can find the following data (by hour) for trading points:

- The status (Forecasted and Provisional)
- The Trading details (kWh)
- The Imbalance Pooling quantity (kWh)

Trading Details

Gas Day	Gas Hour	Trading Service	From	To	Nominated Quantity (kWh)	Confirmed Quantity (kWh)

Imbalance Pooling

			Imbalance Pooling Service	
Gas Day	Gas Hour	Status	Imbalance Pooling of the Hourly Imbalance of the H Balancing Zone (kWh)	Imbalance Pooling of the Hourly Imbalance of the L Balancing Zone (kWh)

3.10 REMIT messages

Regulation on **E**nergy **M**arke**t** **I**ntegrity and **T**ransparency
Purpose : Publishing information to foster open and fair competition through reporting that may impact price and applies to market participants (including TSO's or Grid-Users who enters into transactions in wholesale energy markets).

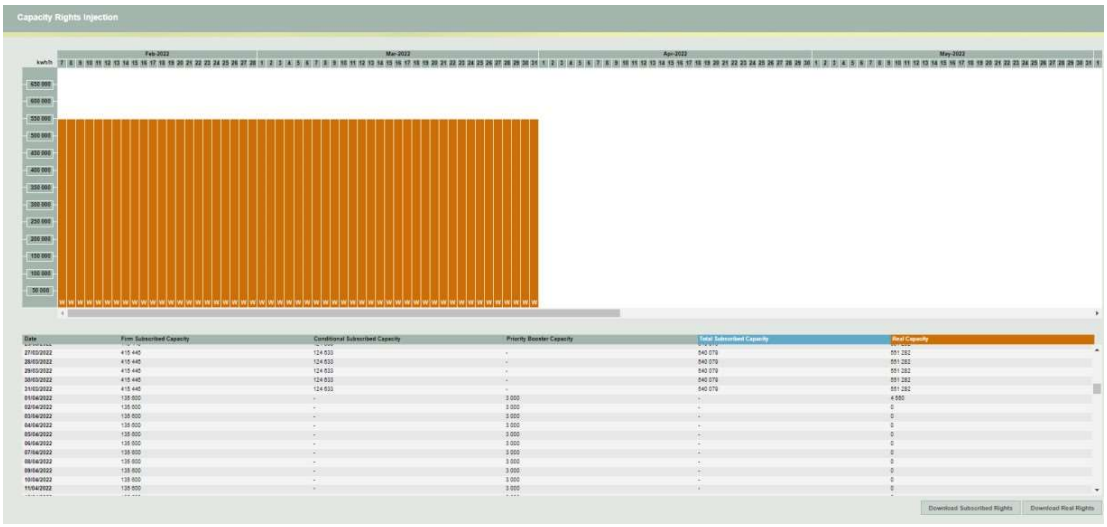
3.11 Notifications

General commercial informations.

4 Storage

4.1 Capacities and Contracts

4.1.1 Capacity Rights Injection



Injection Capacity Consult Screen

Monthly view :

Information about injection capacities is retrieved for a period of 7 months: one month in the past and six months in the future.

The upper section presents a graph with the daily total subscribed and total real injection capacities for the selected plant over the timeline (horizontal axis), which has a daily basis (GasDays). The view displays 60 days and is scrollable. The default view when opening contains 3 days history and 56 days in the future.

The installation mode is displayed at the bottom of the bar chart. (I = Injection, S = Stop and W = Withdrawal)

The lower section shows the same information in a table, but with two extra columns: the firm subscribed and conditional subscribed injection capacities. A new column "Priority Booster Capacity" is added.
For dates starting from 01/04/22 there is no more data published for the columns "Conditional Subscribed Capacity" and "Subscribed Total Capacity".

All capacities are now reported in the unit kWh/h instead of the unit m³/h.
For dates before 01/04/22 a conversion from the unit m³/h to the unit kWh/h is done:

- A fixed GCV of 11,3 kWh/m³ is used for subscribed capacities.
- The measured GCV is used for real capacities.

The real injection capacities in withdrawal and stop mode are set to sum of all withdrawal rights The possible reverse nomination that will be confirmed depends on the actual forward flow.

The subscribed and real injection rights can be downloaded to an .xml file by pressing resp. the 'Download Subscribed Rights' button and the 'Download Real Rights' button. This allows you to save the .xml files on one of your drives.
In following link you can find an impression of how the XML looks like:
https://www.fluxys.com/en/products-services/empowering-you/operational-

information/operational- information-storage-belgium

Section: Electronic Data Platform -> Downloads (Update xx/xx/xxxx) –> EDP - Description of Storage section.pdf
The .xml files will provide, for the period for which the rights are available on the screen, essentially the same information as for withdrawal.

Daily view :

When clicking on a vertical bar representing one GasDay, the bottom half of the display changes to a detailed hourly view.

Several extra columns are also visible showing the correction factor: the maintenance, conditional, volume and account factors, the Day Ahead Market and the installation mode. Please note that the Day Ahead Market capacity is on Plant level, not on storage user level.

For dates starting from 01/04/22 the column "Conditional Factor (%)" is removed and replaced by the column "Claimed Factor (%)". For dates before 01/04/22, the Conditional Factor is still published.

The column "Account Factor (%)" is renamed to "Gis Exceeding Factor

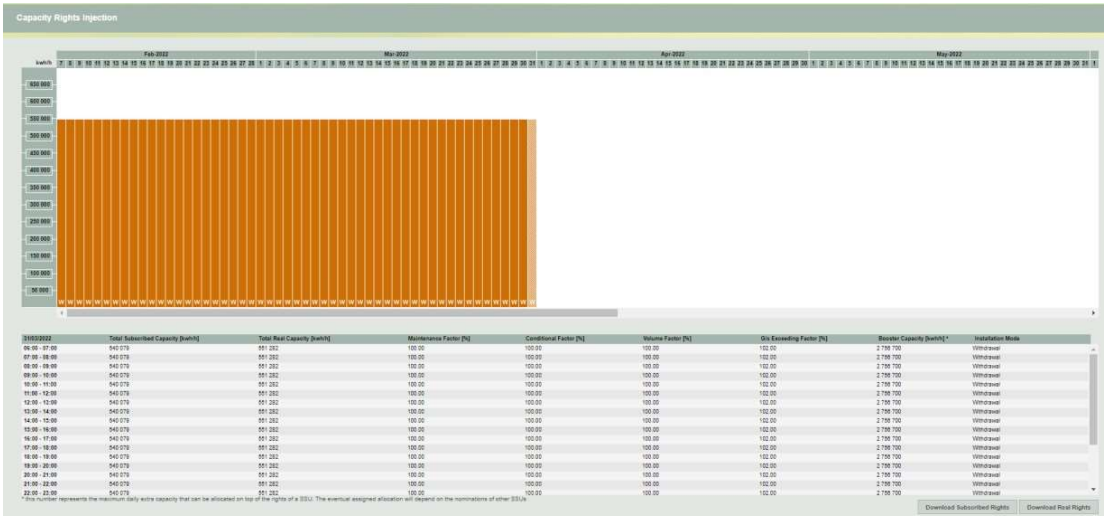
(%)". The column "DAM/NNS [m³/h]" is renamed to "Booster capacity

[kwh/h]".

All capacities are reported in the unit kWh/h instead of the unit m³/h.
For dates before 01/04/22 a conversion from the unit m³/h to the unit kWh/h is done:

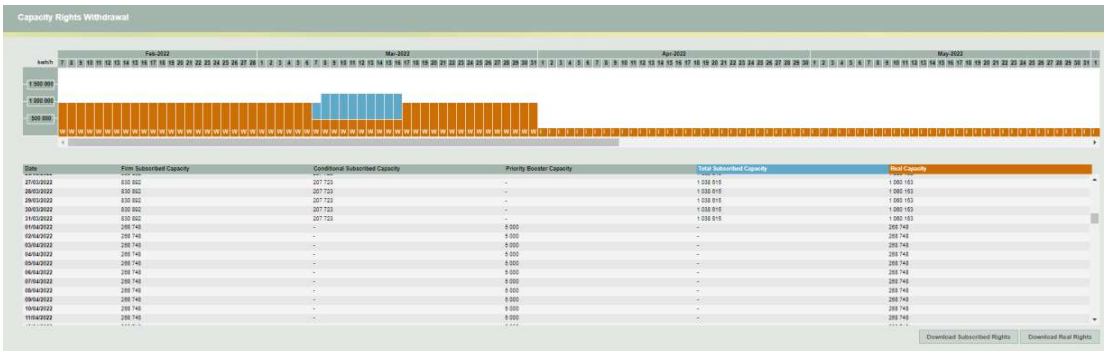
- A fixed GCV of 11,3 kWh/m³ is used for subscribed capacities.
- The measured GCV is used for real capacities.

DAM/NNS represents the maximum daily extra capacity that can be allocated on top of the rights of a SSU. The eventual assigned allocation will depend on the nominations of other SSUs.



Injection Capacity Consult Screen with Details (vertical bar clicked)

4.1.2 Capacity Rights Withdrawal



Withdrawal Capacity Consult Screen

Monthly view :

Information about withdrawal capacities is retrieved for a period of 7 months: one month in the past and six months in the future.

The upper section presents a graph with the daily total subscribed and total real withdrawal capacities for the selected plant over the timeline (horizontal axis), which has a daily basis (GasDays). The view displays 60 days and is scrollable. The default view when opening contains 3 days history and 56 days in the future.

The installation mode is displayed at the bottom of the bar chart. (I = Injection, S = Stop and W = Withdrawal)

The lower section shows the same information in a table, but with two extra columns: the firm subscribed and conditional subscribed withdrawal capacities. A new column "Priority Booster Capacity" is added.
For dates starting from 01/04/22 there is no more data published for the columns "Conditional Subscribed Capacity" and "Subscribed Total Capacity".

All capacities are reported in the unit kWh instead of the unit m³.
For dates before 01/04/22 a conversion from the unit m³/h to the unit kWh/h is done:

- A fixed GCV of 11,3 kWh/m³ is used for subscribed capacities.
- The measured GCV is used for real capacities.

The real withdrawal capacities in injection and stop mode are set to sum of all injection rights. The possible reverse nomination that will be confirmed depends on the actual forward flow.

The subscribed and real withdrawal rights can be downloaded to an .xml file by pressing resp. the 'Download Subscribed Rights' button and the 'Download Real Rights' button. This allows you to save the .xml files on one of your drives.

In following link you can find an impression of how the XML looks like:
https://www.fluxys.com/en/products-services/empowering-you/operational-information/operational- information-storage-belgium
Section: Electronic Data Platform -> Downloads (Update xx/xx/xxxx) –> EDP - Description of Storage section.pdf

Daily view :

When clicking on a vertical bar representing one GasDay the bottom half of the display changes to a detailed hourly view.

Several extra columns are also visible showing the correction factor: the maintenance,

conditional, volume and account factors, the Day Ahead Market and the installation mode. Please note that the Day Ahead Market capacity is on Plant level not on storage user level.

For dates starting from 01/04/22 the column "Conditional Factor (%)" is removed and replaced by the column "Claimed Factor (%)". For dates before 01/04/22, the Conditional Factor is still published.

The column "Account Factor (%)" is renamed to "Gis Exceeding Factor

(%)". The column "DAM/NNS [m³/h]" is renamed to "Booster capacity

[kwh/h]".

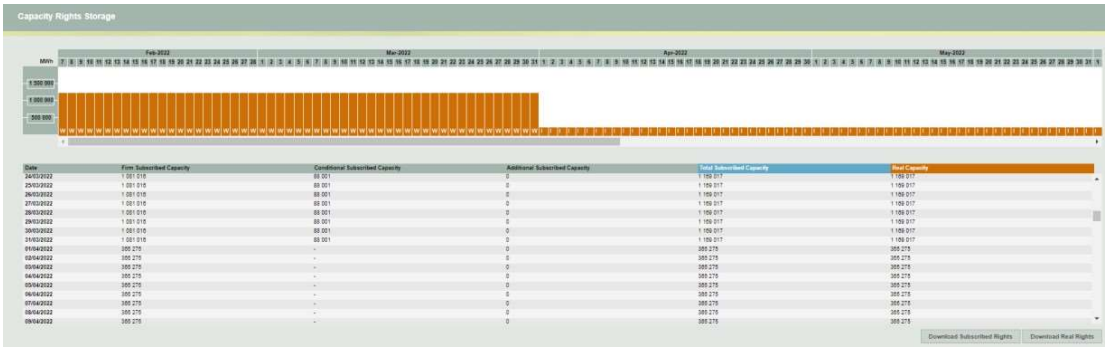
All capacities are reported in the unit kWh/h instead of the unit m³/h.
For dates before 01/04/22 a conversion from the unit m³/h to the unit kWh/h is done:

- A fixed GCV of 11,3 kWh/m³ is used for subscribed capacities.
- The measured GCV is used for real capacities.

DAM/NNS represents the maximum daily extra capacity that can be allocated on top of the rights of a SSU. The eventual assigned allocation will depend on the nominations of other SSUs.

Withdrawal Capacity Consult Screen with Details (vertical bar clicked)

4.1.3 Capacity Rights Storage



Storage Capacity Consult Screen

Information about storage capacities is retrieved for a period of 7 months: one month in the past and six months in the future.

The upper section presents a graph with the daily total subscribed and total real storage capacities for the selected plant over the time line (horizontal axis), which has a daily basis (GasDays). The view displays 60 days and is scrollable. The default view when opening contains 3 days history and 56 days in the future.

The installation mode is displayed at the bottom of the bar chart. (I = Injection, S = Stop and

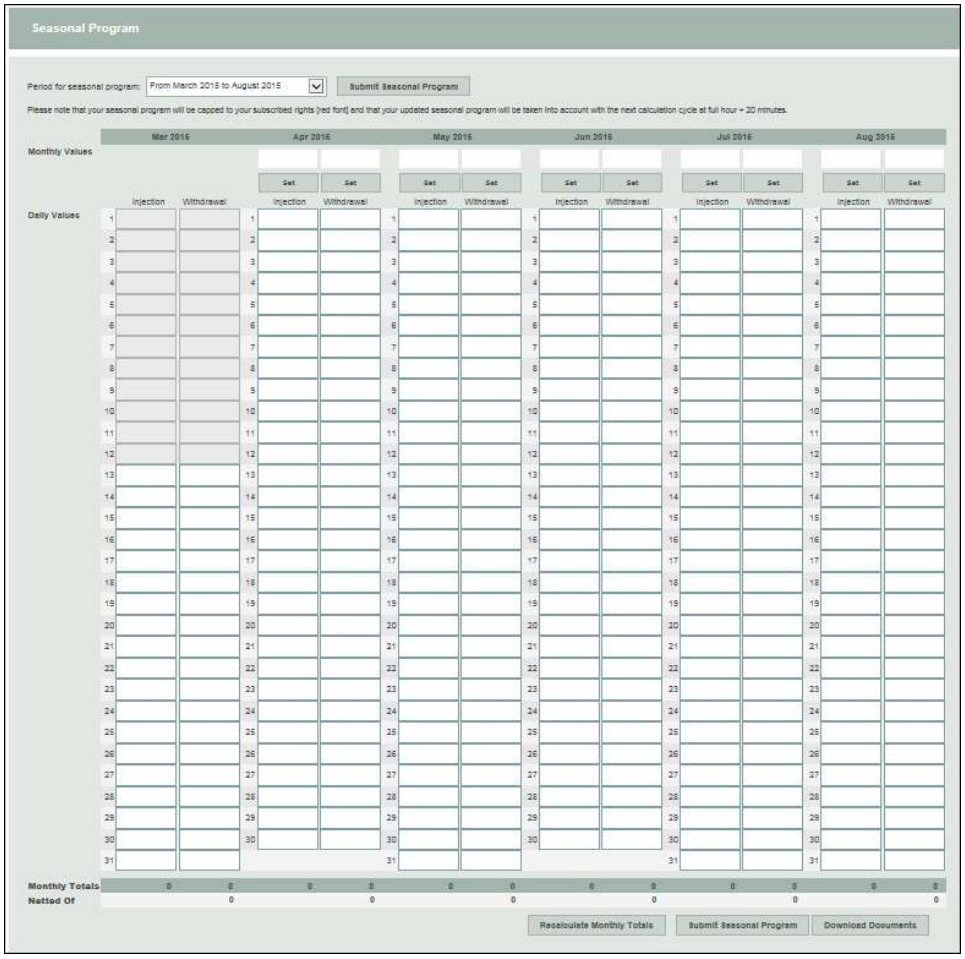
W = Withdrawal).

The lower section shows the same information in a table, but with three extra columns: the firm subscribed, the conditional subscribed and the additional subscribed storage capacities. Note that values are given in MWh and are rounded.

Starting from 01/04/22 there is no data published for the column "Conditional Subscribed Capacity".

The subscribed and real storage rights can be downloaded to an .xml file by pressing resp. the 'Download Subscribed' button and the 'Download Real Rights' button. This allows you to save the
.xml files on one of your drives.
In following link you can find an impression of how the XML looks like: https://www.fluxys.com/en/products-services/empowering-you/operational-information/operational- information-storage-belgium
Section: Electronic Data Platform -> Downloads (Update xx/xx/xxxx) –> EDP - Description of Storage section.pdf

4.1.4 Seasonal Program



Seasonal Program Screen

The information on the seasonal program can be retrieved for 4 periods of 6 months each. The default period is the current month till 5 months in the future. The other periods are the past 6 month period and 2 future periods of 6 months each. The list box provides the possibility to select the period of choice.

The seasonal program in the past as well as full day + 1 cannot be edited anymore.

To define the seasonal program, just enter the amount in the Month Values field of the appropriate month and click the Set button underneath. This will cause the amount to be evenly distributed over the days of the month. It is also possible to enter daily amounts after which 'Recalculate Monthly Totals' has to be clicked to update the monthly total.

When the program has been entered or changed, the 'Submit Seasonal Program' button has to be clicked to save the amounts. While submitting the amounts, the amounts will be restricted to the subscribed rights. In case the original amounts are capped by this action, the definitive amounts are published in red font.

At the bottom of the columns, the Monthly Totals and the Netted Of values are displayed. The Netted Of value is calculated by subtracting the total withdrawal amount of the month from the total injection amount of that month.

The seasonal program can be downloaded to an .xml file by pressing the 'Download Documents' button. This allows you to save the .xml file on one of your drives.
In following link you can find an impression of how the XML looks like:
https://www.fluxys.com/en/products-services/empowering-you/operational-information/operational- information-storage-belgium
Section: Electronic Data Platform -> Downloads (Update xx/xx/xxxx) –> EDP - Description of Storage section.pdf

4.1.5 Congestion Indicators

08/2012

	Injection			Withdrawal			Storage		
	Daily Maximum %	Daily Average %	Plant Daily Average %	Daily Maximum %	Daily Average %	Plant Daily Average %	GIS unused % forecast	GIS unused capacity (MWh)	Plant GIS % forecast
01/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	27.20	0.00	27.20
02/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	26.71	0.00	26.71
03/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	26.22	0.00	26.22
04/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	25.73	0.00	25.73
05/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--
06/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--
07/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--
08/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	24.20	0.00	24.20
09/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	92.63
10/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	92.34
11/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	92.06
12/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	91.78
13/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	91.50
14/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	91.21
15/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	90.93
16/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	90.65
17/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	90.37
18/08/2012	0.00	0.00	6.48	0.00	0.00	0.00	90.00	0.00	94.77
19/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	94.62
20/08/2012	0.00	0.00	0.11	0.00	0.00	0.00	90.00	0.00	93.37
21/08/2012	0.00	0.00	42.24	0.00	0.00	0.00	90.00	0.00	92.77
22/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	92.42
23/08/2012	0.00	0.00	0.05	0.00	0.00	0.00	90.00	0.00	91.82
24/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	91.22
25/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	90.62
26/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	90.02
27/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	89.42	0.00	89.42
28/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	88.82	0.00	88.82
29/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	88.22	0.00	88.22
30/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	87.61	0.00	87.61
31/08/2012	0.00	0.00	0.00	0.00	0.00	0.00	87.01	0.00	87.01

Download Documents

Indicators screen

This section represents a table with the congestion indicators for Injection, Withdrawal & Storage for each day of the current month.

It is possible to retrieve the congestion indicators for another month by using the previous month or next month buttons. A rolling window of 13 months will be provided; this means that only historic data till 13 months in the past can be consulted.

The data will be displayed as percentages, being a value between 0 and 100. Two significant decimal numbers will be shown.

If no data is available for a number of possible causes (f.e. before 15/4/2012, dates in the future), "--" is displayed.
The indicators for Injection are: Daily Maximum %, Daily Average % and Plant Daily Average %. The indicators for Withdrawal are: Daily Maximum %, Daily Average % and Plant Daily Average %. The indicators for Storage are: GIS Unused % Forecast, GIS Unused Capacity (MWh) and and Plant GIS % Forecast.

The indicators can be downloaded to an .xml file by pressing the 'Download Documents' button. This allows you to save the .xml file on one of your drives.
In following link you can find an impression of how the XML looks like:
https://www.fluxys.com/en/products-services/empowering-you/operational-information/operational- information-storage-belgium
Section: Electronic Data Platform -> Downloads (Update xx/xx/xxxx) –> EDP - Description of Storage section.pdf

Notes:
1. Additional storage capacity is not taken into account for the indicators (GIS utilization rates)
2. The storage indicators for the current day will be available from 16h15
3. The injection and withdrawal indicators for the previous day will be available from 8h30AM

4.1.6 Overview remaining Storage Services

The remaining Storage Services (Injection / Withdrawal / Volume) for the primary market are displayed in the corresponding table view and are updated on a regular basis (and depending on the allocation calendar).
The Storage Services offered on the secondary market are displayed in the corresponding table view and are posted on request of the selling Storage User.

For more detailed information on the available Storage Services, Storage User can contact the storage operator on info.storage@fluxys.com .

4.1.7 Secondary Market report

Under this tab Storage users are redirected to the Emix platform. Emix is an advertising page with requests and offers for the secondary market of all Storage products. Via this tool Storage Users can interact easily with each other to purchase and/or sell Storage products.

4.2 Maintenance

4.2.1 Works and interventions impact

Works and interventions (i.e. planned maintenance) impacting the Installation Point are published for the following calendar year as from the 1st October preceding the calendar year. The information is updated every month. Detailed information on short term changes impacting the service rights (Injection / Withdrawal) are published by the maintenance factors as described in 4.1.

4.3 Metering

4.3.1 Hourly refreshed measurements on nodes and lines

The data is based on the codification which makes it possible to visualize information on line-level for every type of metering configuration (e.g. 2 meters in series in one metering line).

When opening this section, the Hourly View with flow measurements for the last available hour is displayed for all the nodes.

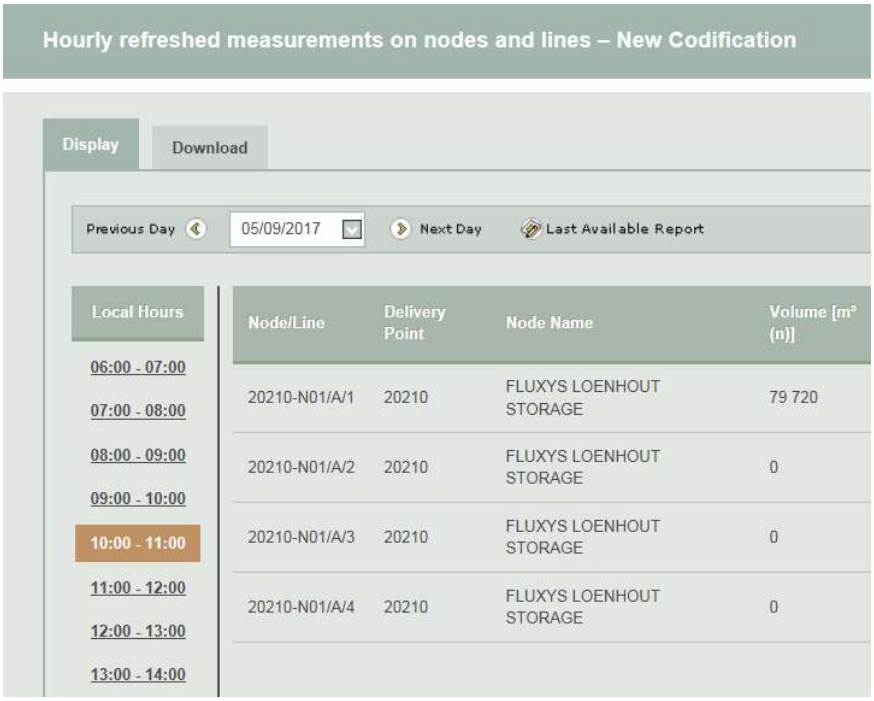
On the left hand side a bar with all the available hours in the selected gasday is presented. Clicking on a specific hour will select this hour and display the measurements of this hour in the measurements grid. When changing the gasday the first gashour of that day is selected.

The center of the screen shows all the flow measurements on the selected gasday and gashour. For each node or metering line, a line is displayed with the following measurements:

- The amount of **Volume** that flowed through the node or metering line (Converted to normal conditions (0°C and 1 atm))
- The amount of **Energy** that flowed through the node or metering line during this hour
- The **GCV** calculated from the gas flow. This value is calculated as the fraction of Energy/Volume.
- The **Pressure** of the gas (absolute pressure – expressed in Bara)
- The **Temperature** of the gas
- The **Gross Volume** is the physical volume of the gas at measured conditions.
- The **VnConv** is the normalized Volume that is measured by the volume converter.
- For a metering line, the value **Weight/In Maintenance** indicates the weight of the line (-1 / 0 / 0,5 / 1). Some examples :
    - If a metering line is in maintenance or subcounting, the weight of the metering line will be '0'.
    - If two meters are installed in the same meteringline, the weight will be '0.5'

This makes that the metering results on node level are the summation of the consumptions (in Volume or Energy) of the different depending metering lines multiplied by their weight.

- The **Status** field shows the validation status of the measurements:
    - **No Data**
    - **Raw** data are measurements that are not at all verified or validated
    - **Verified data** means that a preliminary verification check has been done
    - **Validated data** means that extra checks have been executed and that the measurement is considered as accountable



4.3.1.1 Download

There are essentially two main options to download measurement information from the application:

- The user can download the information manually by using the Graphical User Interface.
- It is also possible to address the download feature directly by using the Download URL.

4.3.1.1.1 Manual download by the user

The user can download the required information manually by navigating to the Download section for a certain gasday period on the filtered nodes and metering lines:

- Hourly Flow Measurements on Node
- Hourly Flow Measurements on Metering Line
- Hourly Gas Analysis on Node
- Daily Gas Analysis on Node

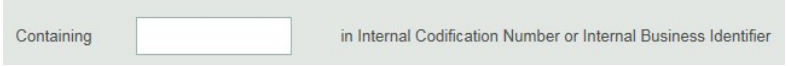
It is possible to choose between two different file formats:

- CSV
- XML

4.3.1.1.2 Selection in manual download

In general:

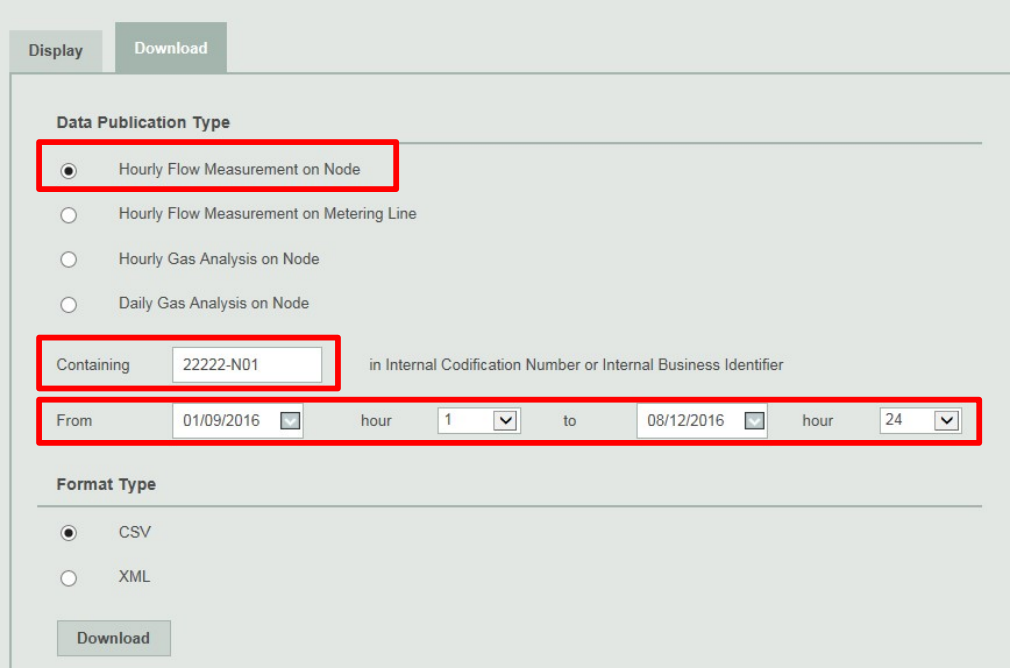
If you do not filter on a node or metering line (in the cell 'containing'), the selected period must not exceed 1 month. The downloaded file will contain all the data of the nodes/metering lines for which you have view rights.



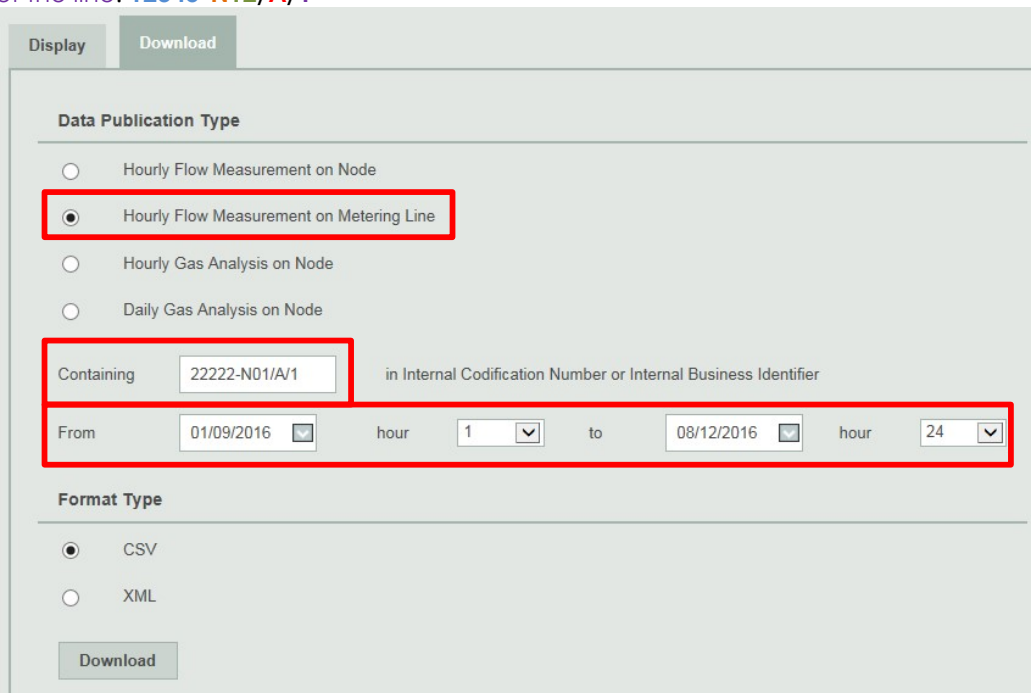
If you filter on a part of a node or metering line (some characters in the cell 'containing'), the selected period must not exceed 1 month. The downloaded file will contain all the data of the nodes/metering lines which contain the characters you put in the filter and for which you have view rights.

Some particularities:

If you select 'Hourly Flow Measurements on Node' or 'Hourly Gas Analysis on Node', and you filter on the exact codification of a node (in cell 'containing').The selected period can be up to 1 year.
Attention: The codification must be absolutely accurate (You can find the codification for nodes and lines in the display section or in topology section).
The codification (for node) must consist of 5 digits + N + 2 digits: **12345-N12**



If you select 'Hourly Flow Measurements on Metering Line', and you filter on the exact codification of a line (in cell 'containing').The selected period can be up to 1 year.
The codification must be absolutely accurate (You can find the codification for nodes and lines in the display section or in topology section).
The codification (for line) must consist of 5 digits + N + 2 digits + / + 1 letter + / + the number of the line: **12345-N12/A/1**



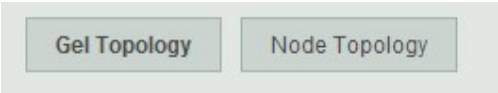
4.3.1.1.3 Automatic download by an application

See chapter 6.

4.3.2 Topology

This section provides information about the metering topology elements on which the user has the right to view data. The view rights are derived from the contracts which are based on Gas Exchange Locations. These gas exchange locations can be subdivided in a set of Nodes.

4.3.2.1 Content



A Gas Exchange Location (GEL) consists of node memberships. A node can be a member of a GEL during a given time period. The membership has a weight with which the measurements of the respective node are aggregated in the result for the associated GEL.
All this information can be found per GEL under the button **GEL Topology** (This option is accessible to limited users it depends of their contractual link with Fluxys - not applicable for Storage).
Under the **Node Topology** button a drop-down box can be found with all the nodes on which the user has the right to view data.
The whole history of the node is shown after selecting a node. The node history consists of the name changes and the EAN number.
The metering line history consists of the measured before status, operational status and the EAN number.

4.3.2.2 Download

There are essentially two main options to download topology information from the application:

- The user can download the information manually by using the Graphical User Interface.
- It is also possible to address the download feature directly by using the Download URL.

4.3.2.2.1 Manual download by the user

The user can download the required information manually by navigating to the Download section. This section provides selections to download the whole history of either:
- Gas Exchange Location Topology: for all GELs on which the user has the right to view data
- Node Topology: for all GELs on which the user has the right to view data

It is possible to choose between two different file formats:
- CSV
- XML

4.3.2.2.2 Automatic download by an application

See chapter 6.

4.3.3 Further remarks about Metering and Topology

4.3.3.1 Aggregation of measurements

Since a Gas Exchange Location (GEL) consists of a set of nodes and a node consists of a set of metering lines, the measurements for a complete GEL should be aggregated.

We advise to start the aggregation for a complete GEL from the set of nodes and not from the set of metering lines. A metering line can go 'In Maintenance' or the measurements can already be accounted in the measurements of another metering line, i.e. 'Measured

Before'.

The measurements on the node level take these two parameters into account and can therefore readily be used for the aggregations.

Example
What is the total energy on gas exchange location A at gas day X, hour Y?

The topology of gas exchange location A at gas day X and hour Y is:
- Membership 1: Node n1, weight w1 = -1
- Membership 2: Node n2, weight w2 = -1
- Membership 3: Node n3, weight w3 = 1

The measurements of nodes n1, n2 and n3 at gas day X and hour Y are:
- Node n1: e1 = 100 kWh
- Node n2: e2 = 200 kWh
- Node n3: e3 = 500 kWh

Calculation
Total energy (e) = e1 * w1 + e2 *w2 + e3*w3
= 100*-1 + 200*-1 + 500*1
= 200 kWh

4.4 Storage Inventory and Allocation

4.4.1 Provisional Hourly Allocations

For a complete description of the Provisional Hourly Allocations data publication, please refer to the annex D1 of the Access Code for Storage.

4.4.1.1 Purpose

The 'Provisional Hourly Allocation Report' screen gives the ability to navigate through all of the user's Provisional Hourly Allocation reports of the past 3 years. The allocations are categorized by their respective gashour.

4.4.1.2 Published data

For each gashour a list of all provisional allocations is given. Every allocation detail concludes the gashour and gasday, the shipper account, the EDIGAS-code of the location and the allocation value (expressed in kWh).

4.4.1.3 Access to publications

The provisional hourly allocations can be accessed in three different ways: via the display section, the download section and via a download URL.

The display section allows the grid user to view and consult the provisional hourly allocations online and the download section and download URL give the grid user the ability to download the available allocations in different file formats for further usage.

4.4.1.4 Display section

The last available Provisional Hourly Allocation Report will be displayed by default.
If the user wants to display the allocations for a different gashour, then he should first select the correct gasday with the calendar tool at the top left corner of the screen. By default the
Allocations first gashour of the day is displayed. Then the correct gashour can be chosen from the bar on the left side of the screen.

Additionally to the allocation data, the generation date and time of the report is displayed on top of the screen.

4.4.1.5 Download section

To manually download provisional hourly allocations, the user should select the download tab.

The download screen gives two options to download the provisional hourly allocations. The gasday or range of gasdays and the output file format can be chosen by the user.

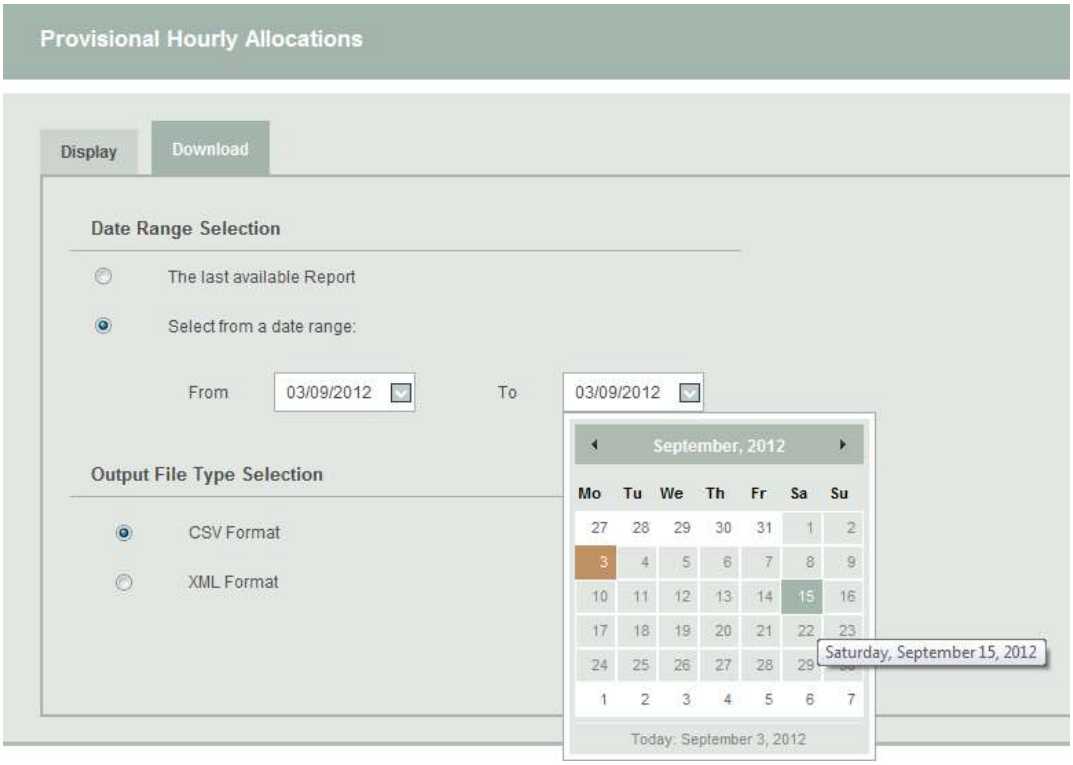
Date range selection:

- Last available report
  This option returns the provisional hourly allocations for the last gasday.
- Date range:
  Select all the gasdays starting at gasday 'From' until gasday 'To'. The FROM date may not be later in time than the TO date and the maximum date range is limited to one week. The screen automatically changes the FROM or TO date if the maximum date range of one week is exceeded.

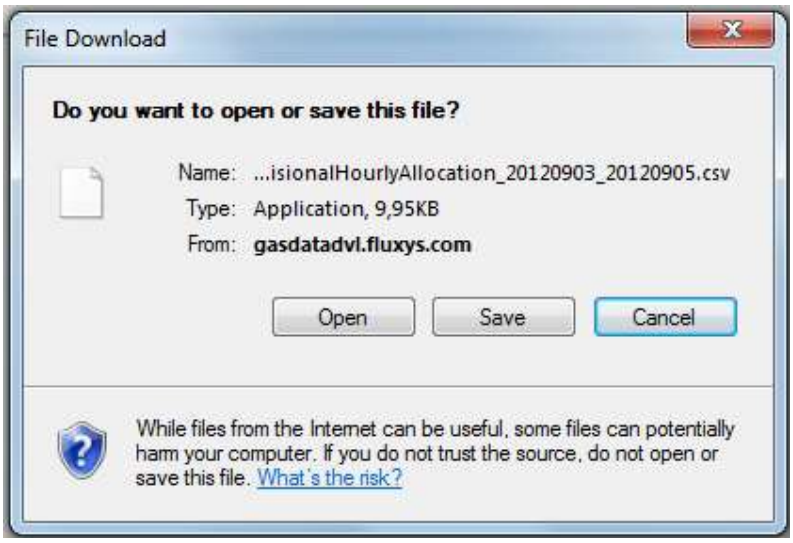
Output File Type Selection:

Three file types are available for manual download:

- CSV
- XML



After the user has set the right parameters to download the desired Provisional Hourly Allocations and clicked the Download button, the File Download screen pops up, giving him/her the choice to directly open the file, or to save it.



4.4.1.6 Automatic download URL

See chapter 6.

4.4.2 Gas In Storage

GIS data allows grid users to keep track of the amount of energy they have in storage in the Fluxys storage installations.

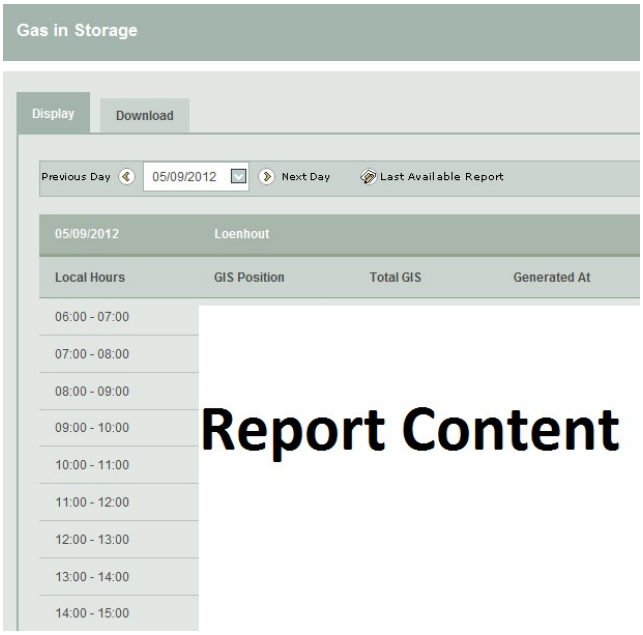
4.4.2.1 Display

The Gas In Storage screen opens by default the last available GIS Report.

The GIS Report screen gives the ability to navigate through the user's GIS Reports of the last past 3 years. Therefore, the user will find a calendar menu item where he can select the appropriate day for which he wants to consult the GIS Report. So, by changing the date, the user can navigate through all his available Reported Daily Imbalance Reports.

The title of each GIS Report consists of the gasday for which the report applies. The GIS data is delivered on a per hour basis. For every hour (expressed in local time) following elements are displayed:
- Begin and end time of the hour
- For each plant at which a grid user is active
- Amount of GIS position of the user (kWh)
- Total amount of GIS (kWh)
- Generation time of the GIS message

The report is built up as the gasday progresses with a new line being added every hour.



4.4.2.2 Download

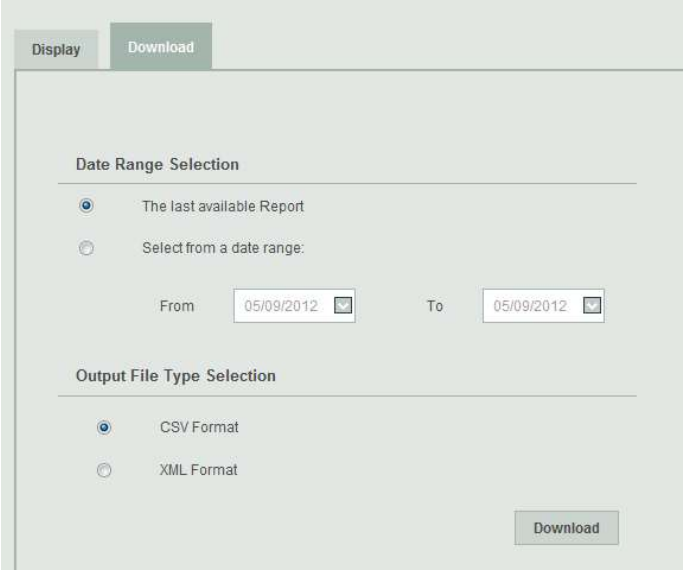
There are two different ways in which the download features of the application can be used. These different options are intended for different sorts of use. On one hand, the user can download the desired information by using the Graphical User Interface. On the other hand, it is also possible to address the download feature directly by using the Download URL.REPORT

4.4.2.2.1 Manual download by the user

On one hand, the user can download the last available report or a range of reports using the Graphical User Interface by navigating to the download section of the application.

In the Gas In Storage screen, the user can specify all the parameters of the desired download.

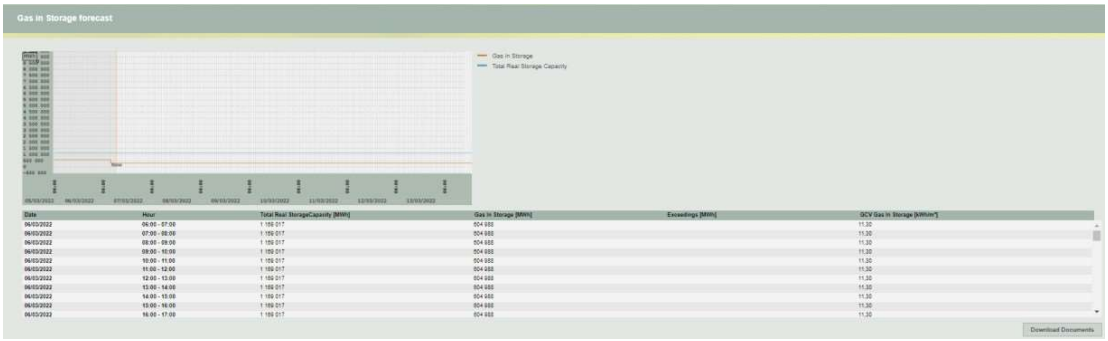
The download procedure for the GIS Reports follows the same rules and principles as the download procedure of the Provisional Hourly Allocations. Therefore, we refer to paragraph 7. Automatic downloads for more information on downloading report information.



4.4.2.2.2 Automatic download by an application

See chapter 6.

4.4.3 Gas in Storage Forecast



GIS / Storage Right screen

The upper section represents a graph with two curves: the GIS level in red and the total real storage rights in blue. The picture displays an hourly detail for a period of 9 gasdays (yesterday, today and next week). The vertical axis shows the amount in MWh. The current hour is represented by a vertical line. The first gashour of a day is also highlighted.

The lower section shows the same information in a table, but with one extra columns: the GCV Gas In Storage.

When the Gas In Storage is negative or, at any given hour, greater than the cumulated storage rights of the plant, this is regarded as an exceeding. The exceeding amount is shown in both the graph and the table.

The gas in storage can be downloaded to an .xml file by pressing the 'Download Documents' button. This allows you to save the .xml file on one of your drives.

The .xml file will provide, for the period (*tags \Period\Start, \Period\End*) for which gas in storage is available on the screen, the gas in storage in kWh and m3

(tag *\DailyBalances\DailyBalance\HourlyBalances\HourlyBalance\ EnergySteeringAccount (kWh)or \ VolumeSteeringAccount (in m3)*

and the total gas in storage in the well

(tag *\DailyBalances\DailyBalance\HourlyBalances\HourlyBalance\ EnergyTotalGis (kWh)*

per gasday

(tag *\DailyBalances\DailyBalance\Gasday*)

and per gashour
(tag *DailyBalances\DailyBalance\ HourlyBalances\HourlyBalance\GasHour*).

4.5 Flow Data

4.5.1 Inventories Storage Report (before 01/04/2024)

Specific factors for storage users to calculate their real injection and withdrawal rights

UFI	Underground Factor for Injection
TSOFI	TSO Claim Factor injection
MFI	Maintenance Factor for Injection
UFW	Underground Factor for Withdrawal
TSOFW	TSO Claim Factor withdrawal
MFW	Maintenance Factor for Withdrawal
GIS	Gas In Storage
ASC	Available Storage Capacity (= USC – CSCF – CSCC)
CSCF	Contracted Storage Capacity Firm
USC	Usable Storage Capacity (=max(Total SBU's;(CSCF+CSCC)) (Maximum that can be stored in current operational conditions)
WV	Working Volume (or Useful Volume as described in Access Code - Glossary) (Maximum that can be stored in optimal conditions)
MIC	Total available Injection capacity
MWC	Total available Withdrawal capacity
DANIN	Day-Ahead Nomination Injection
DANWD	Day-Ahead Nomination Withdrawal
FNIN	Final Nomination Injection
FNWD	Final Nomination Withdrawal
AllocIN	Allocation Injection
AllocWD	Allocation Withdrawal
PF	Physical Flow
GCV	Gross Calorific Value in kWh/m³(n) – a fixed GCV of 11,3 kWh/m³ is used

4.5.2 Inventories Storage Report (as from 01/04/2024)

Specific factors for storage users to calculate their real injection and withdrawal rights.

As from 01/04/2024 three extra columns will be added.

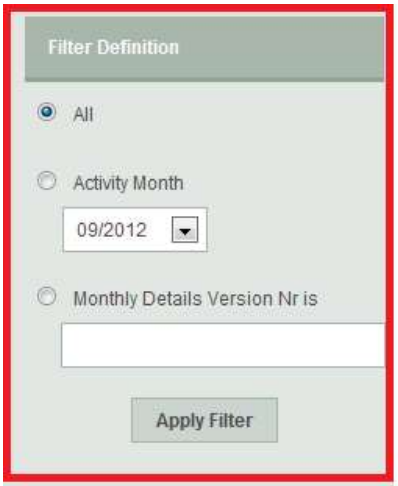
- Technical max capacity: shows the maximum subscribed capacity of the last 10 years;
- SBU max: shows the total volume that can be sold with SBU's (7.61 TWH)
- Booked storage capacity: that gives the total booked capacity (SBUs + additional volume) for a specific year.

For information, the Working Volume is composed of the commercial firm capacities (Golden SBUs, amounts to 7.6 TWh), and an additional capacity which depends on the physical conditions of the underground. This additional capacity typically fluctuates between 0.8 and 1.3 TWh, creating a working volume typically between 8.4 and 8.9 TWh.

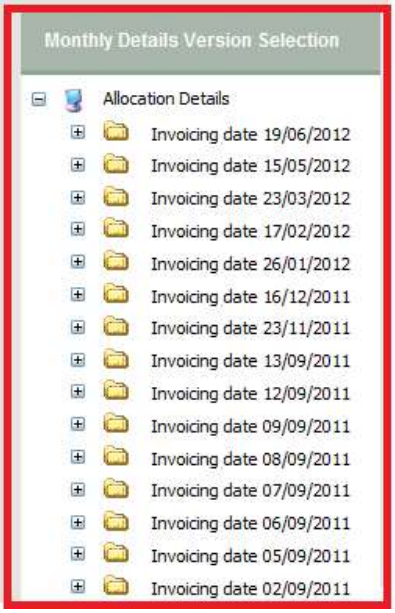
4.6 Invoicing

4.6.1 Allocation Details

As the filter option "All" is selected on the panel by default, the navigation panel shows all available invoicing months and allocation details versions. The user can use the Navigation Tree to select an allocation detail and view or download the document.



Filter

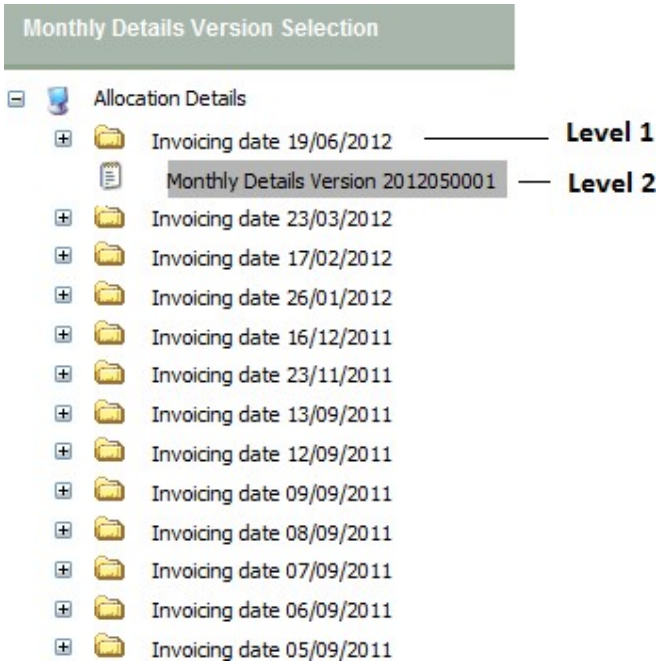


Navigation Tree

The user can modify the filter applied on the collection of available allocation details organized in the navigation tree. The allocation details are grouped per invoicing month and per monthly details version number.

The Navigation Tree, the Filter Panel and the different downloading options will be discussed in the following sections.

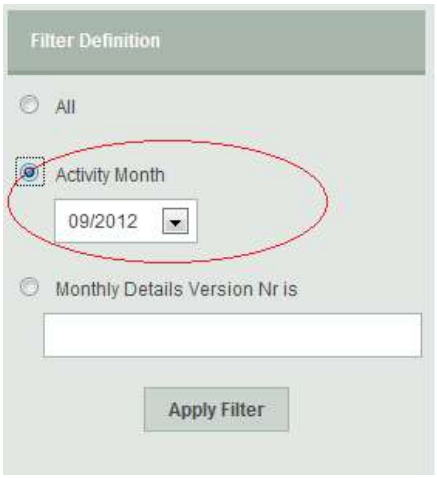
4.6.1.1 Navigation Tree



The navigation provides a tree structure of all invoicing dates (i.e. document date of the allocation details) of the last 3 years and the associated bundled/linked Monthly Details Version Numbers:

- Level 0: label 'Allocation Details'.
  This navigation tree is built for the quick navigation through the archived collection of allocation details of the last 3 years. The filter above provides additional browsing facilities and is applicable on the tree content.
- Level 1: Invoicing Dates (invoicing data available for the past 3 years).
  This level of the navigation tree contains the invoicing dates or document dates of the last 36 invoicing months.
- Level 2: Monthly Details Version Number
  In the second level, the user can find all the Monthly Details Version Numbers that are attached/bundled/linked to a particular invoicing date or document date. If a Monthly Details Version Number has been selected in the navigation tree, the user will have the possibility to download all the allocation details associated with that particular Monthly Details Version Number, and related to the invoicing date of the previous level. All the related allocation details for a particular Monthly Details Version Number and Invoicing Month/Document date will be shown in the Allocation Details Download Panel to the right of the Navigation Tree. These particular allocation details can be downloaded separately or all together in a zip file.

4.6.1.2 *Filter Panel*



The Filter Panel gives the user the possibility to filter/limit the available Monthly Details Version Numbers in the navigation tree for easy and quick navigation. After applying a desired filter-option by selecting the preferred filter option and clicking the "Apply Filter" button, this option is highlighted. The filter panel consists of the following criteria/options.

- All
  If this option is chosen, no filter is applied. The option "All" gives all the available Monthly Details Version Numbers grouped by the Invoicing Date (=document date) to which they are linked/bundled.
- Activity Month
  This filter criterion gives the user the option to restrict the available Monthly Details Version Numbers shown in the navigation tree to a pre-defined Activity Month in the combo-box.
- Monthly Details Version Number
  This option offers the possibility to search and request a specific Monthly Details Version Number that fully matches the expression entered in the corresponding edit-box. As so, the user can limit the Monthly Details Version Numbers shown in the navigation tree to one particular version.

4.6.1.3 *Download*

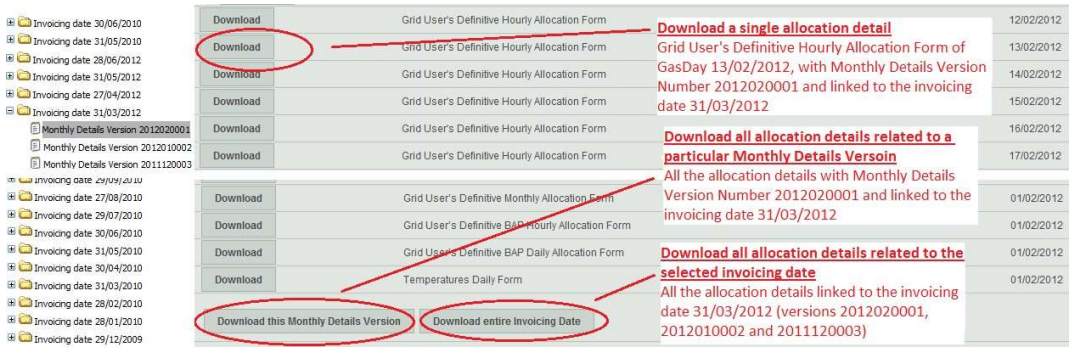
Essentially, there are two different ways in which the download features of the application can be used:

- Download the desired information through the Graphical User Interface.
- Address the download feature directly by using the Download URL.

4.6.1.3.1 Manual download by the user

The user can download the allocation details of a selected invoicing date or linked to the selected Monthly Details Version Number by navigating to the desired invoicing month (level 1) and Monthly Details Version Number (level 2).

If a Monthly Details Version Number has been selected in the fourth level of the navigation tree, all the related allocation details for a particular Monthly Details Version Number and Invoicing Date/Document Date are shown in the Allocation Details Download Panel to the right of the Navigation Tree.



The user has the possibility to choose the granularity of the group of allocation details to download:

- A particular single allocation detail can be downloaded by clicking the download button in front of the associated allocation detail line. Subsequently, this allocation detail file is downloaded as a CSV file which can be opened with either Notepad or Excel, and/or can also be saved to a local drive.
- All the allocation details related to a particular Monthly Details Version Number can be downloaded by selecting the option "Download this Monthly Details Version" and clicking the "Start Download" button. This bundle of allocation details is downloaded as a ZIP file containing all the allocation details in CSV file format.
- The download of all the allocation details of all the allocation details versions related to the selected invoicing date of the previous level is executed by selecting the option "Download entire Invoicing Date", and clicking the "Start Download Button". This group of allocation details is downloaded as a ZIP file containing all the allocation details in CSV file format.

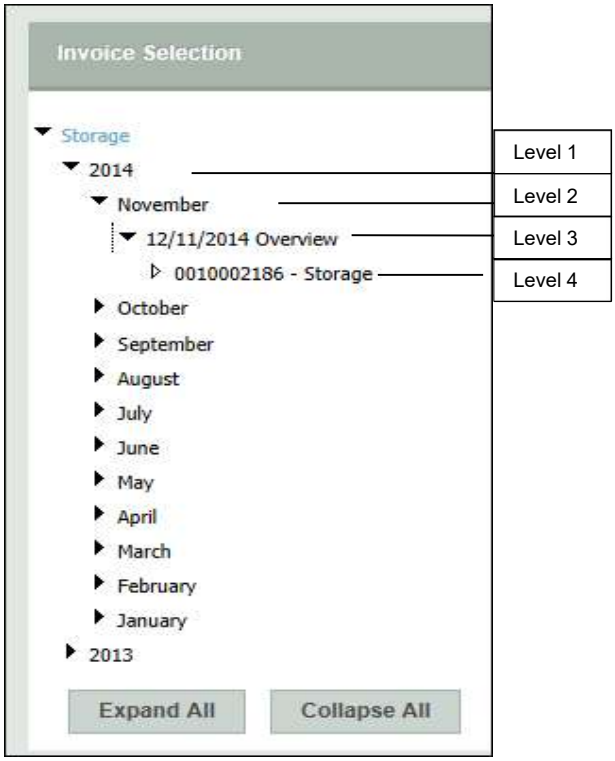
After the user has initiated a download, the File Download screen pops up giving him/her the choice to either directly open the file or save it.

4.6.1.3.2 Automatic download by an application

See chapter 6.

4.6.2 Invoices

4.6.2.1 Navigation Tree



The navigation provides a tree structure of all invoicing dates from April 2013 and the associated bundled/linked Invoice Numbers:

- Level 0: label 'Storage'.
  This navigation tree is built for the quick navigation through the archived collection of invoices from April 2013.
- Level 1: Invoicing year
  This level of the navigation tree contains the invoicing year.
- Level 2: Invoicing month
  This level of the navigation tree contains the invoicing month.
- Level 3: Invoicing Dates (invoicing data available from April 2013).
  This level of the navigation tree contains the invoicing dates. If a invoicing version number has been selected in the navigation tree, the user will have the possibility to download all the invoices associated
- Level 4: Invoicing Number
  In this level, the user can find all the invoicing version numbers that are attached/bundled/linked to a particular invoicing date.

4.6.2.2 Download

A manual download for the desired information through the Graphical User Interface can be done.

4.6.2.2.1 Manual download by the user

The user can download the document of a selected invoicing date or linked to the selected invoice number by navigating to the desired invoicing month (level 2).

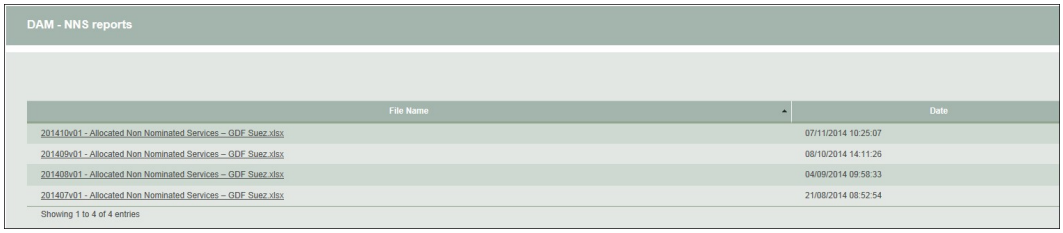
Starting from 01/04/2022, PDF invoices and appendixes will be abandoned and replaced by Invoice XML and Invoice Detail XML files.
The product codes can be found under Operational Information on our website Fluxys.com.

4.6.3 Other invoices: Fluxys Belgium

This section of EDP gives access to private data concerning invoices and appendixes for non- regulated activities.

4.6.4 Boosters report

Invoicing details for the calculation of the variable part of the Service Fee for the DAM/NNS Service, the part of the confirmed (last) Nominations above the applicable Real Withdrawal Capacity or Real Injection Capacity is allocated to the DAM/NNS.
Filename YYYYMM contains invoicing details of invoice YYYYMM+1



4.6.5 Gas in Storage Account for LHT Storage

This report contains the monthly detail of the individual total inventory position (GIS account level) at the Loenhout storage installation plant during the month.
The Gas In Storage account is published every month on Electronic Data Platform.

LOENHOUT STORAGE PLANT fluxys

GIS Account for	**xxxxxxx**	
Month	**October 2020**	**kWh**

1. Quantities IN	
Allocated Quantities IN	2 118 000
Total Quantities IN	**2 118 000**

2. Quantities OUT	
Allocated Quantities OUT	21 522 000
Allocated Gas in Kind	108 030
Total Quantities OUT	**21 630 030**

3. Balance	
GIS at 01/10/2020 06:00	**2 822 507 809**
+ Quantities IN	2 118 000
- Quantities OUT	- 21 630 030
GIS at 01/11/2020 06:00	**2 802 995 779**
Change in GIS	*- 19 512 030*

4.6.6 Synchronization GIS-level LHT Storage

The synchronization between the steering and validation level of the Gas In Storage account at the Loenhout storage Installation point. The scheduling date for this synchronization is communicated by Fluxys Belgium NV with the publication on Electronic Data Platform.

Synchronisation Steering level at Loenhout Storage - xxxxxxxx fluxys

These figures are based on the levels at 01/11/2020 06:00
(Steering level is the level based on provisional figures - this is the level as it is forwarded each hour by Fluxys by use of an electronic message)

Your steering GIS account	1.159.767.094	kWh		
Your validated GIS account	1.159.767.094	kWh		
Delta	0	kWh		
This quantity will be synchronized on	xx/xx/2020	at gashour	06:00-07:00	

4.6.7 Transfers Monthly Fuelgas Balance for LHT Storage (Inactive as of 01/06/2024)

Distribution of the Monthly Fuelgas Balance at the Loenhout Installation plant.
This operation is done the following month. The scheduling date for this transfer is communicated by Fluxys with the publication on Electronic Data Platform.

Monthly Fuelgas Balance transfers at Loenhout Storage - xxxxxx

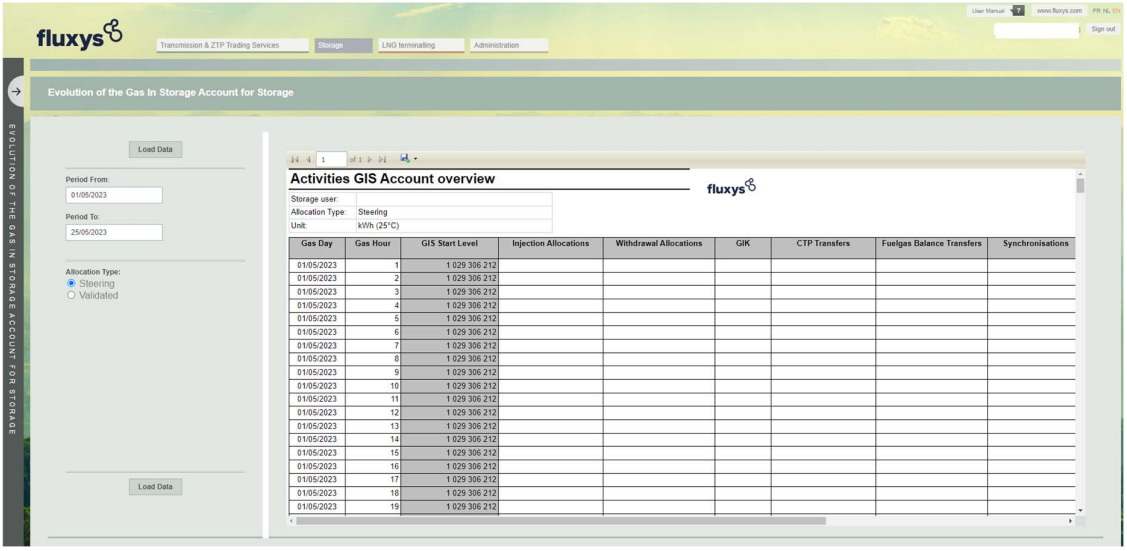
The following quantities will be transfered to your Gas in Storage account :

Monthly Fuelgas Balance - Oktober 2020		52.576	kWh
This quantity will be transfered on	xx/xx/2020	at gashour	06:00-07:00

Please contact us, if the proposed date and time are not convenient for you.

4.6.8 Evolution of the Gas in Storage Account for Storage (before 01/06/2024)

Evolution of your GIS account in energy with hourly granularity, contains data from the past and already known data for the future.

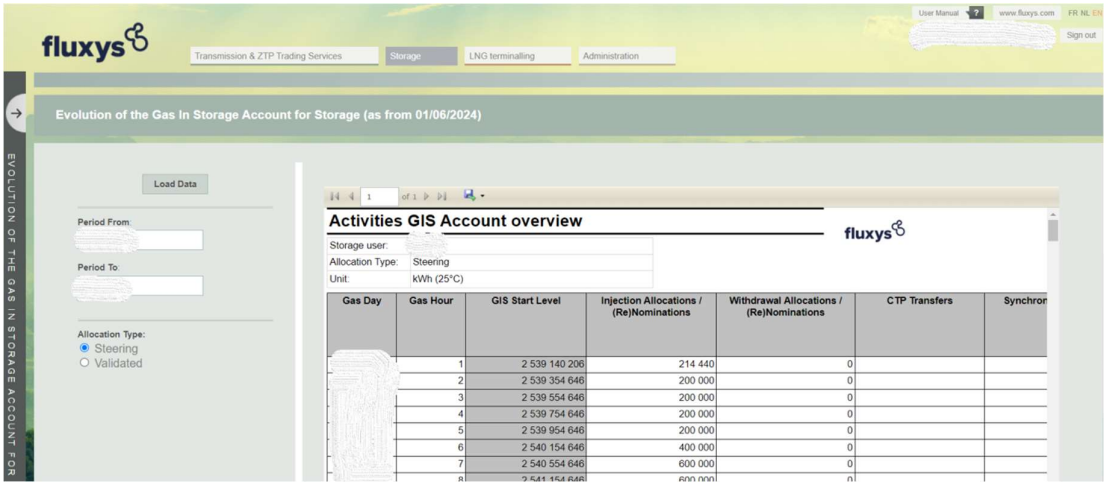


4.6.8.1 Download

A manual download for the desired information can be done only in .xls format via export drop down menu.

4.6.9 Evolution of the Gas in Storage Account for Storage (as from 01/06/2024)

Evolution of your GIS account in energy with hourly granularity, contains data from the past and already known data for the future.



4.6.9.1 Download

A manual download for the desired information can be done only in .xls format via export drop down menu.

4.7 Regulatory and contractual documents

4.7.1 Storage Model

Link to Program for storage – description of services.

4.7.2 Conditions and Tariffs

Link to Tariffs for storage services.

4.7.3 Contractual Documents

Link to Storage agreements and access code.

4.7.4 Subscription of capacity

Link to Subscription and allocation on the primary market.

4.8 REMIT messages

Regulation on **E**nergy **M**arket **I**ntegrity and **T**ransparency
Purpose : Publishing information to foster open and fair competition through reporting that may impact price and applies to market participants (including TSO's or Grid-Users who enters into transactions in wholesale energy markets).

4.9 Notifications

General commercial informations

5 LNG Terminalling

5.1 Contracting and Capacities

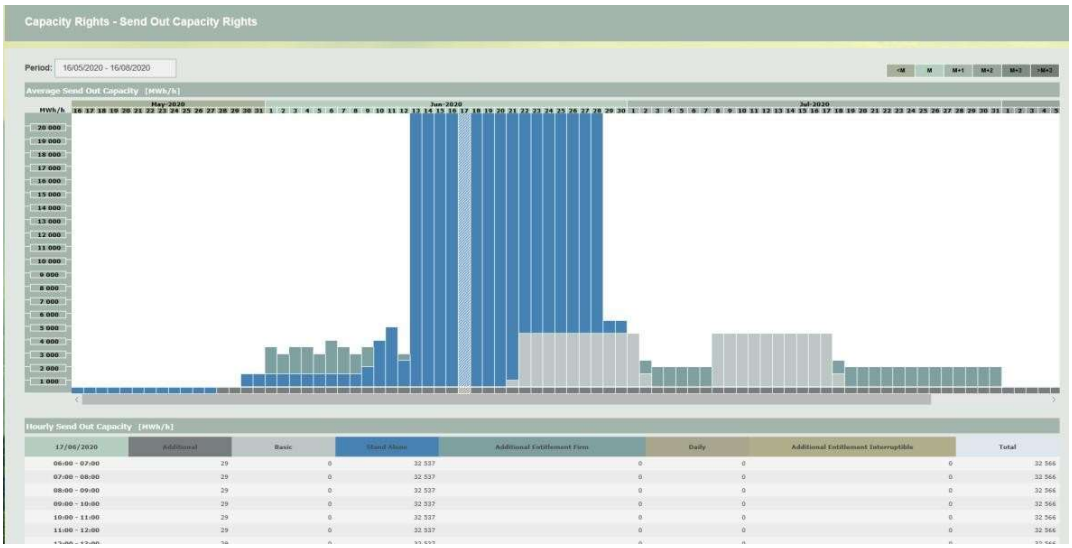
5.1.1 Available terminalling capacity

Information on total capacity for the Zeebrugge LNG Terminal facility.

5.1.2 Overview of the available slots on the Primary and secondary markets

Bulletin board for available slots and Terminalling services, with associated reservation form.

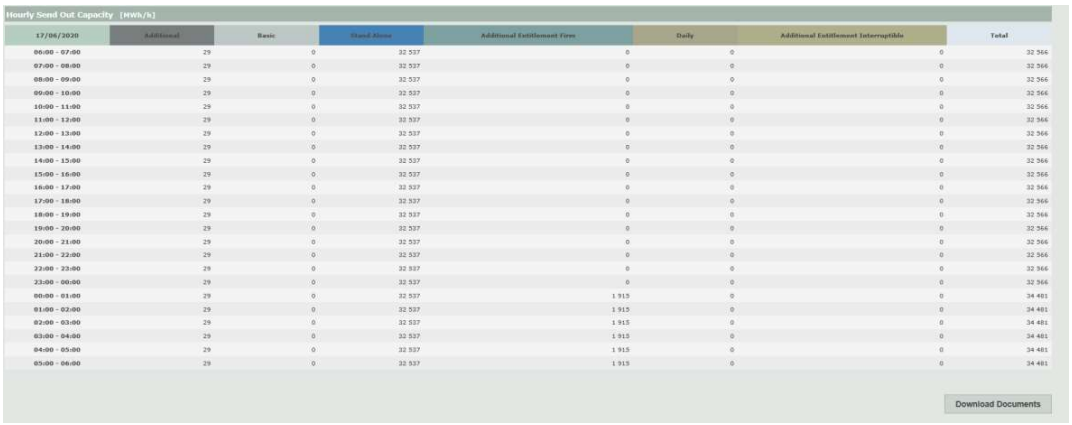
5.1.3 Capacity Rights - Send Out Capacity Rights



S-O Capacity Consult Screen

Information about Send Out capacities is retrieved for a period of 3 months: one month in the past and two months in the future.

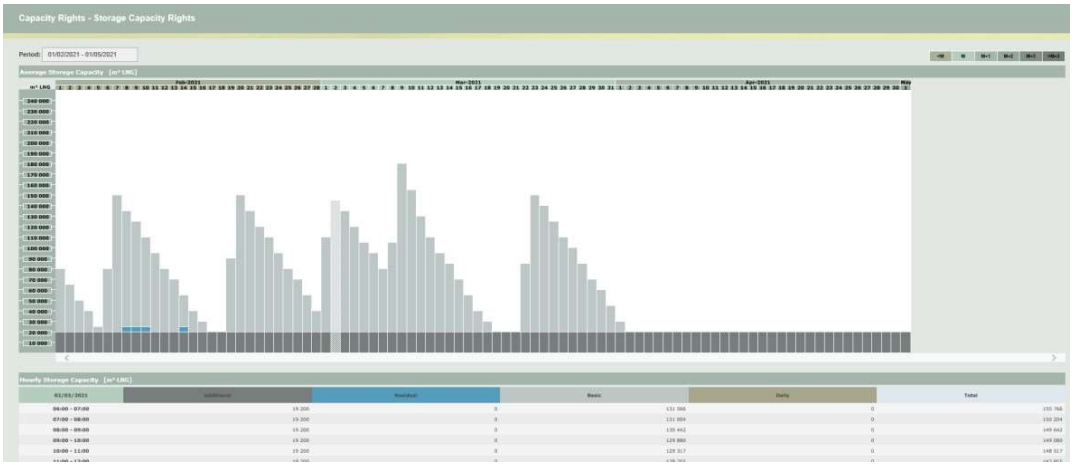
The upper section presents a daily average of the S-O capacities over the time line (horizontal axis); the major time steps are month and the minor ones are days (GasDays). Given the hourly resolution nature of the capacities, the daily average is only informational. Clicking on a given day in the upper section will load the hourly details for that day. By default, "tomorrow" is loaded. Note that values are given in MWh/h and are rounded.



Send Out capacities hourly details for one given day.

The "Download Documents" button will allow the download of this information in XML format.

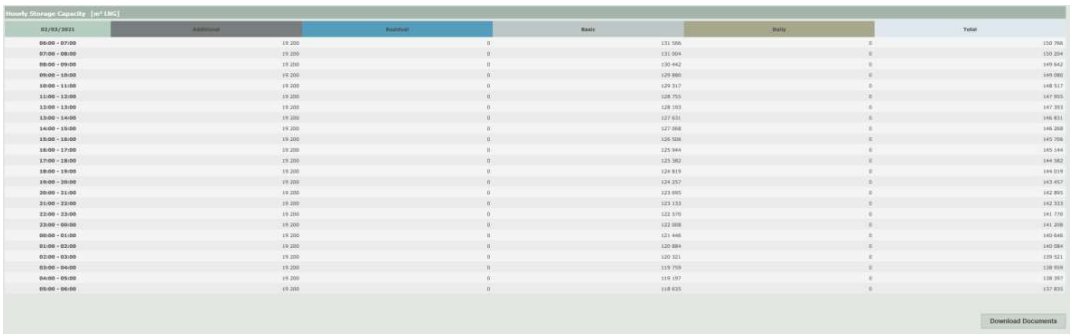
5.1.4 Capacity Rights - Storage Capacity Rights



Storage Capacity Consult Screen

Information about Storage capacities is retrieved for a period of 3 months: one month in the past and two months in the future. The color code will help to identify the current month.

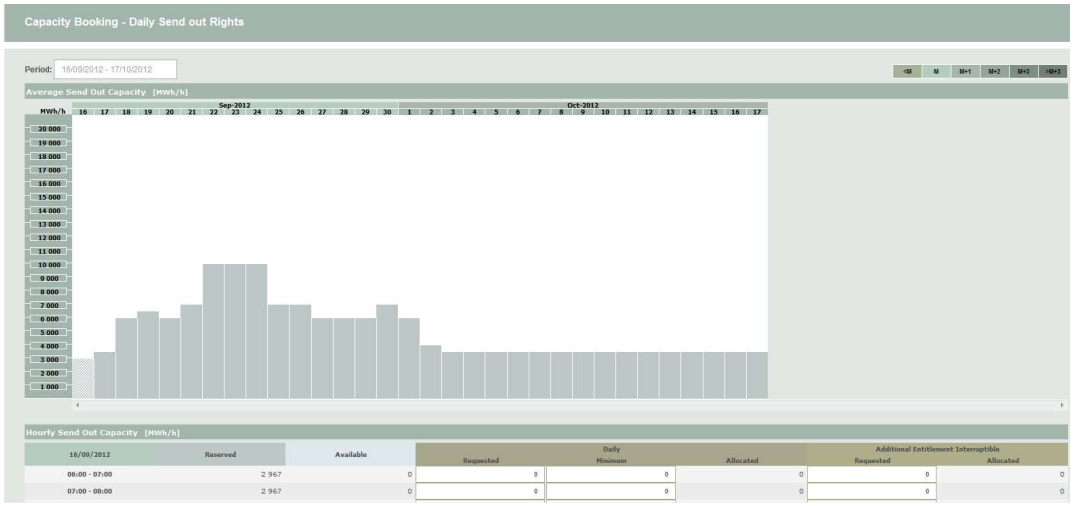
The upper section presents a daily average of the STO capacities over the time line (horizontal axis); the major time steps are month and the minor ones are days (GasDays). Given the hourly resolution nature of the capacities, the daily average is only informational. Clicking on a given day in the upper section will load the hourly details for that day. By default, "tomorrow" is loaded. Note that values are given in m³ LNG and are rounded.



Storage capacities hourly details for one given day.

The "Download Documents" button will allow the download of this information in XML format.

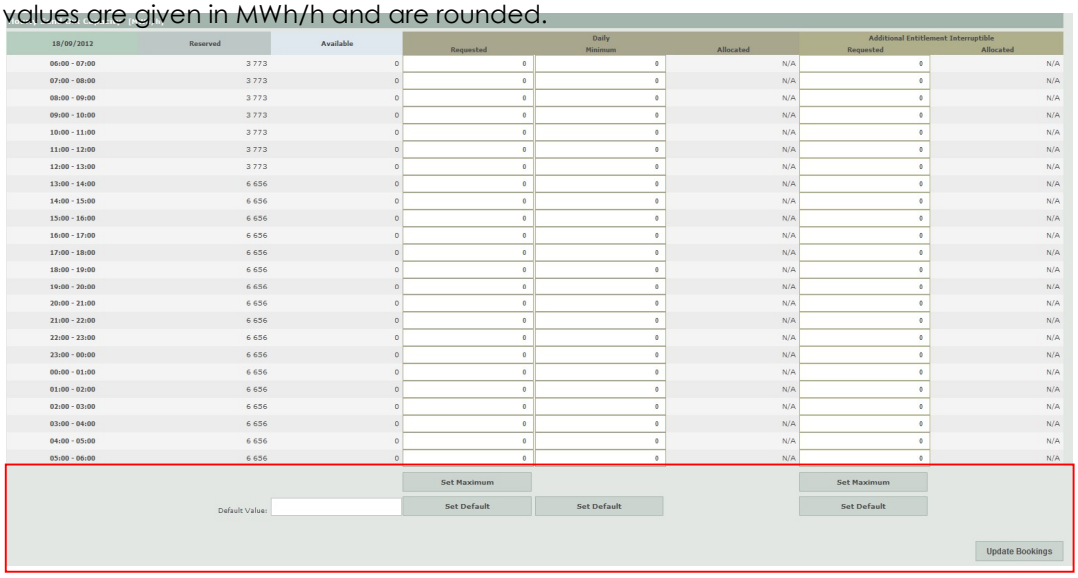
5.1.5 Capacity Booking - Daily Send out Rights



Book Daily S-O Screen

Information about send out capacity bookings is retrieved for a period of 32 days: yesterday, today and 30 days in the future. The color code will help to identify the current month.

The upper section presents a daily average of the S-O capacities over the time line (horizontal axis); the major time steps are months and the minor ones are days (GasDays). Given the hourly resolution nature of the capacities, the daily average is only informational. The grey boxes represent the total booked capacity (via basic or additional rights), while the olive ones relates to either booked (future) or allocated (yesterday and today after 11am) capacities. Clicking on a given day in the upper section will load the hourly details for that day. By default, "today" is loaded. Note that values are given in MWh/h and are rounded.



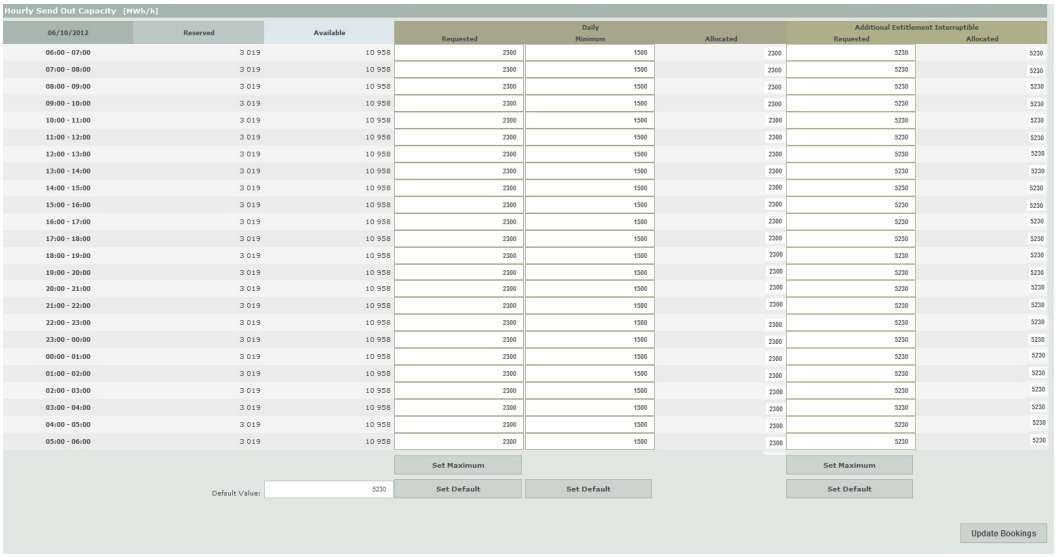
Hourly details of S-O bookings for one given day.

The buttons and text fields in the red rectangle are only available for users with role "validator" and/or "composer" in the LNG activity.

The "Set Maximum" button can be used to copy the content (exact value – without rounding) of the *Available* column to the *Requested* column(s). The "Set Default" button,

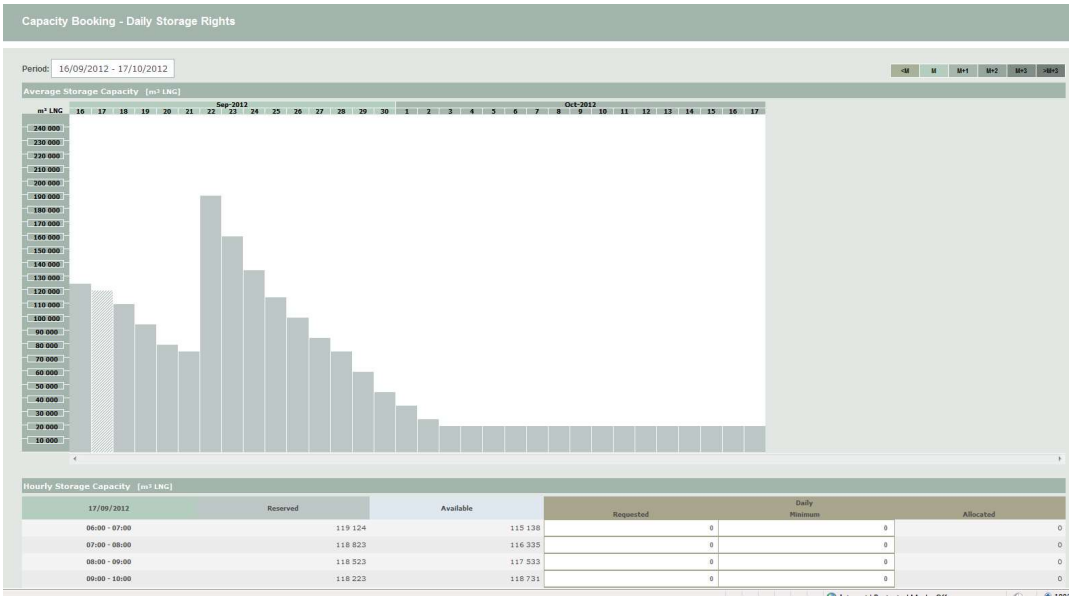
used in combination with the "Default Value" box will copy the same value in all rows of a column. Use the "Update Bookings" button to validate the requested quantities. In contrast to the Transmission activity, where the composer user prepares bookings and the validator user validates these bookings, there is no validate action needed in the LNG activity. Both the composer user and the validator user can make bookings, and these are immediately accepted without any validation action.

When allocated (daily for next day @ 11 am), the capacities are available in the Allocated column and the update booking button is disabled. "N/A" in this column must be interpreted as not yet allocated, while "0" is to be interpreted as zero quantity allocated. Allocated quantities are also available in the consult S-O screen



Hourly details of allocated S-O for one given day

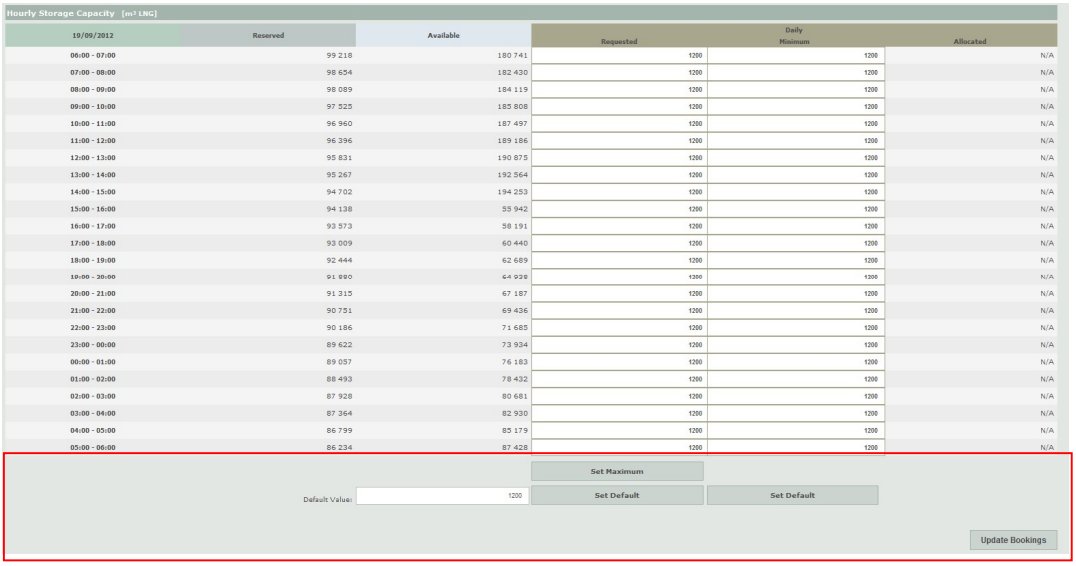
5.1.6 Capacity Booking - Daily storage Rights



Book Daily S-O Screen

Information about storage capacity bookings is retrieved for a period of 32 days: yesterday, today and 30 days in the future. The color code will help to identify the current month.

The upper section presents a daily average of the STO capacities over the timeline (horizontal axis); the major time steps are months and the minor ones are days (GasDays). Given the hourly resolution nature of the capacities, the daily average is only informational. The grey boxes represent the total booked capacity (via basic or additional rights), while the olive ones relates to either booked (future) or allocated (yesterday and today after 11am) capacities. Clicking on a given day in the upper section will load the hourly details for that day. By default, "today" is loaded. Note that values are given in m³ LNG and are rounded.

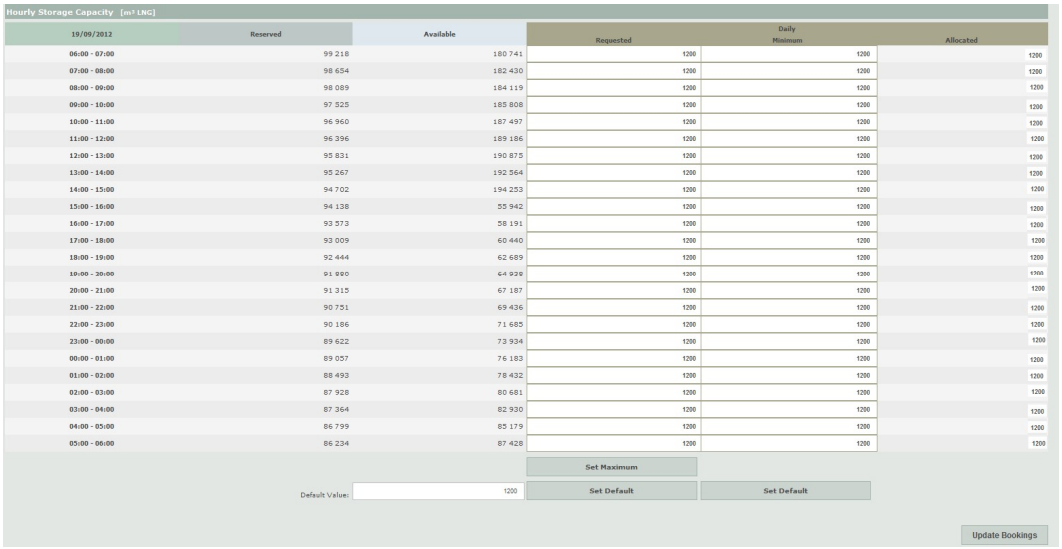


Hourly details of Storage bookings for one given day.

The buttons and text fields in the red rectangle are only available for users with role "validator" and/or "composer" in the LNG activity.

The "Set Maximum" button can be used to copy the content (exact value – without rounding) of the Available column to the Requested column. The "Set Default" button, used in combination with the "Default Value" box will copy the same value in all rows of a column. Use the "Update Bookings" button to validate the requested quantities. In contrast to the Transmission activity, where the composer user prepares bookings and the validator user validates these bookings, there is no validate action needed in the LNG activity. Both the composer user and the validator user can make bookings, and these are immediately accepted without any validation action.

When allocated (daily for next day @ 11 am), the capacities are available in the *Allocated* column and the update booking button is disabled. "N/A" in this column must be interpreted as not yet allocated, while "0" is to be interpreted as zero quantity allocated. Allocated quantities are also available in the consult Storage screen.

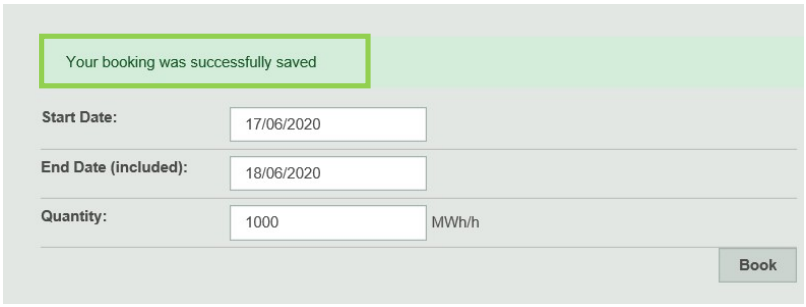


Hourly details of allocated Storage for one given day

5.1.7 Capacity Booking – Stand Alone Send Out Rights

The buttons and text fields are only available for users with role "validator" and/or "composer" in the LNG activity.
In contrast to the Transmission activity, where the composer user prepares bookings and the validator user validates these bookings, there is no validate action needed in the LNG activity. Both the composer user and the validator user can make bookings, and these are immediately accepted without any validation action.

Stand Alone Send Out can be booked for a minimum period of 1 Gas Day and with an End Date not later than 31/12/2023.



The confirmation for the booking is made on the screen with the mention 'Your booking was successfully saved' (see above).
You can find your booking in the 'Stand Alone' column in the tab 'Capacity Rights – Send Out Capacity Rights' (see 6.1.3.).

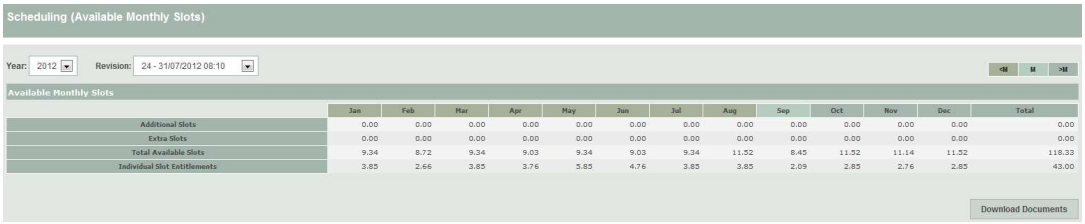
5.1.8 Available Virtual Liquefaction capacity

The Virtual liquefaction service allows Terminal Users to create LNG by counter nominating gas to the Terminal. It's a conditional service since the availability depends on the total net nominations for regasification exceeding the minimum send out requirements.

Daily expected Virtual Liquefaction availabilities in MWh/h at Terminal Zeebrugge for the concerned gas day, based on the difference between nominations received at 4PM CET and the minimum regasification flow needed.

5.2 Scheduling

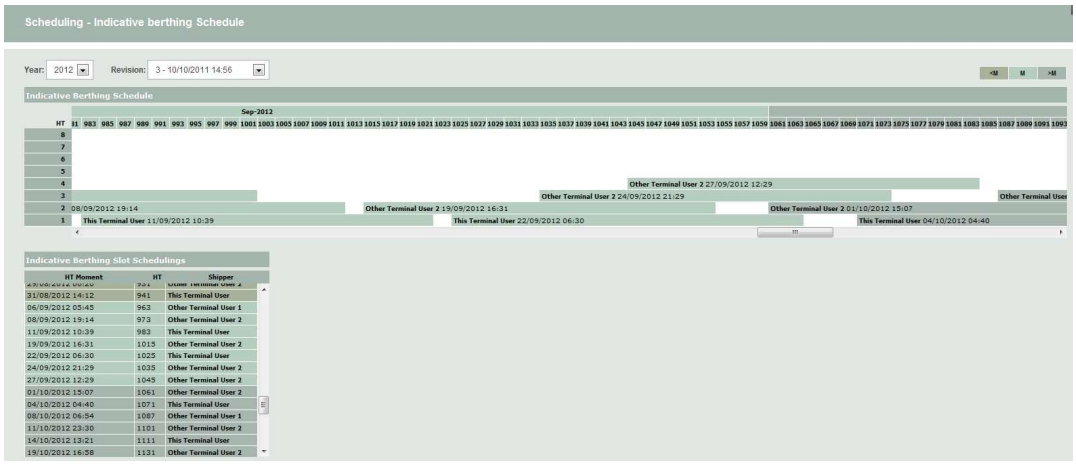
5.2.1 AMS - Available Monthly Slots



By default the last published version for the current year is loaded. The color code will help to identify the current month; the combo boxes allow a quick navigation to any published version of the AMS for the previous, current and next year.

The "Download Documents" button will allow the download of this information in XML format

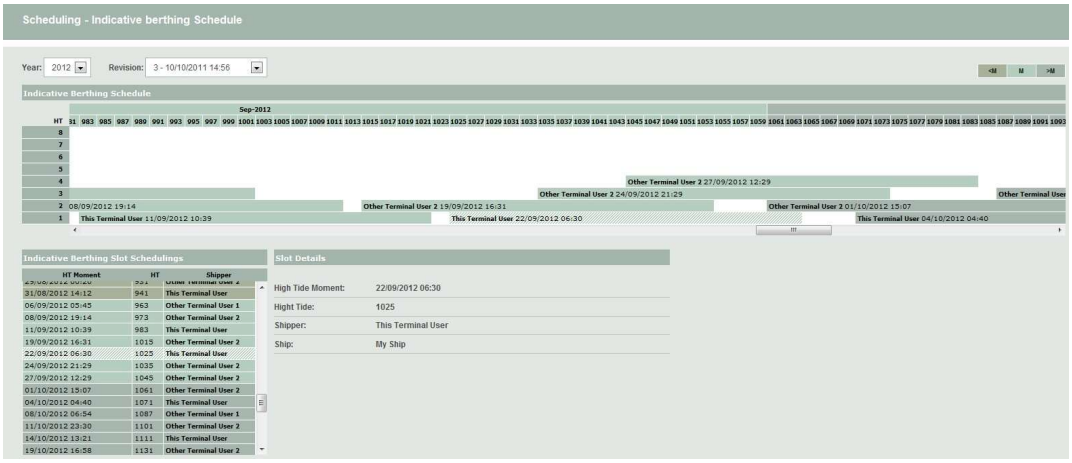
5.2.2 IBS - Indicative berthing Schedule



IBS Consult Screen

By default the last published version for the current year is loaded. The color code will help to identify the current month; the combo boxes allow a quick navigation to any published version of the IBS for the previous, current and next year.

The upper section presents the planned slots over the timeline (horizontal axis); the major time steps are months and the minor ones are High-Tides. Slots are represented as boxes with a duration of 20 High Tides. The lower section presents the same information in a tabular view. Using the scrollbars, the user can move over the timeline. Clicking on a slot in both the upper and lower section will load detailed information about the planned slot.



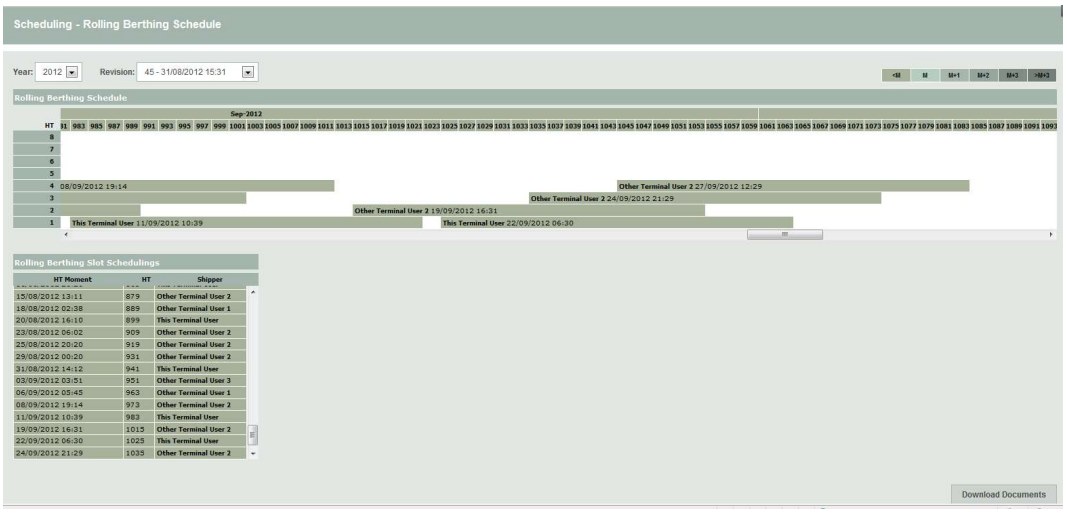
Slot details in IBS for own slots

Note that details are only available for own slots. Slots owned by other parties are also visualized, but not all details can be accessed.

Slot details in IBS for other grid user's slots

The "Download Documents" button will allow the download of this information in XML format.

5.2.3 RBS - Rolling Berthing Schedule



RBS Consult Screen

By default the last published version for the current year is loaded. The color code will help to identify the current month as well as M+1, M+2 and M+3 related information; the combo boxes allow a quick navigation to any published version of the RBS for the previous, current and next year.

The upper section presents the planned slots over the timeline (horizontal axis); the major time steps are months and the minor ones are High-Tides. Slots are represented as boxes with a duration of 20 High Tides. The lower section presents the same information in a tabular view. Using the scrollbars, the user can move over the timeline. Clicking on a slot in both the upper and lower section will load detailed information about the planned slot.

Slot details in RBS for own slots

Note that details are only available for own slots. Slots owned by other parties are also visualized, but not all details can be accessed. Unsubscribed slots (not owned by any parties but reserved by Fluxys LNG for further commercialization) are also explicitly visible.

Slot details in RBS for other grid user's slots

The "Download Documents" button will allow the download of this information in XML format.

5.2.4 BS - Berthing Schedule

BS Consult Screen

The list of past, current and planned berthing/unloading is loaded for a period of one month in the past and one year in the future.

The upper section presents the information in a tabular view, using a color scheme to distinguish past from upcoming events. The timing information ("Early", "On Time", "Late") relates to the difference between the last communicated ETA (Estimated Time of Arrival) and the slot start time, with regards to the berthing window. This timing is only informational. The status information ("Expected", "Berthing", "Queuing", "Departed, "Cancelled") relates to the progress of the (un)loading. The type can be loading or unloading according to the type of berthing purpose.

Clicking on a row (one berthing) will load detailed information over the berthing time-sheet of this (un)loading. Note that this information is only available for own slots. Event moment is indicated with a status ("Expected", "Registered", "Validated") and always reflects the last updated situation. "Expected" relates to the calculated event moment, based on standard process time and previous event time. "Registered" refers to the provisional event moment (if "registered" differs from "expected", upcoming events will be updated). "Validated" refers to the final event moment.

Berthing timesheet details

The "Download Documents" button will allow the download of this information in XML format.

5.3 Ship approval

5.3.1 Request for Ship Approval

The Grid-User has to fill out the 'Request for Ship Approval' when a Grid-User intends to use an LNG vessel which has not yet been approved and is therefore not mentioned on the 'List of Approved Ships for Zeebrugge LNG Terminal'.
Link to Fluxys site: https://www.fluxys.com/en/products-services/lng-ship-approval-procedure

5.3.2 List of approved ships for the Zeebrugge LNG Terminal

List the ships which are currently approved according to the relevant procedures, to berth at the Zeebrugge LNG Terminal facility.
Link to Fluxys site

5.3.3 Fluxys LNG ship approval procedure

Relevant Fluxys procedure for approval of ships.
Link to Fluxys site: https://www.fluxys.com/en/natural-gas-and-biomethane/products-services/lng-ship-approval-procedure

5.4 Maintenance

5.4.1 Work and intervention impact on LNG Terminal Zeebrugge

Terminal Operator shall, operate, maintain and repair the LNG Terminal and keep the LNG Terminal in good working order and condition in order to fulfil its obligations and operate the LNG Terminal in accordance with the standards of a Reasonable and Prudent Operator.
Terminal Operator has the right to shut-off, reduce or curtail all or part of the LNG Terminal for maintenance, repair or replacement works of the LNG Terminal which works may have an impact on the availability of the LNG Services.
The works and interventions overview lists the works and interventions planned for the current year that could affect the execution of your LNG terminal contracts

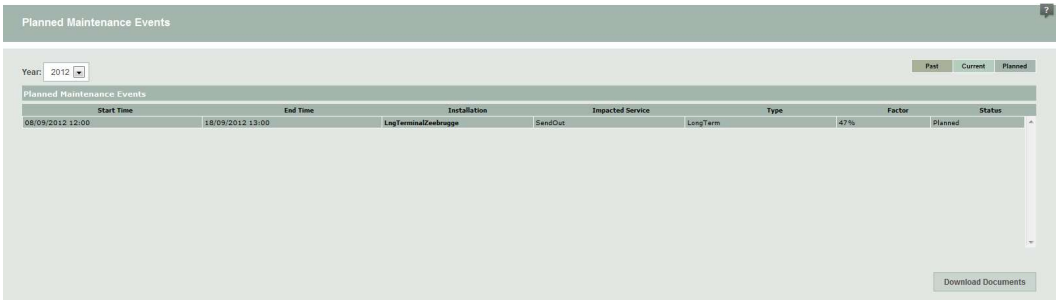
FLUXYS BELGIUM SA
Planned Works and Interventions 2014-2015
LNG Terminal Zeebrugge

FLUXYS

Year	Month	Week	Nr Days Shutdown	Description	Impact	Impact From	Impact To	Status
2014	9	38	6	Shutdown 2014: Send Out	Reduced Send Out: 47 % from the send out available	14/09/2014	20/09/2014	Done
2015	5	20	8	Shutdown 2015	Reduced Send Out: 47% from the send out available	16/05/2015	24/05/2015	Scheduled
2015	5	20	2	Shutdown 2015	No slots available for loading/unloading LNG vessels	16/05/2015	18/05/2015	Scheduled
2015	5	20	4	Shutdown 2015	1 Ship unloading operation possible. No loading	18/05/2015	22/05/2015	Scheduled
2015	5	21	2	Shutdown 2015	No slots available for loading/unloading LNG vessels	22/05/2015	24/05/2015	Scheduled

Long Term Planned Works and Interventions with a possible impact on LNG Terminal Zeebrugge - Status on 31/10/2014

5.4.2 Planned Maintenance Events



The list of past, current and planned maintenance events is loaded for a given year. The combo box allows an easy navigation to the previous and upcoming year. By default the current year is loaded.

The upper section presents the information in a tabular view, using a color scheme to distinguish past from upcoming events. The status information ("Past", "Current", "Planned") relates to the progress of the planned maintenance (today compared to start date) and not the actual execution of the maintenance itself. Clicking on a row will load detailed information about the event.

Maintenance event details

The "Download Documents" button will allow the download of this information in XML format.

5.5 Metering

5.5.1 Hourly refreshed measurements on nodes and lines

The data is based on the codification which makes it possible to visualize information on line- level for every type of metering configuration (e.g. 2 meters in series in one metering line).

When opening this section, the Hourly View with flow measurements for the last available hour is displayed for all the nodes.

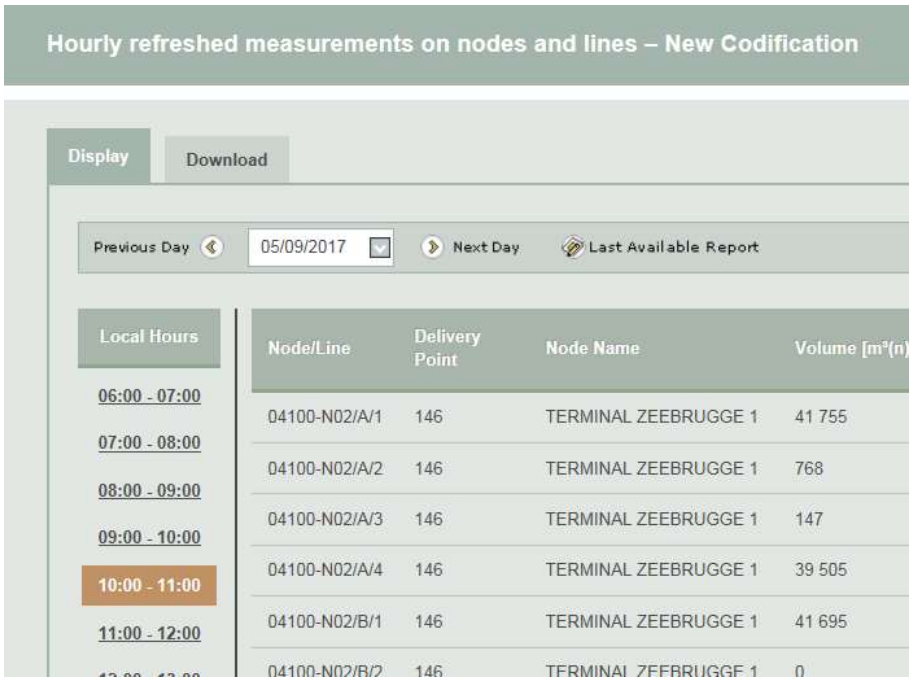
On the left hand side a bar with all the available hours in the selected gasday is presented. Clicking on a specific hour will select this hour and display the measurements of this hour in the measurements grid. When changing the gasday the first gashour of that day is selected.

The center of the screen shows all the flow measurements on the selected gasday and gashour. For each node or metering line, a line is displayed with the following measurements:

- The amount of **Volume** that flowed through the node or metering line (Converted to normal conditions (0°C and 1 atm))
- The amount of **Energy** that flowed through the node or metering line during this hour
- The **GCV** calculated from the gas flow. This value is calculated as the fraction of Energy/Volume.
- The **Pressure** of the gas (absolute pressure – expressed in Bara)
- The **Temperature** of the gas
- The **Gross Volume** is the physical volume of the gas at measured conditions.
- The **VnConv** is the normalized Volume that is measured by the volume converter.
- For a metering line, the value **Weight/In Maintenance** indicates the weight of the line (-1 / 0 / 0,5 / 1). Some examples :
    - If a metering line is in maintenance or subcounting, the weight of the metering line will be '0'.
    - If two meters are installed in the same meteringline, the weight will be '0.5'

This makes that the metering results on node level are the summation of the consumptions (in Volume or Energy) of the different depending metering lines multiplied by their weight.

- The **Status** field shows the validation status of the measurements:
    - **No Data**
    - **Raw** data are measurements that are not at all verified or validated
    - **Verified data** means that a preliminary verification check has been done
    - **Validated data** means that extra checks have been executed and that the measurement is considered as accountable



5.5.1.1 Download

There are essentially two main options to download measurement information from the application:

- The user can download the information manually by using the Graphical User Interface.
- It is also possible to address the download feature directly by using the Download URL.

5.5.1.1.1 Manual download by the user

The user can download the required information manually by navigating to the Download section for a certain gasday period on the filtered nodes and metering lines:

- Hourly Flow Measurements on Node
- Hourly Flow Measurements on Metering Line
- Hourly Gas Analysis on Node
- Daily Gas Analysis on Node

It is possible to choose between two different file formats:

- CSV
- XML

5.5.1.1.2 Selection in manual download

In general:

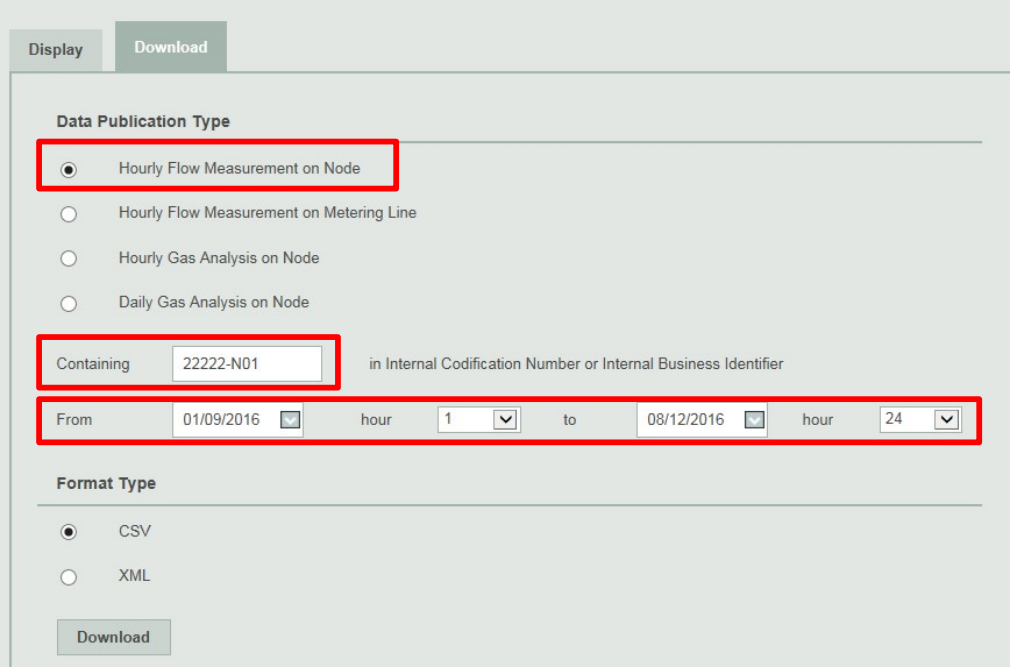
If you do not filter on a node or metering line (in the cell 'containing'), the selected period must not exceed 1 month. The downloaded file will contain all the data of the nodes/metering lines for which you have view rights.

If you filter on a part of a node or metering line (some characters in the cell 'containing'), the selected period must not exceed 1 month. The downloaded file will contain all the data of the

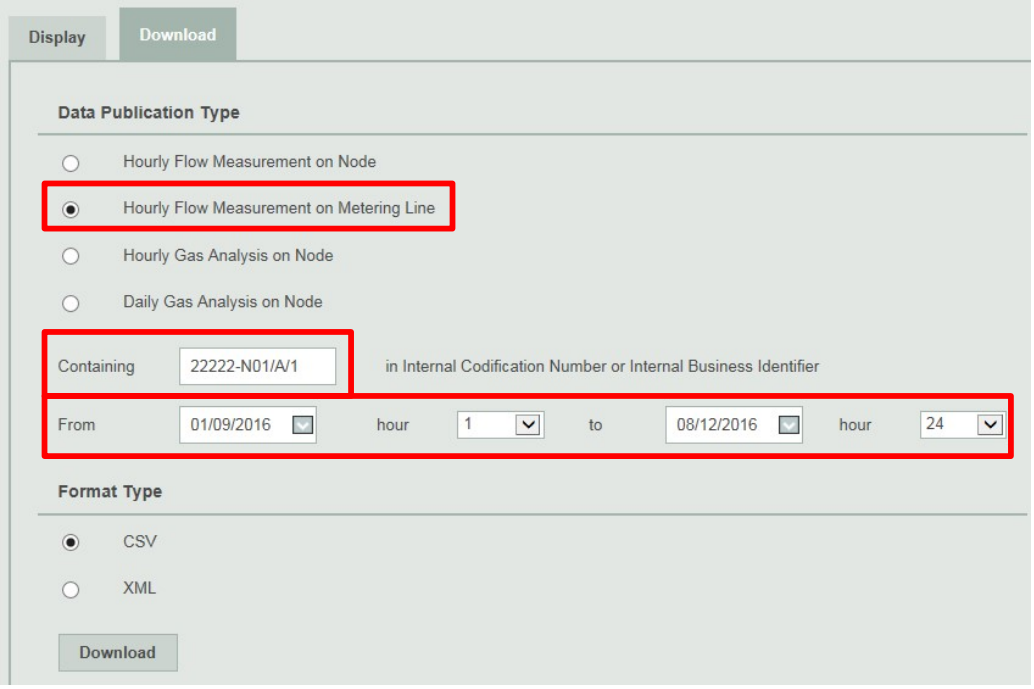
nodes/metering lines which contain the characters you put in the filter and for which you have view rights.

Some particularities:

If you select 'Hourly Flow Measurements on Node' or 'Hourly Gas Analysis on Node', and you filter on the exact codification of a node (in cell 'containing').The selected period can be up to 1 year.
Attention: The codification must be absolutely accurate (You can find the codification for nodes and lines in the display section or in topology section).
The codification (for node) must consist of 5 digits + N + 2 digits: **12345-N12**



If you select 'Hourly Flow Measurements on Metering Line', and you filter on the exact codification of a line (in cell 'containing').The selected period can be up to 1 year.
The codification must be absolutely accurate (You can find the codification for nodes and lines in the display section or in topology section).
The codification (for line) must consist of 5 digits + N + 2 digits + / + 1 letter + / + the number of the line: **12345-N12/A/1**



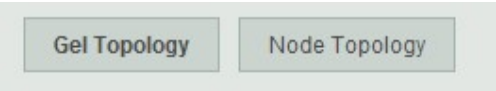
5.5.1.1.3 Automatic download by an application

See chapter 6.

5.5.2 Topology

This section provides information about the metering topology elements on which the user has the right to view data. The view rights are derived from the contracts which are based on Gas Exchange Locations. These gas exchange locations can be subdivided in a set of Nodes.

5.5.2.1 Content



A Gas Exchange Location (GEL) consists of node memberships. A node can be a member of a GEL during a given time period. The membership has a weight with which the measurements of the respective node are aggregated in the result for the associated GEL. All this information can be found per GEL under the button **GEL Topology**. This option is accessible to limited users (It depends of their contractual link with Fluxys).

Under the **Node Topology** button a drop-down box can be found with all the nodes on which the user has the right to view data.

The whole history of the node and the underlying metering lines are shown after selecting a node. The node history consists of the name changes and the EAN number.
The metering line history consists of the measured before status, operational status and the EAN number.

5.5.2.2 Download

There are essentially two main options to download topology information from the application:

- The user can download the information manually by using the Graphical User Interface.
- It is also possible to address the download feature directly by using the Download URL.

5.5.2.1.1 Manual download by the user

The user can download the required information manually by navigating to the Download section. This section provides selections to download the whole history of either:

- Gas Exchange Location Topology: for all GELs on which the user has the right to view data
- Node Topology: for all GELs on which the user has the right to view data

It is possible to choose between two different file formats:

- CSV
- XML

5.5.2.1.2 Automatic download by an application

See chapter 6.

5.5.3 Further remarks about Metering and Topology

5.5.3.1 Aggregation of measurements

Since a Gas Exchange Location (GEL) consists of a set of nodes and a node consists of a set of metering lines, the measurements for a complete GEL should be aggregated.

We advise to start the aggregation for a complete GEL from the set of nodes and not from the set of metering lines! A metering line can go 'In Maintenance' or the measurements can already be accounted in the measurements of another metering line, i.e. 'Measured Before'.

The measurements on the node level take these two parameters into account and can therefore readily be used for the aggregations.

Example
What is the total energy on gas exchange location A at gas day X, hour Y?

The topology of gas exchange location A at gas day X and hour Y is:
- Membership 1: Node n1, weight w1 = -1
- Membership 2: Node n2, weight w2 = -1
- Membership 3: Node n3, weight w3 = 1

The measurements of nodes n1, n2 and n3 at gas day X and hour Y are:
- Node n1: e1 = 100 kWh
- Node n2: e2 = 200 kWh
- Node n3: e3 = 500 kWh

Calculation
Total energy (e) = e1 * w1 + e2 *w2 + e3*w3
= 100*-1 + 200*-1 + 500*1
= 200 kWh

5.6 LNG Inventory & Allocations

5.6.1 Inventories LNG Report

GIS	Gas In Storage
DANCF	Day-Ahead Nomination in Counter Flow
DANSO	Day-Ahead Nomination in Send-Out
FNCF	Final Nomination in Counter Flow
FNSO	Final Nomination in Send-Out
AllocCF	Allocation Counter Flow
AllocSO	Allocation Send-Out
PF	Physical Flow

GCV	Gross Calorific Value in kWh/m³(n)

The Gas in Storage is either expressed in Energy (kWh) or in volume of LNG (m³[LNG]).

5.6.2 Gas In Storage

GIS data allows grid users to keep track of the amount of energy they have in storage in the Fluxys storage installations.

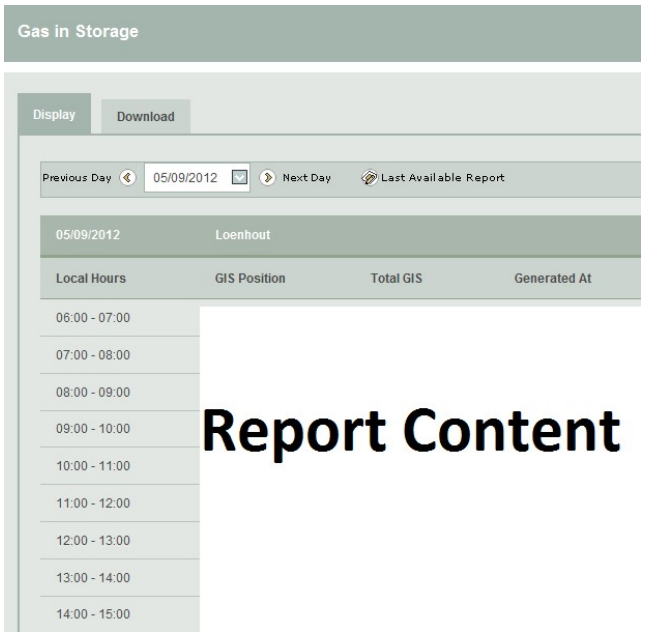
5.6.2.1 Display

The Gas In Storage screen opens by default the last available GIS Report.

The GIS Report screen gives the ability to navigate through his user's GIS Reports of the last past 3 years. Therefore, he will find a calendar menu item where he can select the appropriate day for which he wants to consult the GIS Report. So, by changing the date, the user can navigate through all his available Reported Daily Imbalance Reports.

The title of each GIS Report consists of the gasday for which the report applies. The GIS data is delivered on a per hour basis. For every hour (expressed in local time) following elements are displayed:
- Begin and end time of the hour
- For each plant at which a grid user is active
- Amount of gas in storage (kWh)
- Total amount of gas in the tank (kWh)
- Generation time of the GIS message

The report is built up as the gasday progresses with a new line being added every hour. These are provisional data.



5.6.2.2 Download

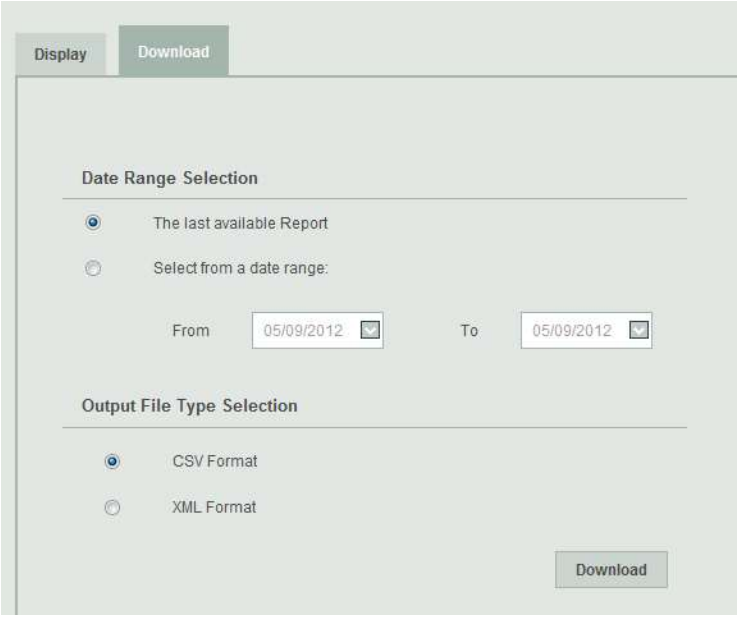
There are two different ways in which the download features of the application can be used. These different options are intended for different sorts of use. On one hand, the user can download the desired information by using the Graphical User Interface. On the other hand, it is also possible to address the download feature directly by using the Download URL.EPORT CONTENT

5.6.2.2.1 Manual download by the user

On one hand, the user can download the last available report or a range of reports using the Graphical User Interface by navigating to the download section of the application.

In the Gas In Storage screen, the user can specify all the parameters of the desired download.

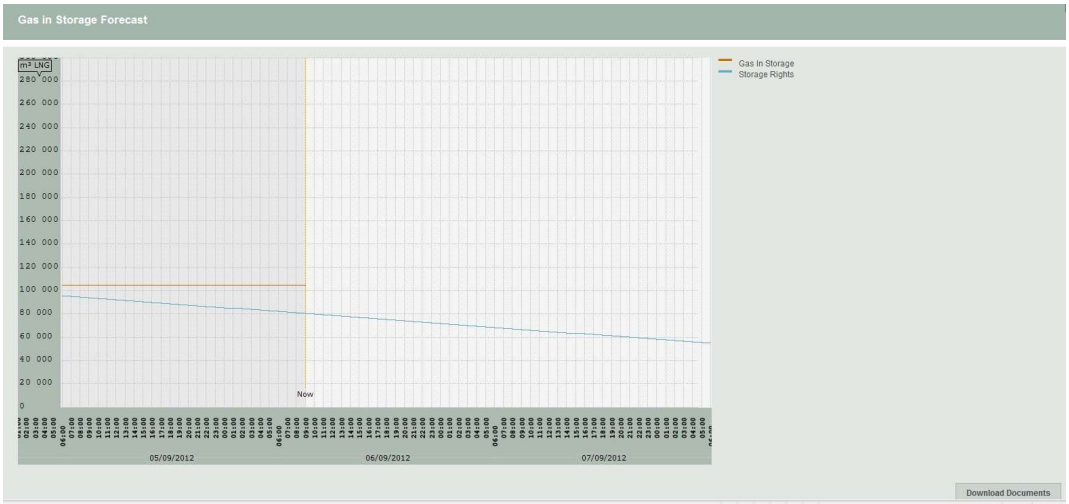
The download procedure for the GIS Reports follows the same rules and principles as the download procedure of the Provisional Hourly Allocations. Therefore, we refer to paragraph **6. Automatic downloads** for more information on downloading report information.



5.6.2.2.2 Automatic download by an application

See chapter 6.

5.6.3 Gas in Storage Forecast



A picture is loaded representing two curves: the GIS level in red, calculated until the last gashour and the total storage rights in blue. The picture displays an hourly detail for a period of 3 gasdays (yesterday, today and tomorrow).

The "Download Documents" button will allow the download of this information in XML format.

5.6.4 Provisional Hourly Allocations

The 'Provisional Hourly Allocation Report' screen gives the ability to navigate through all of the user's Provisional Hourly Allocation reports of the past 3 years. The allocations are categorised by their respective gashour.

5.6.4.1 Published data

For each gashour a list of all provisional allocations is given. Every allocation detail concludes the gashour and gasday, the shipper account, the EDIGAS-code of the location and the allocation value (expressed in kWh).

5.6.4.2 Access to publications

The provisional hourly allocations can be accessed in three different ways: via the display section, the download section and via a download URL.
The display section allows the grid user to view and consult the provisional hourly allocations online and the download section and download URL give the grid user the ability to download the available allocations in different file formats for further usage.

5.6.4.2.1 Display section

The last available Provisional Hourly Allocation Report will be displayed by default.
If the user wants to display the allocations for a different gashour, then he should first select the correct gasday with the calendar tool at the top left corner of the screen. By default the Allocations first gashour of the day is displayed. Then the correct gashour can be chosen from the bar on the left side of the screen.

Additionally to the allocation data, the generation date and time of the report is displayed on top of the screen.

5.6.4.2.2 Download section

To manually download provisional hourly allocations, the user should select the download tab.

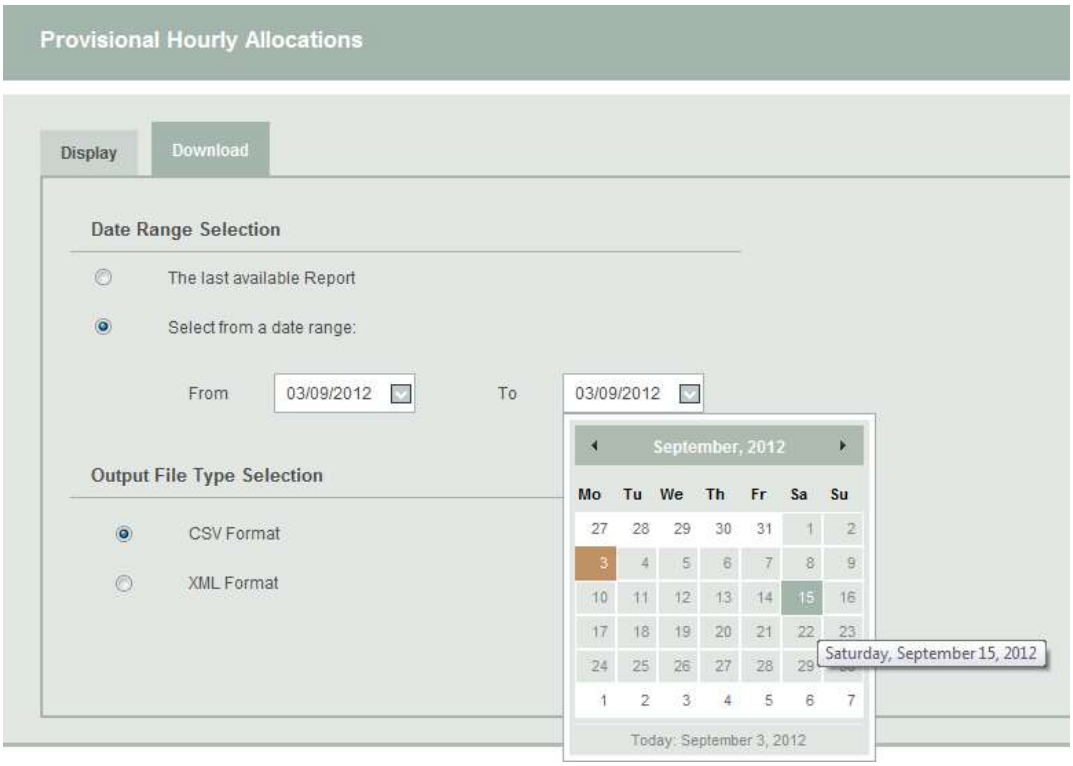
The download screen gives two options to download the provisional hourly allocations. The gasday or range of gasdays and the output file format can be chosen by the user.

Date range selection:

- Last available report
  This option returns the provisional hourly allocations for the last gasday.
- Date range:
  Select all the gasdays starting at gasday 'From' until gasday 'To'. The FROM date may not be later in time than the TO date and the maximum date range is limited to one week. The screen automatically changes the FROM or TO date if the maximum date range of one week is exceeded.

Output File Type Selection:
Three file types are available for manual download:

- CSV
- XML



After the user has set the right parameters to download the desired Provisional Hourly Allocations and clicked the Download button, the File Download screen pops up, giving him/her the choice to directly open the file, or to save it.

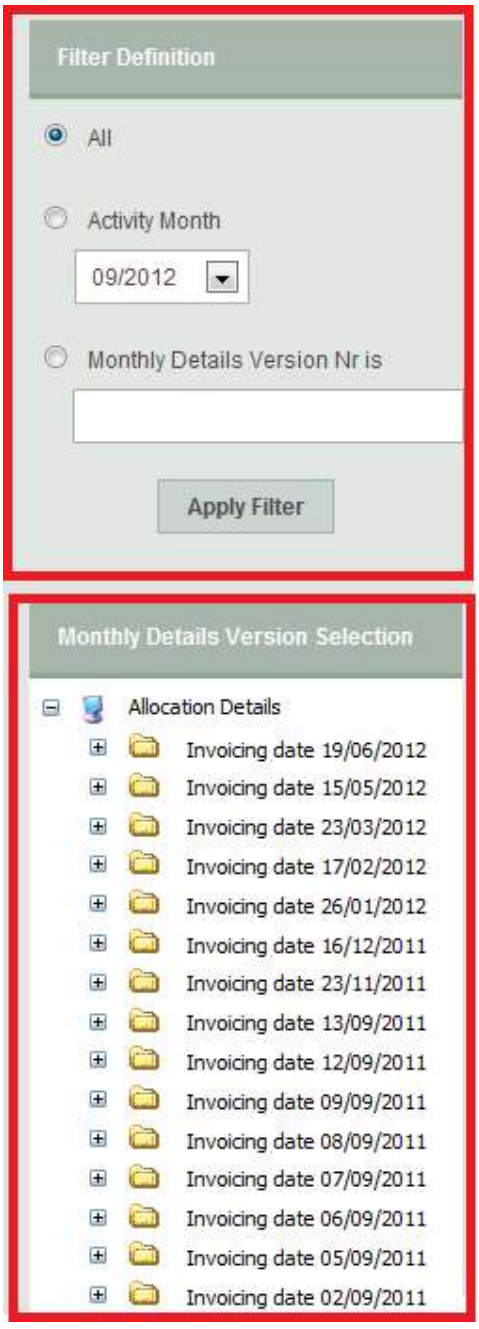
5.6.4.2.3 Automatic download URL

See chapter 6.

5.7 Invoicing

5.7.1 Allocation Details

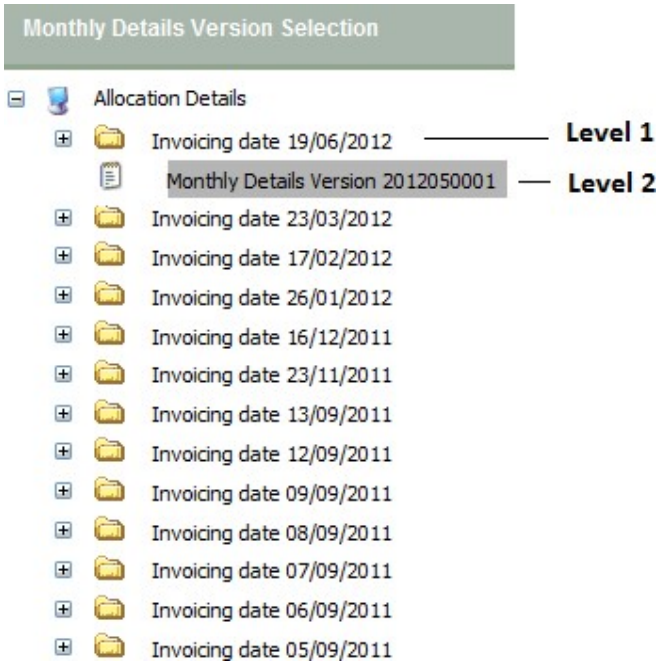
As the filter option "All" is selected on the panel by default, the navigation panel shows all available invoicing months and allocation details versions. The user can use the Navigation Tree to select an allocation detail and view or download the document.



The user can modify the filter applied on the collection of available allocation details organized in the navigation tree. The allocation details are grouped per invoicing month and per monthly details version number.

The Navigation Tree, the Filter Panel and the different downloading options will be discussed in the following sections.

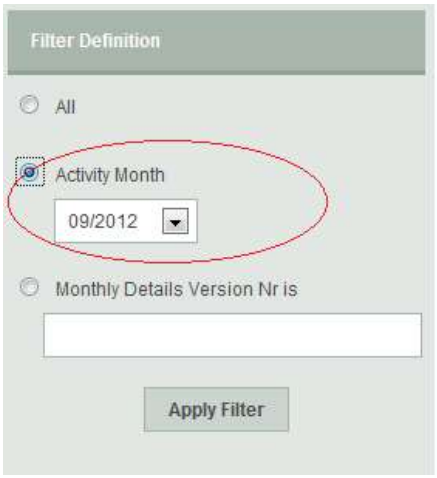
5.7.1.1 Navigation Tree



The navigation provides a tree structure of all invoicing dates (i.e. document date of the allocation details) of the last 3 years and the associated bundled/linked Monthly Details Version Numbers:

- Level 0: label 'Allocation Details'.
  This navigation tree is built for the quick navigation through the archived collection of allocation details of the last 3 years. The filter above provides additional browsing facilities and is applicable on the tree content.
- Level 1: Invoicing Dates (invoicing data available for the past 3 years).
  This level of the navigation tree contains the invoicing dates or document dates of the last 36 invoicing months.
- Level 2: Monthly Details Version Number
  In the second level, the user can find all the Monthly Details Version Numbers that are attached/bundled/linked to a particular invoicing date or document date. If a Monthly Details Version Number has been selected in the navigation tree, the user will have the possibility to download all the allocation details associated with that particular Monthly Details Version Number, and related to the invoicing date of the previous level. All the related allocation details for a particular Monthly Details Version Number and Invoicing Month/Document date will be shown in the Allocation Details Download Panel to the right of the Navigation Tree. These particular allocation details can be downloaded separately or all together in a zip file.

5.7.1.2 Filter Panel



=> Only the Monthly Details Versions of Activity Month September 2012 are shown in the navigation tree, even though the invoicing dates contain other Monthly Details Versions

The Filter Panel gives the user the possibility to filter/limit the available Monthly Details Version Numbers in the navigation tree for easy and quick navigation. After applying a desired filter-option by selecting the preferred filter option and clicking the "Apply Filter" button, this option is highlighted. The filter panel consists of the following criteria/options.

- All
  If this option is chosen, no filter is applied. The option "All" gives all the available Monthly Details Version Numbers grouped by the Invoicing Date (=document date) to which they are linked/bundled.
- Activity Month
  This filter criterion gives the user the option to restrict the available Monthly Details Version Numbers shown in the navigation tree to a pre-defined Activity Month in the combo-box.
- Monthly Details Version Number
  This option offers the possibility to search and request a specific Monthly Details Version Number that fully matches the expression entered in the corresponding edit-box. As so, the user can limit the Monthly Details Version Numbers shown in the navigation tree to one particular version.

5.7.1.3 Download

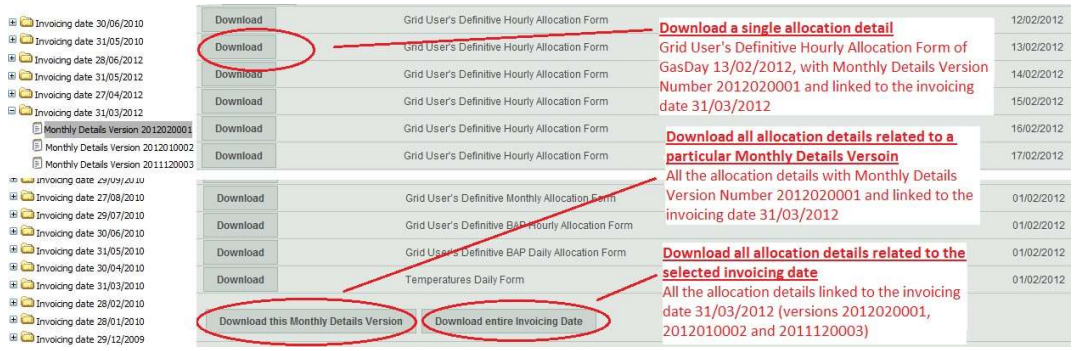
Essentially, there are two different ways in which the download features of the application can be used:

- Download the desired information through the Graphical User Interface.
- Address the download feature directly by using the Download URL.

5.7.1.3.1 Manual download by the user

The user can download the allocation details of a selected invoicing date or linked to the selected Monthly Details Version Number by navigating to the desired invoicing month (level 1) and Monthly Details Version Number (level 2).

If a Monthly Details Version Number has been selected in the fourth level of the navigation tree, all the related allocation details for a particular Monthly Details Version Number and Invoicing Date/Document Date are shown in the Allocation Details Download Panel to the right of the Navigation Tree.



The user has the possibility to choose the granularity of the group of allocation details to download:

- A particular single allocation detail can be downloaded by clicking the download button in front of the associated allocation detail line. Subsequently, this allocation detail file is downloaded as a CSV file which can be opened with either Notepad or Excel, and/or can also be saved to a local drive.
- All the allocation details related to a particular Monthly Details Version Number can be downloaded by selecting the option "Download this Monthly Details Version" and clicking the "Start Download" button. This bundle of allocation details is downloaded as a ZIP file containing all the allocation details in CSV file format.
- The download of all the allocation details of all the allocation details versions related to the selected invoicing date of the previous level is executed by selecting the option "Download entire Invoicing Date", and clicking the "Start Download Button". This group of allocation details is downloaded as a ZIP file containing all the allocation details in CSV file format.

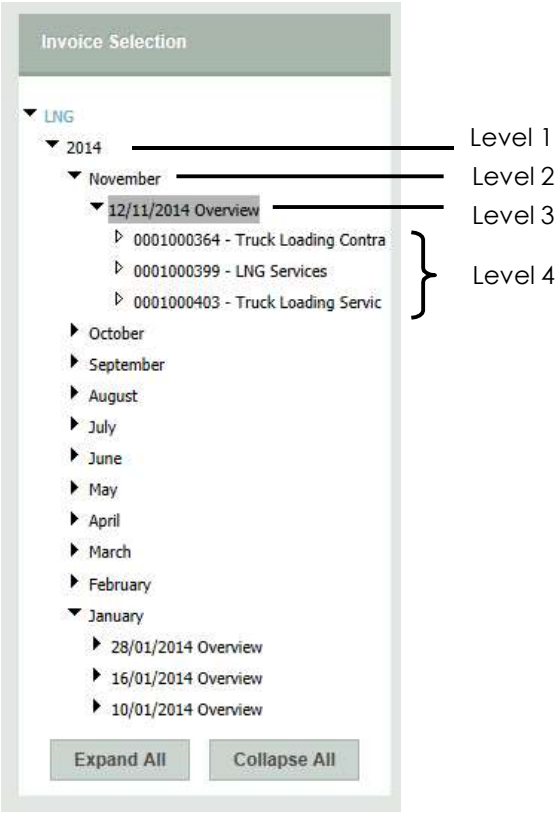
After the user has initiated a download, the File Download screen pops up giving him/her the choice to either directly open the file or save it.

5.7.1.3.2 Automatic download by an application

See chapter 6.

5.7.2 Invoices

5.7.2.1 Navigation Tree



The navigation provides a tree structure of all invoicing dates from January 2014 and the associated bundled/linked Invoice Numbers:

- Level 0: label 'LNG'.
  This navigation tree is built for the quick navigation through the archived collection of invoices from January 2014.
- Level 1: Invoicing year
  This level of the navigation tree contains the invoicing year.
- Level 2: Invoicing month
  This level of the navigation tree contains the invoicing month.
- Level 3: Invoicing Dates (invoicing data available from Januray 2014).
  This level of the navigation tree contains the invoicing dates. If a invoicng version number has been selected in the navigation tree, the user will have the possibility to download all the invoices associated
- Level 4: Invoicing Number
  In this level, the user can find all the invoicing version numbers that are attached/bundled/linked to a particular invoicing date.

5.7.2.2 Download

A manual download for the desired information through the Graphical User Interface can be done.

5.7.2.1.1 Manual download by the user

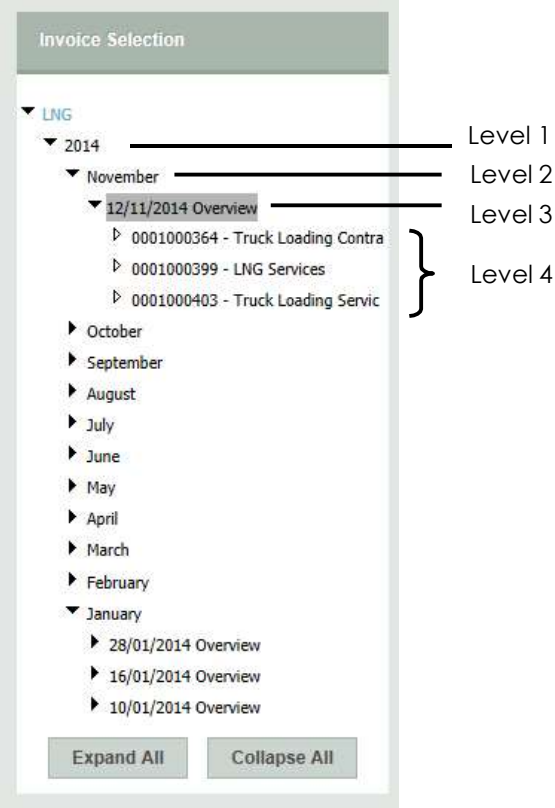
The user can download the document of a selected invoicing date or linked to the selected invoice number by navigating to the desired invoicing month (level 2).

5.7.3 Other invoices – Fluxys LNG

This section of EDP gives access to private data concerning invoices and appendixes for non- regulated activities.

5.7.4 Invoices for truck companies

5.7.4.1 Navigation Tree



The navigation provides a tree structure of all invoicing dates from January 2014 and the associated bundled/linked Invoice Numbers:

- Level 0: label 'LNG'.
  This navigation tree is built for the quick navigation through the archived collection of invoices from January 2014.
- Level 1: Invoicing year
  This level of the navigation tree contains the invoicing year.
- Level 2: Invoicing month

This level of the navigation tree contains the invoicing month.

- Level 3: Invoicing Dates (invoicing data available from January 2014).
  This level of the navigation tree contains the invoicing dates. If an invoicing version number has been selected in the navigation tree, the user will have the possibility to download all the invoices associated
- Level 4: Invoicing Number
  In this level, the user can find all the invoicing version numbers that are attached/bundled/linked to a particular invoicing date.

5.7.4.2 Download

A manual download for the desired information through the Graphical User Interface can be done.

5.7.4.2.1 Manual download by the user

The user can download the document of a selected invoicing date or linked to the selected invoice number by navigating to the desired invoicing month (level 2).

5.7.5 Gas In Storage Account for LNG Terminal

This report contains the monthly detail of the individual total inventory position (GIS account level) at the Zeebrugge LNG Terminal during the month.
The Gas In Storage account is published every month on Electronic Data Platform.

LNG-TERMINAL ZEEBRUGGE fluxys

GIS Account for	xxxxxx		
Unloading Month	October 2020		kWh
1. Quantities IN			
LNG Ship Unloading			
ship 1	xx/xx/xxxx		1 110 667 000
ship 2	xx/xx/xxxx		186 463 000
Allocated Quantities IN			0
Allocated Fuelgas IN			0
Distribution of Monthly Energy Balance :			
xxx-xxxx			- 1 816 260
xxx-xxxx			- 2 584 744
Distribution of Difference Deemed vs Allocated Fuel Gas :			
xxx-xxxx			0
Total Quantities IN			**1 292 728 995**
2. Quantities OUT			
LNG Ship Loading			
ship 3	xx/xx/xxxx		1 082 315 000
ship 4	xx/xx/xxxx		1 065 918 000
Allocated Quantities OUT			71 415 000
Allocated Send-Out		*0*	
Allocated TBOG		*999 999 999*	
Allocated Fuelgas OUT			0
Total Quantities OUT			**2 219 648 000**
3. Balance			
GIS at 29/09/2020 06:00			**992 165 274**
+ Quantities IN			1 292 728 995
- Quantities OUT			-2 219 648 000
GIS at 01/11/2020 06:00			**65 246 269**
Change in GIS			*- 926 919 005*

5.7.6 Synchronization GIS-level LNG Terminal

The synchronization between the steering and validation level of the Gas In Storage account at the Zeebrugge LNG Terminal. The scheduling date for this synchronization is communicated by Fluxys with the publication on Electronic Data Platform.

Synchronisation Steering level at Terminal Zeebrugge - xxxxx

fluxys

These figures are based on the levels at 01/11/2020 06:00
(Steering level is the level based on provisional figures - this is the level as it is forwarded each hour by Fluxys by use of an electronic message)

Your steering GIS account	65.246.269	kWh			
Your validated GIS account	65.246.269	kWh			
Delta	0	kWh			
This quantity will be synchronized on		xx/xx/xxxx	at gashour	06:00-07:00	GH1

5.7.7 Transfers Monthly Energy Balance & Monthly Fuelgas Balance for LNG Terminal

Distribution of the Monthly Fuelgas Balance and the Monthly Energy Balance at the Zeebrugge LNG Terminal.
This operation is done the following month. The scheduling date for this transfer is communicated by Fluxys with the publication on Electronic Data Platform.

Monthly Energy & Fuelgas Balance transfers at Terminal Zeebrugge - xxxxxx

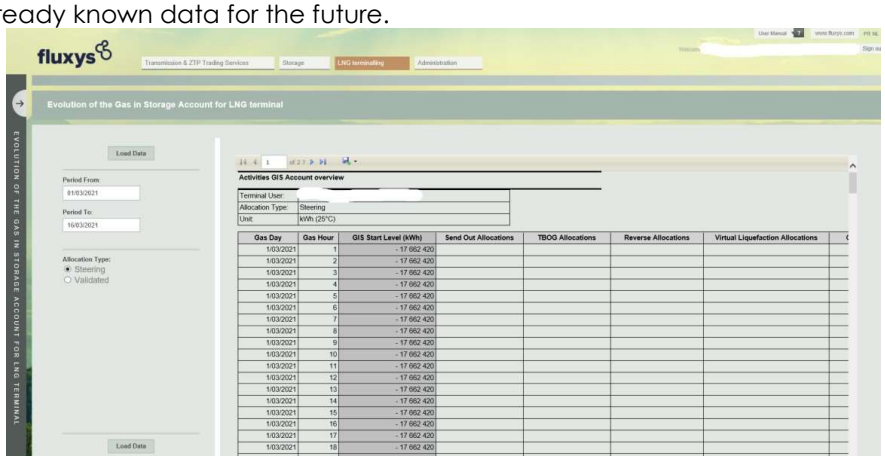
The following quantities will be transfered to your Gas in Storage account :

fluxys

Monthly Energy Balance	0	kWh			
Monthly Fuelgas Balance	0	kWh			
This quantity will be transfered on		xx/xx/xxxx	at gashour	06:00-07:00	(GH1)

5.7.8 Evolution of the Gas in Storage Account for LNG Terminal

Evolution of your GIS account in energy with hourly granularity, contains data from the past and already known data for the future.



5.7.8.1 Download

A manual download for the desired information can be done only in .xls format via export drop down menu.

5.7.9 Ship Loading & Unloading reports

These reports contain the details for each ship loading at the Zeebrugge LNG Terminal (Certificate of quality and quantity).

5.8 Regulatory and contractual documents

5.8.1 Terminalling model

Link to contractual documents and tariffs for all LNG services in Zeebrugge.

5.8.2 Terminalling services offer

Program for LNG Terminalling: overview of services offered at the LNG terminal in Zeebrugge.

5.8.3 Tariffs

Link to tariffs for all LNG services in Zeebrugge.

5.8.4 Specific requirements at the LNG Terminal Delivery point

List of LNG quality requirements for delivery in Zeebrugge.

5.8.5 Specific requirement at the LNG Terminal Redelivery point

List of natural gas quality requirements of regasified LNG.

5.9 Truck planning for shippers

5.9.1 LNG truck quality and quantity document

When the LNG Truck has been loaded, the Terminal User can download a PDF document to see how much LNG was loaded of which quality.

5.9.2 LNG truck loadings

When LNG Trucks have been loaded, the Terminal User can download an Excel document to see how much LNG was loaded of which quality.

5.9.3 Truck Manager

New tool to schedule appointments to load an LNG Truck in Zeebrugge.

5.10 Truck planning for trucking companies

5.10.1 Contract overview

The trucking company can see how many LNG Truck Loading Services have been subscribed for which period.

5.10.2 LNG truck quantity and quantity document

When the LNG Truck has been loaded, the trucking company can download a PDF document to see how much LNG was loaded of which quality.

5.10.3 LNG Truck loading

When LNG Trucks have been loaded, the Trucking Company can download an Excel document to see how much LNG was loaded of which quality.

5.10.4 Truck Manager

New tool to schedule appointments to load an LNG Truck in Zeebrugge.

5.11 REMIT messages

Regulation on **E**nergy **M**arket **I**ntegrity and **T**ransparency
Purpose: Publishing information to foster open and fair competition through reporting that may impact price and applies to market participants (including TSO's or Grid-Users who enters into transactions in wholesale energy markets).

5.12 Notifications

General commercial informations.

6 Automatic downloads

For most of the reports in the Electronic Data Platform and Electronic Booking System, it is possible to let a system perform automatic downloads through an URL with parameters.

6.6 Authentication Parameters

6.6.1 Credentials in URL

While a user will be presented with a login dialog when accessing a private section of the Electronic Data Platform, applications need to pass their credentials as parameters in the URL. This can be done by specifying username and password as the first two parameters in the URL.

6.6.2 Api Gateway (new securised approach)

Downloading some reports requires this new method to authenticate.

See procedure in Technical Requirement in Operational Information (mentioned below) :
The Implementation Information provides a full overview of the reports under consideration, the URLs, the parameters, and the format of the output files.
The Implementation Information and all the relevant files can be retrieved at

Transmission :
https://www.fluxys.com/en/products-services/empowering-you/operational- information/operational-information-transmission-belgium

- Downloads : https://www.fluxys.com/-/media/project/fluxys/public/corporate/fluxyscom/documents/fluxys-belgium/commercial/operational-information/automatic-downloads/20221214---transmission_automatic-downloads.zip

Storage :
https://www.fluxys.com/en/products-services/empowering-you/operational- information/operational-information-storage-belgium

- Downloads : https://www.fluxys.com/-/media/project/fluxys/public/corporate/fluxyscom/documents/fluxys-belgium/commercial/operational-information/automatic-downloads/20221214---storage_automatic_downloads.zip

LNG Terminalling :

https://www.fluxys.com/en/products-services/empowering-you/operational- information/operational-information-fluxys-lng

- Downloads : https://www.fluxys.com/-/media/project/fluxys/public/corporate/fluxyscom/documents/fluxys-belgium/commercial/operational-information/automatic-downloads/20221214---terminalling_automatic_downloads.zip