

# API access to AGSI+ / ALSI

# **User Manual**

15 March 2018 / v001

## 1. Introduction

GIE is offering an <u>API service</u> (Application Programming Interface) on its AGSI+ and ALSI transparency publication platforms at <a href="https://agsi.gie.eu">https://agsi.gie.eu</a> and <a href="https://alsi.gie.eu">https://alsi.gie.eu</a> which provides quick, continuous and direct access to the database and allows you to filter, create queries and export the data as required.

This means that you do not have to set up complex processes to download files from a remote location, or to crawl through the AGSI+/ALSI web pages to extract the data from the various web site components. All of this can be directly downloaded, bypassing any web layer, by accessing the available REST APIs.

#### **API Access**

The API service is available to the public free of charge.

Registration on the AGSI+ or ALSI website is mandatory for non-data providers to be able to use the API. Registration will result in a personal API key that is required within the API url. The only purpose of this registration is to enable us to assess and improve the performance of our systems where and if required (user count, user activity, most popular dataset types).

Your account information and settings can be updated (and canceled) at any time after signing in. Your data will be stored and securely handles as long as your account remains active.

## API access for SSO/LSO data providers

Please note that all SSO / LSO accounts (*data providers*) using GIE as RRM (Registered Reporting Mechanism) for REMIT reporting towards ACER or who are providing data for the AGSI+ / ALSI publication can also generate an API key through their user account at <a href="https://remit.gie.eu/users/profile">https://remit.gie.eu/users/profile</a>. These accounts are already registered at GIE and are also already subscribed to our IT mailing lists (unless you have opted out).

Data providers can use the same login credentials used for access to the REMIT portal once you have generated an API key in your REMIT user profile interface. You can opt to have access to solely AGSI+, ALSI or even both.

AP	Taccess
0	Both AGSI ALSI
	Generate a new key (current key: , expires: never )
V	check to put on the API mailing list

Currently, API keys are set to never expire. This might change in the future.

## **API** mailing list

If you would like to be kept up-to-date on any changes (Service Announcements) on the AGSI+ and ALSI platforms, you can opt to subscribe to our API mailing list in the registration form.

### **Technical implementation**

API (Application Programming Interface) provides programmatic access to the data.

API access is provided in a REST-like interface (Representational State Transfer) exposing database resources in a JSON format. JSONP is currently not supported but is foreseen in the future to also allow for cross domain requests.

Additional documentation, examples and guidance on how to use and implement the API service is provided below.

#### Data coverage

#### Daily storage and LNG data reporting

Only the daily storage and LNG data reporting as currently available on the platforms is made available. Unavailability reporting is currently not (yet) part of the API coverage.

#### Aggregated datasets

Both individual facility datasets and aggregated datasets (by company and country level) are available. Aggregated datasets are to be exported using the additional REST API parameters (see below).

Storage facilities and Storage Groups

Note that for storage data, a dataset can be either an *individual storage facility*, or a *storage group (virtual storage)* which is comprised of multiple storage facilities. The composition of a storage group can evolve and change over time (any changes will be reported through a Service Announcement).

### (Storage) Facility Operators

Note that storage facilities can change ownership, which will result in the facility dataset being assigned to another SSO. Any such changes are reported through the Service Announcements.

## Historical data usage (timeframe)

### - new facilities and decommissioning

If a new (storage) facility comes online, or when a (storage) facility is being decommissioned or shut down, the related dataset start/end date is to be taken into account. Any such information is also reported through a Service Announcement, as it has an impact on the historical (aggregated) dataset coverage. Historical data for facilities that have changed ownership, or have been decommissioned or shut down, remains available through a dedicated separate code (typically starting with PRIOR).

#### - historical data range

Historical data has been requested from all SSO/LSO publishing on AGSI+/ALSI for the following timeframe :

#### On AGSI+:

historical data <u>since 01/01/2011</u> or <u>since the date the storage facility has become operational</u> and/or <u>until the storage facility has been decommissioned</u> or <u>changed ownership</u>.

#### On ALSI:

historical data <u>since 01/01/2012</u> or since the date the LNG terminal has become operational

#### - historical data coverage

Additionally, note that on AGSI+ not all SSO have been able to provide the full historical data coverage. Some SSO only provide historical data since the start of REMIT reporting (07/04/2016). A detailed data overview is available at <a href="https://agsi.gie.eu/#/faq">https://agsi.gie.eu/#/faq</a>.

# **Datafield library**

The following datafields are published on AGSI+:

AGSI+				
Field identifier	Description	Unit of Measurement	Example	
status	E (estimated) C (confirmed) N (no data)	E/C/N	С	
gasDayStartedOn	The start of the gas day reported upon	YYYY-MM- DD	2015-11-02	
gasInStorage	Total amount of gas in storage at the facility, status at end of gas day	TWh (4 digits behind decimal point)	853.4219	
full	Storage / WGV (in%)	%	83.45	
trend	(injection - withdrawal)/WGV	+/-	-0.1	
injection	Injection <u>during</u> gas day	GWh/d (2 digits behind decimal point)	238.66	
withdrawal	Withdrawal <u>during</u> gas day	GWh/d (2 digits behind decimal point)	2182.49	
workingGasVolume	Maximum amount that can be stored at the facility (technical capacity)	TWh (4 digits behind decimal point)	1022.7059	
injectionCapacity	Maximum technical injection capacity	GWh/d (2 digits behind decimal point)	9973.17	
withdrawalCapacity	Maximum technical withdrawal capacity	GWh/d (2 digits behind decimal point)	17599.82	
info	Service Announcement (if applicable)	url	https://agsi.gie.eu/#/news/209	

The following datafields are published on ALSI:

ALSI				
Field identifier	Description	Unit of Measurement	Example	
status	E (estimated) C (confirmed) N (no data)	E/C/N	С	
gasDayStartedOn	The start of the gas day reported upon	YYYY-MM-DD	2017-12-18	
IngInventory	The aggregated amount of LNG in the LNG tanks at end of the previous gas day	10 <sup>3</sup> m <sup>3</sup> LNG (2 digits behind decimal point)	5373.25	
sendOut	The aggregated gas flow out of the LNG facility withing the gas day	GWh/d (1 digit behind decimal point)	976.5	
dtmi	Declared Total Maximum Inventory	10 <sup>3</sup> m <sup>3</sup> LNG (2 digits behind decimal point)	8898.99	
dtrs	Declared Total Reference SendOut	GWh/d (1 digit behind decimal point)	6650.0	
info	Service Announcement (if applicable)	url	https://alsi.gie.eu/#/news/184	

# **Data quality indicators**

The <u>data quality status</u> (Estimated/Confirmed) is part of the available datasets, as well as the Service Announcements (SA) linked to each dataset.

Any applicable <u>Service Announcements</u> are available through the info data field as an url linking to the related news item.

#### **Dataset identification**

Each storage system operator (SSO) and LNG terminal operator (LSO) and its listed facilities are identified using <u>EIC codes</u>.

The datasets are identified using the EIC codes as used for REMIT reporting and/or used for data provision to GIE for those SSO/LSO not using GIE as RRM (Registered Reporting Mechanism) for REMIT or for SSO/LSO not falling under the REMIT regulation.

The mapping table for these EIC codes is available at (after login):

https://agsi.gie.eu/#/api https://alsi.gie.eu/#/api

Please note that the EIC code database is subject to updates and EIC codes used on AGSI+ or ALSI can change over time. For example: Facilities can change operator, new facilities can become operational or be decommissioned, a facility can be moved within a (virtual) storage group and change code, etc.

The EIC codebase is expected to be updated further in accordance with REMIT regulation (using only ACER approved EIC codes where applicable).

If such changes would have occurred, we will be able to inform you through the API mailing list.

#### Units of Measurement and data definitions

Additional information on units of measurement and specific data definitions are available at:

https://agsi.gie.eu/#/faq https://alsi.gie.eu/#/faq

# Data updates – publication timing and processing

The data is available in daily frequency and represents gas in storage / LNG at the end of the previous gas day.

Data is updated every day at <u>19:30 CET</u> and a second time at <u>23:00</u>. Some SSO/LSO are not able to provide their data before 19:30 but these will be included in the second

#### Technical assistance (API)

Any technical inquiries related to the implementation of the API service can be addressed to <a href="mailto:api@gie.eu">api@gie.eu</a>. Our IT team will be happy to assist you.

## Data clarification

Any inquiries on data published through AGSI+ / ALSI can be addressed to <a href="mailto:transparency@gie.eu">transparency@gie.eu</a>. Note that for inquiries related to a specific SSO or LSO, the operator may need to be contacted directly, as GIE cannot speak on their behalf.

AGSI+ / ALSI offers you the possibility to be kept up to date whenever a new Service Announcemement or update from one of our data providers is posted on the website. Please provide your contact details using the subscription form, and you will be informed by e-mail whenever news or updates are made available.

AGSI+: https://agsi.gie.eu/#/subscribe ALSI: https://alsi.gie.eu/#/subscribe

GIE is also providing additional related data such as the Storage Map, LNG Map and Storage and LNG Investment Database at <a href="http://www.gie.eu/maps-data/">http://www.gie.eu/maps-data/</a>

#### Disclaimer

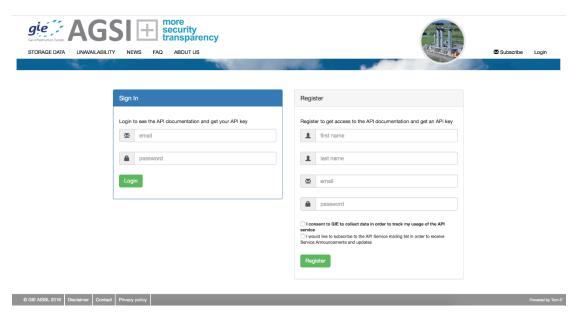
All data is provided by the contributors on a voluntary basis and free of charge. The Data provided by AGSI+ / ALSI is for information only. GIE is using reasonable efforts to invest in ensuring the correctness, completeness, and timeliness of the information provided herein. Data have been carefully checked, are updated at regular intervals and may be subject to changes, removal, or amendments without prior notice.

GIE neither assumes any warranty or liability for the correctness and completeness of information/services and entries nor for the mode of presentation.

## 2. Tutorial

#### **Account setup**

## Login / Register



To access the API pages, your key and profile on either ALSI or AGSI+, navigate to the Login page.

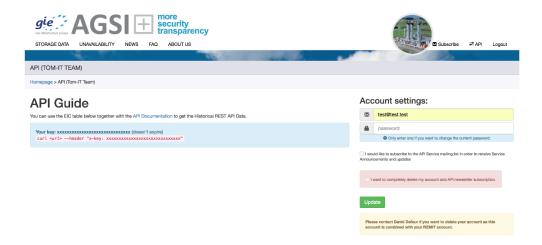
#### The direct links are:

https://agsi.gie.eu/#/api https://alsi.gie.eu/#/api

Here you have the option to either login (in case you already have an account) or register. When registering, please do note that you need to consent to GIE to collect data in order to track your usage of the API service. You can also subscribe to the API specific newsletter.

Click the 'forgot password' link in case you don't remember your password. You will receive an e-mail with instructions on how to reset your account and create a new password.

## **API** page



After registering or logging in, you will be redirected to the API page. Here you can update your account settings, subscribe to the newsletter and also remove your account.

To update your password, please enter a new password (no need to click update).

To remove your account, you need to provide the current email and password combination.

For data providers: Do note that you are unable to remove the account if you logged in using a data provider user account from the REMIT platform. If you do want to remove such an account, please send us an e-mail to api@gie.eu.

Below, you will find the searchable EIC code mapping used for AGSI+ / ALSI.

## **EIC code mapping**

To access the data of a specific country, company or facility, you will require the related EIC identification codes for your API URL. You can search for it below your account settings.



Clicking on the EIC code will open a new page showing the url used to retrieve the data.

#### **Example:**

Clicking on the company Fluxys EIC code opens up the following page.

```
â Gas Infrastructure Europe ASBL [BE] │ https://agsi.gie.eu/api/data/21X-BE-A-A0A0A-Y/BE
     status: "C",
     completeness: 100,
     gasDayStartedOn: "2018-03-03",
     gasInStorage: "0.8926",
     full: "9.92",
     trend: "-0.45",
     injection: "0.00",
     withdrawal: "40.55",
     workingGasVolume: "9.0013",
     injectionCapacity: "88.14",
     withdrawalCapacity: "169.50",
     info:[]
 },
     status: "E",
     completeness: 0,
     gasDayStartedOn: "2018-03-02",
     gasInStorage: "1.0414",
     full: "11.57",
     trend: "-0.62",
     injection: "0.00",
     withdrawal: "55.74",
     workingGasVolume: "9.0013",
     injectionCapacity: "88.14",
     withdrawalCapacity: "169.50",
     info:[]
 },
     status: "E",
     completeness: 0,
     gasDayStartedOn: "2018-03-01",
     gasInStorage: "1.0414",
     full: "11.57",
     trend: "-0.62",
     injection: "0.00",
     withdrawal: "55.74",
     workingGasVolume: "9.0013",
     injectionCapacity: "88.14",
     withdrawalCapacity: "169.50",
     info:[]
 },
- {
     etatue. "C"
```

Using this link and your API key, you can send requests to the API to get the data in JSON format;

```
99. "MorkingGasVolume" "9.0813", "injectionCapacity" "88.14", "withdrawalCapacity" [19.50", "Info:[]], ("status":"C", "completeness":100, "gasDayStartedOn": 72018-02-25", "gasInStorage": 1.1868", "full: 1:13.19", "trend":"-0.11", "injection: "8.00", "minfo:[]], "status":"C", "completeness: "100, "gasDayStartedOn": 72018-02-25", "gasInStorage": 1.1868", "full: "13.29", "trend": 9.15", "injection: "13.34", "withdrawal": 9.00", "morkingGasVolume: "9.0013", "injectionCapacity: "105.50", "info:[]], ("status: "C", "completeness: "100, "gasDayStartedOn": 72018-02-22", "gasInStorage": 1.1814", "withdrawalCapacity: "105.50", "withdrawal": 123.34", "withdrawal": 9.00", "withdrawal": 120.50", "withdrawal": 120.50"
```

If the API key is not supplied or incorrect, the return value is an error message;

{"error":"access denied"}

#### Illustrative example using a browser

To extract data from the system:

Click on one of these links:

AGSI+

https://agsi.gie.eu/api/data/eu

ALSI

https://alsi.gie.eu/api/data/eu

 Click "Save As" to download the file. You have just downloaded the values from the 1 January 2011 (for AGSI+) or 1 January 2012 (for ALSI) till the current day.

The above urls are illustrating that an API (Application Program Interface) can be used as nothing more than a Web address, like http://getmesomedata.xml. When you entered this web address in your browser, the browser retrieves the data you want, just like it would access a web site. The result can be either viewed within the browser, or saved as a file on your computer.

# **REST API parameters**

A REST API enables you to filter the data by <u>adding parameters</u> directly to the Web address, where other systems would require you to go through a series of forms or web pages.

#### \* IMPORTANT NOTE \* The API urls are case sensitive

Below are some examples on how these can be used:

URL (agsi.gie.eu l alsi.gie.eu)	Parameters	Description
/api/data/{eu}  Example: https://agsi.gie.eu/api/data/ne	{ <mark>eu</mark> } eu for Europe, ne for Non Europe	Aggregated Historical data export for Europe or Non Europe
/api/data/{countryCode}/  Example: https://alsi.gie.eu/api/data/NL	{countryCode} 2-digit country code as found on the API page	Aggregated Historical data export for a specific country
/api/data/{eic}/{countryCode}  Example: https://alsi.gie.eu/api/data/ 53XPL000000PLNG6/PL	{eic} 21-digit eic code of the company as found on the API page  {countryCode} 2-digit country code as found on the API page	Historical data export for a specific company within a country
/api/data/{eic}/{countryCode}/{companyEIC}  Example: https://agsi.gie.eu/api/data/ 21W000000000100J/DE/21X000000001368W	{eic} 21-digit eic code of the facility as found on the API page  {countryCode} 2-digit country code as found on the API page  {companyEIC} 21-digit eic code of the company as found on the API page	Historical data export for a specific facility from a company within a country

What you see is a raw JSON format, which admittedly takes some time getting used to. We advise you to use a JSON web browser plugin for reading the format easier.

#### I want to save the result on my computer, not see it in my browser

You can still download the Excel output using the historical data pages on AGSI+ and ALSI:



## How do I filter the data set on time range?

You can query the data using the URL parameters. The character "?" separates the body of the API (the actual URL) from the parameters. You can have as many parameters as you want.

Parameter	Description
from	The start date in following format: YYYY-MM-DD
till	The stop date in following format: YYYY-MM-DD
limit	How much results you need. Ex: 2 will only give 2 rows.

#### Examples:

#### We want the data for Europe from 2017-06-01 till 2017-06-14:

https://alsi.gie.eu/api/data/eu?from=2017-06-01&till=2017-06-14

#### **Using a CURL command**

## We want the last 50 reports for Europe from 2017-08-14

https://alsi.gie.eu/api/data/eu?from=2017-08-14&limit=50

## We want all reports for Europe till 2015-02-01

https://alsi.gie.eu/api/data/eu?till=2015-02-01

You will notice that a "&" separates these two parameters. Whenever you add a parameter, you must start with a "&", then write the parameter name, then the "=" sign, then the filter you want to use.

#### JSON web browser plugins

You can use a JSON formatter browser plugin to see the data call results directly in your browser. For example the *JSON formatter for Google Chrome* or the *JSON Formatter add-on for Firefox*.

# 3. Document versions

# V001

March 2018 - First release

## V002

September 2018 – Removal of completeness data field as it is considered obsolete by GIE.

# V003

October 2018 – Change of API URLs to accommodate facilities with duplicate EIC codes, belonging to different companies in the same country.

# **IT** inquiries

## **IT Team**

for IT implementation E api@gie.eu

# **Data inquiries**

# **GIE Secretariat**

for business inquiries (content-related) on Storage & LNG publications transparency@gie.eu

T+32 2 209 05 00



## **Gas Infrastructure Europe (GIE)**

Avenue de Cortenbergh 100 1000 Brussels Belgium

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