

# **USER GUIDE**

# **GENERATION INSTALLED CAPACITIES API**

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## 1 Introduction

This document describes the Generation Installed Capacities API that RTE provides in order to expose installed generating capacity data. The data available is produced by RTE by aggregating the installed capacities of production units of more than 1 MW sent by generators for each sector. The published capacities are totals of all the capacities of production units belonging to generators which are members of the UFE initiative. This information is updated at least once a year, during the last week of the year.

Reference documents

Short reference	Name of the document	Complete reference
[R1]	Terms of use for RTE's APIs	<a href="#">Access link</a>

### 1.1 Definitions

The terms used in this User Guide (the first letters of which are always capitalised) are defined below. Otherwise, their definitions are given in the General Conditions of Use **[R1]**:

<b>API</b>	Application Programming Interface
<b>Authentication</b>	Protection Mode for ensuring that the identity of the Sender or Receiver has been verified by RTE, and that they are authorised to access the IT system and use the Applications.
<b>Sender</b>	Party which sends a Message.
<b>Message</b>	Set of computer data used to transmit information, structured in accordance with a particular order that is specified in the User Guide. A Message can be sent by the User or by RTE.
<b>Operation</b>	An operation is the way in which the client interacts with the API's resource. An HTTP verb is always used (for example: GET for reading)
<b>Party or Parties</b>	Within the framework of the User Guide, these terms refer to either RTE or the User individually, or to both RTE and the User collectively.
<b>Receiver</b>	Party which receives the Sender's Message.
<b>Resource</b>	A resource is the data in relation to which the client application interacts.
<b>URL</b>	Uniform Resource Locator: character string based on a specific format used to locate a resource on a network and specify what protocol should be used on this resource.
<b>User(s)</b>	Legal entity which has agreed to RTE's General Terms and Conditions for Using APIs and which has been granted access to RTE's IT system for the purposes of using the APIs it has made available.

### 1.2 Technical support

In the event of difficulties accessing or using an API, Users can contact the telephone support services provided by RTE in accordance with the technical conditions detailed in the General Terms and Conditions of Use.

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## 2 Functional description of the Generation Installed Capacities API

### 2.1 General description

This API provides the services below for obtaining data about installed generating capacity is. The data available is produced by RTE by aggregating the installed capacities of production units of more than 1 MW sent by generators for each sector. The published capacities are totals of all the capacities of production units belonging to generators which are members of the UFE initiative. This information is updated at least once a year, during the last week of the year.

### 2.2 Prerequisites for using the APIs

The Generation Installed Capacities API is for stakeholders operating on the electricity market and the general public. However, users of the API will need to create an account on RTE's digital portal. Once they have set up an account, they'll be able to get their OAuth 2.0 credentials. These credentials are then required whenever calls are made to the APIs.

#### 2.2.1 Data confidentiality

The information contained in the Messages may not be used for any purpose other than the ones described in the General Terms and Conditions of Use **[R1]**.

#### 2.2.2 Termination

A subscription to an API is automatically terminated when the user deletes their account on RTE's digital portal.

Should the User wish to cease using an API without terminating their subscription, they simply need to stop sending calls to it.

### 2.3 capacities\_per\_production\_type resource

This service is for obtaining data about the installed capacities of production units of more than 1 MW sent by generators.

### 2.4 Capacities per production unit resource

This service is for obtaining data about the installed capacities of power stations of more than 100 MW, located on the French mainland, excluding Corsica.

### 2.5 capacities\_cpc resource

This service is for obtaining data about the installed capacities of production units that are bound by purchase obligation agreements with EDF.

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### 3 Accessing the API

The REST protocol is used to access the API described in this document.

As is the case for all of the APIs provided by RTE, accessing and using them are subject to the provisions of the General Terms and Conditions of Use **[R1]**.

The authorisation method for accessing the APIs is the OAuth framework, the applications of which are described in the [FAQs](#).

## 4 Resource exposed by the “Generation Installed Capacities” API

### 4.1 Capacities per production type resource

#### 4.1.1 GET /capacities per production type

##### 4.1.1.1 Call methods

The resource is exposed in the following way:

<b>Exposure</b>	REST / JSON
<b>Method</b>	GET
<b>Resource URL</b>	<a href="https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/capacities_per_production_type?start_date=2015-01-01T00:00:00%2B01:00&amp;end_date=2023-01-14T00:00:00%2B01:00&amp;production_type=OTHER_RENEWABLE">https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/capacities_per_production_type?start_date=2015-01-01T00:00:00%2B01:00&amp;end_date=2023-01-14T00:00:00%2B01:00&amp;production_type=OTHER_RENEWABLE</a>
<b>Sandbox URL</b> (1)	<a href="https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/sandbox/capacities_per_production_type">https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/sandbox/capacities_per_production_type</a>

(1) The sandbox does not take the input parameters into account

### Call recommendations

The purpose of this operation is to be able to retrieve installed capacities aggregated by sector. For nominal use, the period's fields do not need to be filled in. The service automatically returns the installed capacities for the current year. Cf. [CPPT-RG01](#). The search can:

- either focus on all sectors if none of the input fields are filled in
- or a list of sectors can be specified.

It is advisable to make one call per day in December to retrieve aggregated installed capacities per sector and two calls per month during the other months of the year in order to retrieve any updates.

This service provides all data available after **01/01/2015**. Data for periods before this date is not available.

#### 4.1.1.2 Inputs

NAME	DESCRIPTION	CARD.	TYPE	VALUES / FORMAT	RULES
<b>start_date</b>	Start date for data searched for	0..1	date (2)	YYYY-MM-DDThh:mm:sszzzzzz	<a href="#">CPPT-RG01</a> <a href="#">CPPT-RG03</a>
<b>end_date</b>	End date for data searched for	0..1	date (1) (2)	YYYY-MM-DDThh:mm:sszzzzzz	<a href="#">CPPT-RG01</a> <a href="#">CPPT-RG03</a>
<b>production_type</b>	Generating sector	0..n	enum (3)	Possible values: BIOMASS FOSSIL_BROWN_COAL_LIGNITE FOSSIL_COAL_DERIVED_GAS FOSSIL_GAS FOSSIL_HARD_COAL FOSSIL_OIL FOSSIL_OIL_SHALE FOSSIL_PEAT GEOTHERMAL HYDRO_PUMPED_STORAGE HYDRO_RUN_OF_RIVER_AND_P OUNDAGE HYDRO_WATER_RESERVOIR MARINE NUCLEAR OTHER_RENEWABLE SOLAR WASTE WIND_OFFSHORE WIND_ONSHORE OTHER	<a href="#">CPPT-RG02</a> <a href="#">CPPT-RG04</a> <a href="#">CPPT-RG07</a>

(1) By convention, the **end\_date** data is excluded from the search, data from the Service's response.

(2) If the **start\_date** has passed, then the **end\_date** should be passed as a parameter.

(3) Several of these values can be passed as a parameter, separated by a comma: ..

**.&field=VALUE1,VALUE2**

#### Call examples:

##### URL:

GET /open\_api/generation\_installed\_capacities/v1/capacities\_per\_production\_type

HTTP/1.1

##### Headers:

Host: digital.iservices.rte-france.com

Authorization: Bearer CNAPbfmg7GjvtqTT1KqPm8ykP6R8YJFfJPnyjqW8p1v2PW2UX6bF8z

##### Body:

#### 4.1.1.3 Outputs

NAME		CARD.	DESCRIPTION			
<b>capacities_per_production_type</b>		1..1				
0..n	NAME	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT	RULES
	<b>start_date</b>	1..1	Start date for data requested	date	YYYY-MM-DDThh:mm:sszzzzzz	<a href="#">CPPT-RG01</a> <a href="#">CPPT-RG03</a>
	<b>end_date</b>	1..1	End date for requested data	date	YYYY-MM-DDThh:mm:sszzzzzz	<a href="#">CPPT-RG01</a> <a href="#">CPPT-RG03</a>
	<b>values</b>	1..1	One value per year interval. Table of values {JSON} structured as shown below:			
	0..n	NAME	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT
		<b>start_date</b>	1..1	Time interval start	date	YYYY-MM-DDThh:mm:sszzzzzz
		<b>end_date</b>	1..1	Time interval end	date	YYYY-MM-DDThh:mm:sszzzzzz
		<b>type</b>	1..1	Generating sector	enum	One of the following values: BIOMASS FOSSIL_BROWN_COAL_L IGNITE FOSSIL_COAL_DERIVED_GAS FOSSIL_GAS FOSSIL_HARD_COAL FOSSIL_OIL FOSSIL_OIL_SHALE FOSSIL_PEAT GEOTHERMAL HYDRO_PUMPED_STORAGE HYDRO_RUN_OF_RIVER_AND_POUNDAGE HYDRO_WATER_RESERVOIR MARINE NUCLEAR OTHER_RENEWABLE SOLAR WASTE WIND_OFFSHORE WIND_ONSHORE OTHER
		<b>value</b>	1..1	Installed capacity in MW	float	Decimal.
		<b>updated_date</b>	1..1	Date updated	date	YYYY-MM-DDThh:mm:sszzzzzz

## JSON return format:

GET /open_api/generation_installed_capacities/v1/capacities_per_production_type
<pre> HTTP/1.1 200 OK {"capacities_per_production_type":[   {     "start_date":"2015-01-01T00:00:00+01:00",     "end_date":"2016-01-01T00:00:00+01:00",     "values":[{"start_date":"2015-01-01T00:00:00+01:00",       "end_date":"2016-01-01T00:00:00+01:00",       "type":"FOSSIL_GAS",       "value":6121,       "updated_date":"2015-07-05T00:30:00+02:00"     },     {"start_date":"2015-01-01T00:00:00+01:00",       "end_date":"2016-01-01T00:00:00+01:00",       "type":"OTHER",       "value":62,       "updated_date":         "2015-07-05T00:30:00+02:00"     }]   } ]}</pre>

4.1.1.4 Control rulesControl rules for different input parameters:

Input parameter			Description	Number
production_type	start_date	end_date		
empty	empty	empty	If no input parameter is given, the service returns the installed capacity for the current year	CPPT-RG01
filled in	empty	empty	If the <b>production_type</b> field is filled in, the response only contains data for the requested sector.	CPPT-RG02
			If listed type parameters ( <b>production_type</b> ) are entered with several identical values, duplicates will be deleted.	CPPT-RG07
empty	filled in	filled in	If the <b>start_date</b> and <b>end_date</b> parameters are given, the service returns the installed capacities for this period.	CPPT-RG03
filled in	filled in	filled in	The <b>production_type</b> AND the <b>start_date / end_date</b> pair can both be passed as parameters for the Service.	CPPT-RG04

**Output control rules applied:**

Number	Description
<b>CPPT-RG05</b>	The output data is ordered from the most recent <b>start_date</b> to the oldest.
<b>CPPT-RG06</b>	As the service's output, the installed capacities are returned as linked to calendar year.

#### 4.1.1.5 **Error codes**

The following table lists the error codes which may be returned when the resource is called. Details of these errors are described in chapter 5 Details of errors.

Type of error	Error code	Details
Functional	GENINSCAP_CPPT_F01	<a href="#">§5.1.1</a>
Functional	GENINSCAP_CPPT_F02	<a href="#">§5.1.1</a>
Functional	GENINSCAP_CPPT_F03	<a href="#">§5.1.1</a>
Functional	GENINSCAP_CPPT_F04	<a href="#">§5.1.1</a>
Functional	GENINSCAP_CPPT_F05	<a href="#">§5.1.1</a>
Functional	GENINSCAP_CPPT_F06	<a href="#">§5.1.1</a>
Technical	401	<a href="#">§5.2</a>
Technical	403	<a href="#">§5.2</a>
Technical	404	<a href="#">§5.2</a>
Technical	408	<a href="#">§5.2</a>
Technical	413	<a href="#">§5.2</a>
Technical	414	<a href="#">§5.2</a>
Technical	429	<a href="#">§5.2</a>
Technical	500	<a href="#">§5.2</a>
Technical	503	<a href="#">§5.2</a>
Technical	509	<a href="#">§5.2</a>

## 4.2 Capacities per production unit resource

### 4.2.1 GET /capacities per production unit

#### 4.2.1.1 Call methods

The resource is exposed in the following way:

<b>Exposure</b>	REST / JSON
<b>Method</b>	GET
<b>Resource URL</b>	<a href="https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/capacities_per_production_unit?start_date=2023-02-01T00:00:00%2B01:00&amp;end_date=2023-02-14T00:00:00%2B01:00">https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/capacities_per_production_unit?start_date=2023-02-01T00:00:00%2B01:00&amp;end_date=2023-02-14T00:00:00%2B01:00</a>
<b>Sandbox URL</b> (1)	<a href="https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/sandbox/capacities_per_production_unit">https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/sandbox/capacities_per_production_unit</a>

(1) The sandbox does not take the input parameters into account

#### Call recommendations

The purpose of this operation is to be able to retrieve installed capacities per power station. For nominal use, the period's fields do not need to be filled in. The service automatically returns the installed capacities for all power stations in operation ("end\_date" field empty or not present) Cf. [CPPU-RG01](#).

**It is advisable to make one call per day to retrieve installed capacities aggregated per sector.**

This service provides all data available after **01/01/1935**. Data for periods before this date is not available.

#### 4.2.1.2 Inputs

NAME	DESCRIPTION	CARD.	TYPE	VALUES / FORMAT	RULES
<b>start_date</b>	Start date for data searched for	0..1	date (2)	YYYY-MM-DDThh:mm:sszzzzzz	<a href="#">CPPU-RG01</a> <a href="#">CPPU-RG02</a>
<b>end_date</b>	End date for data searched for	0..1	date (1) (2)	YYYY-MM-DDThh:mm:sszzzzzz	<a href="#">CPPU-RG01</a> <a href="#">CPPU-RG02</a>

- (1) By convention, the **end\_date** data is excluded from the search, data from the Service's response.  
 (2) If the **start\_date** has passed, then the **end\_date** should be passed as a parameter.

#### Call examples:

**URL:**

GET /open\_api/generation\_installed\_capacities/v1/capacities\_per\_production\_unit  
 HTTP/1.1

**Headers:**

Host: digital.iservices.rte-france.com

Authorization: Bearer CNAPbfmg7GjvtqTT1KqPm8ykP6R8YJFfJPnyjqW8p1v2PW2UX6bF8z

**Body:**

### 4.2.1.3 Outputs

NAME		CARD.	DESCRIPTION			
<b>capacities_per_production_unit</b>		1..1				
0..n	NAME	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT	RULES
	<b>start_date</b>	1..1	Start date for data requested	date	YYYY-MM-DDThh:mm:sszzzzzz	<a href="#">CPPU-RG01</a> <a href="#">CPPU-RG02</a>
	<b>end_date</b>	0..1	End date for requested data	date	YYYY-MM-DDThh:mm:sszzzzzz	<a href="#">CPPU-RG01</a> <a href="#">CPPU-RG02</a>
	<b>production_unit</b>	1..1	Object {JSON} structured as shown below:			
	0..n	NAME	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT
		<b>code_eic</b>	1..1	EIC code of the power station	string	Character string
		<b>name</b>	1..1	Name of the power station	string	Character string
	0..n	<b>location</b>	1..1	Location of the power station	string	Character string
		<b>Code_eic_producteur</b>	1..1	Producer EIC Code	string	Character string
		<b>Name_producteur</b>	1..1	Producer name	string	Character string
	<b>values</b>	1..1	Table of values {JSON} structured as shown below:			
	0..n	NAME	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT
		<b>start_date</b>	1..1	Start time interval	date	YYYY-MM-DDThh:mm:sszzzzzz
		<b>end_date</b>	1..1	End time interval	date	YYYY-MM-DDThh:mm:sszzzzzz
		<b>installed_capacity</b>	1..1	Installed capacity in MW	float	Decimal.
		<b>voltage_level_connection</b>	1..1	Connection voltage level (in KVT)	float	Decimal.
		<b>production_type</b>	1..1	Generating sector	enum	One of the following values: BIOMASS FOSSIL_BROWN_COAL_LIGNITE FOSSIL_COAL_DERIVED_GAS FOSSIL_GAS FOSSIL_HARD_COAL FOSSIL_OIL FOSSIL_OIL_SHALE FOSSIL_PEAT GEOTHERMAL HYDRO_PUMPED_STORAGE

							HYDRO_RUN_OF_RIVER_AND_POUNDAGE HYDRO_WATER_RESERVOIR MARINE NUCLEAR OTHER_RENEWABLE SOLAR WASTE WIND_OFFSHORE WIND_ONSHORE OTHER
			<b>updated_date</b>	1..1	Date updated	date	YYYY-MM-DDThh:mm:sszzzzzz

## JSON return format:

GET /open\_api/generation\_installed\_capacities/v1/capacities\_per\_production\_unit

```

HTTP/1.1 200 OK
{
  "capacities_per_production_unit": [
    {
      "start_date": "2022-03-01T00:00:00+01:00",
      "end_date": "2022-03-20T00:00:00+01:00",
      "production_unit": {
        "code_eic": "17W100P100P0341J",
        "name": "Pont-sur-Sambre",
        "location": "France",
        "code_eic_producteur": "17X100A100R0172T",
        "name_producteur": "TOTAL DIRECT ENERGIE"
      },
      "values": [
        {
          "start_date": "2019-08-09T00:00:00+02:00",
          "end_date": "2022-05-16T00:00:00+02:00",
          "installed_capacity": 412,
          "voltage_level_connection": 225,
          "type": "FOSSIL_GAS",
          "updated_date": "2022-06-02T11:49:52+02:00"
        }
      ]
    }
  ]
}

```

4.2.1.4 Control rulesControl rules for different input parameters:

Input parameter		Description	Number
start_date	end_date		
empty	empty	If no input parameter is given, the service returns the installed capacity for the power stations in operation.	CPPU-RG01
filled in	filled in	If the <b>start_date</b> and <b>end_date</b> parameters are given, the service returns the installed capacities for power stations in operation during this period.	CPPU-RG02

**Output control rules applied:**

Number	Description
<b>CPPU-RG03</b>	The output data is sorted by the <b>production_type</b> fields in alphabetical order, then by <b>name</b> in alphabetical order.

#### 4.2.1.5 **Error codes**

The following table lists the error codes which may be returned when the resource is called. Details of these errors are described in chapter 5 Details of errors.

Type of error	Error code	Details
Functional	GENINSCAP_CPPU_F01	<a href="#">§5.1.2</a>
Functional	GENINSCAP_CPPU_F02	<a href="#">§5.1.2</a>
Functional	GENINSCAP_CPPU_F03	<a href="#">§5.1.2</a>
Functional	GENINSCAP_CPPU_F04	<a href="#">§5.1.2</a>
Functional	GENINSCAP_CPPU_F05	<a href="#">§5.1.2</a>
Functional	GENINSCAP_CPPU_F06	<a href="#">§5.1.2</a>
Technical	401	<a href="#">§5.2</a>
Technical	403	<a href="#">§5.2</a>
Technical	404	<a href="#">§5.2</a>
Technical	408	<a href="#">§5.2</a>
Technical	413	<a href="#">§5.2</a>
Technical	414	<a href="#">§5.2</a>
Technical	429	<a href="#">§5.2</a>
Technical	500	<a href="#">§5.2</a>
Technical	503	<a href="#">§5.2</a>
Technical	509	<a href="#">§5.2</a>

### 4.3 Capacities cpc resource

#### 4.3.1 GET /capacities cpc

##### 4.3.1.1 Call methods

The resource is exposed in the following way:

<b>Exposure</b>	REST / JSON
<b>Method</b>	GET
<b>Resource URL</b>	<a href="https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/capacities_cpc?start_date=2015-01-01T00:00:00%2B01:00&amp;end_date=2016-01-01T00:00:00%2B01:00&amp;department_code=FR&amp;network_connection=RPT&amp;production_type=SOLAR,BIOMASS,HYDRO">https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/capacities_cpc?start_date=2015-01-01T00:00:00%2B01:00&amp;end_date=2016-01-01T00:00:00%2B01:00&amp;department_code=FR&amp;network_connection=RPT&amp;production_type=SOLAR,BIOMASS,HYDRO</a>
<b>Sandbox URL</b> (1)	<a href="https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/sandbox/capacities_cpc">https://digital.iservices.rte-france.com/open_api/generation_installed_capacities/v1/sandbox/capacities_cpc</a>

(1) The sandbox does not take the input parameters into account

#### Call recommendations

The purpose of this operation is to be able to retrieve installed capacities of the facilities bound by purchase obligations. For nominal use, the period's fields do not need to be filled in. The service automatically returns the installed capacities that have been most recently updated Cf. [CCPC-RG01](#). The search can:

- either focus on all departments, or networks and all sectors if none of the input fields are filled in
- or a list of departments, a network and/or a list of sectors can be specified.

**It is advisable to make one call per day to retrieve aggregated installed capacities of facilities bound by purchase obligations.**

This service provides all data available after **09/02/2015**. Data for periods before this date is not available.

#### 4.3.1.2 Inputs

NAME	DESCRIPTION	CARD.	TYPE	VALUES / FORMAT	RULES
<b>start_date</b>	Start date for data searched for	0..1	date (2)	YYYY-MM-DDThh:mm:ssZZZZZZ	<a href="#">CCPC-RG01</a> <a href="#">CCPC-RG06</a>
<b>end_date</b>	End date for data searched for	0..1	date (1) (2)	YYYY-MM-DDThh:mm:ssZZZZZZ	<a href="#">CCPC-RG01</a> <a href="#">CCPC-RG06</a>
<b>department_code</b>	Department code	0..n	enum (3)	Possible values: Codes of departments in accordance with the ISO 3166-2 standard. Use FR for aggregated France data.	<a href="#">CCPC-RG02</a> <a href="#">CCPC-RG03</a> <a href="#">CCPC-RG07</a>
<b>network_connection</b>	Connection network	0..2	enum (3)	Possible values: RPD RPT	<a href="#">CCPC-RG04</a> <a href="#">CCPC-RG07</a>
<b>production_type</b>	Generating sector	0..n	enum (3)	Possible values: WIND SOLAR HYDRO COGENERATION BIOGAZ BIOMASS INCINERATION GEOTHERMAL OTHERS	<a href="#">CCPC-RG05</a> <a href="#">CCPC-RG07</a>

(1) By convention, the **end\_date** data is excluded from the search, data from the Service's response.

(2) If the **start\_date** has passed, then the **end\_date** should be passed as a parameter.

(3) Several of these values can be passed as a parameter, separated by a comma: ..

**.&field=VALUE1,VALUE2**

#### Call examples:

##### URL:

GET /open\_api/generation\_installed\_capacities/v1/capacities\_cpc

HTTP/1.1

##### Headers:

Host: digital.iservices.rte-france.com

Authorization: Bearer CNAPbfmg7GjvtqTTlKqPm8ykP6R8YJFfJPnyjqW8p1v2PW2UX6bF8z

##### Body:

**4.3.1.3 Outputs**

NAME		CARD.	DESCRIPTION			
<b>capacities_cpc</b>						
0..n	NAME	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT	RULES
	<b>updated_date</b>	1..1	Date updated	date	YYYY-MM-DDThh:mm:sszzzzzz	<a href="#">CCPC-RG08</a>
	<b>department_code</b>	1..1	Department code	enum	Department codes ISO 3166-2 standard	<a href="#">CCPC-RG09</a>
	<b>network_connection</b>	1..1	Connection network	enum	One of the following values: RPD RPT	<a href="#">CCPC-RG09</a>
	<b>production_type</b>	1..1	Generating sector	enum	One of the following values: WIND SOLAR HYDRO COGENERATION BIOGAZ BIOMASS INCINERATION GEOTHERMAL OTHERS	<a href="#">CCPC-RG09</a>
	<b>value</b>	1..1	Installed capacity aggregated by department, network and sector (in KW)	int	Integer.	<a href="#">CCPC-RG09</a>

JSON return format:

```
GET /generation_installed_capacities/v1/capacities_cpc
```

```
HTTP/1.1 200 OK
{"capacities_cpc": [
  {
    "updated_date": "2016-02-01T00:00:00+01:00",
    "department_code": "FR",
    "network_connection": "RPD",
    "production_type": "BIOGAS",
    "values": 323012
  },
  {
    "updated_date": "2016-02-01T00:00:00+01:00",
    "department_code": "FR",
    "network_connection": "RPT",
    "production_type": "BIOGAS",
    "values": 2925
  },
  { ... }
]}
```

#### 4.3.1.4 Control rules

##### Control rules for different input parameters:

Input parameter					Description	Number
start_date	end_date	department_code	network_connection	production_type		
empty	empty	empty	empty	empty	If no input parameters are entered, the Service will return the most recently updated installed capacities. If a couple (sector, department) no longer has any facilities bound by obligations to purchase, but did have previously, the service will no longer return this sector in nominal mode. To retrieve the history, the <b>CCPC-RG06</b> rule should be used.	<b>CCPC-RG01</b>
filled in	filled in	filled in	filled in	filled in	For the <b>department_code</b> field, the <b>FR</b> value has been added to the ISO department codes to signify that aggregated data for France is being requested.	<b>CCPC-RG02</b>
filled in	filled in	filled in	filled in	filled in	The <b>department_code</b> , <b>network_connection</b> , <b>production_type</b> and the <b>start_date / end_date</b> pair can be passed as parameters for the Service.	<b>CCPC-RG07</b>
filled in	filled in	filled in	filled in	filled in	If listed type fields are entered with several identical values, duplicates will be deleted.	<b>CCPC-RG10</b>

empty	empty	filled in	empty	empty	If the <b>department_code</b> field is filled in as a service parameter, the response only contains data for the requested department.	CCPC-RG03
empty	empty	empty	filled in	empty	If the <b>network_connection</b> field is filled in as a service parameter, the response only contains data for the requested network.	CCPC-RG04
empty	empty	empty	empty	filled in	If the <b>production_type</b> field is filled in as a service parameter, the response only contains data for the requested sector.	CCPC-RG05
filled in	filled in	empty	empty	empty	If the <b>start_date</b> and <b>end_date</b> fields are filled in, the service returns the installed capacities that have an update date within this period.	CCPC-RG06

**Output control rules applied:**

Number	Description
CCPC-RG08	The output data is ordered by the <b>updated_date</b> field, from the most recent to the oldest, then by <b>department_code</b> in alphabetical order, then by <b>production_type</b> in alphabetical order, then by <b>network_connection</b> in alphabetical order.
CCPC-RG09	If the service cannot find a response that satisfies all the parameters passed, it returns all the fields except <b>updated_date</b> and <b>value</b> . If the service cannot find any response, it returns the EC45_ERR01 error.

#### 4.3.1.5 **Error codes**

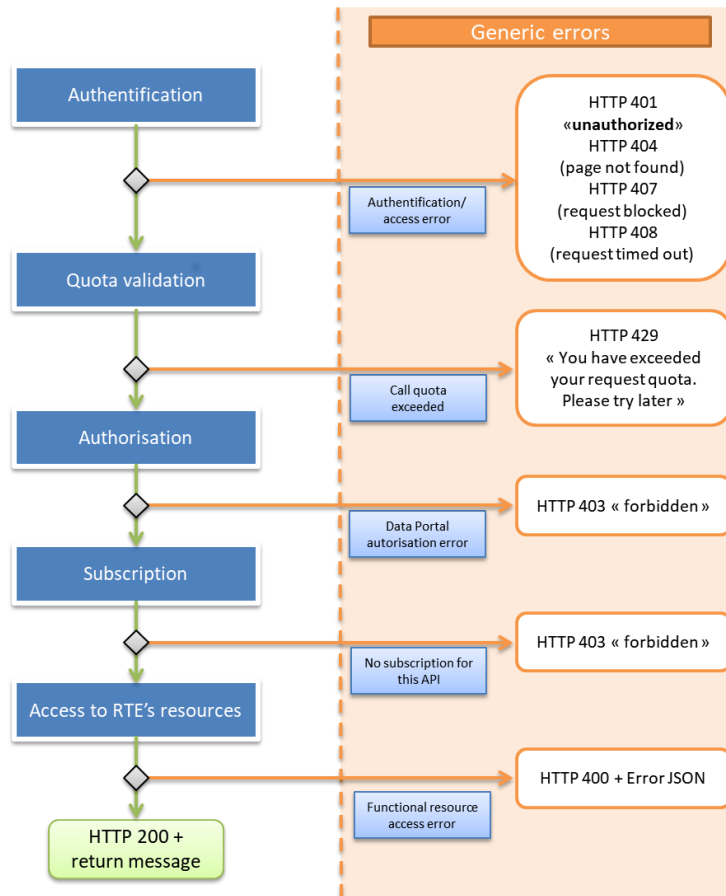
The following table lists the error codes which may be returned when the resource is called. Details of these errors are described in chapter 5 Details of errors.

Type of error	Error code	Details
Functional	GENINSCAP_CCPC_F01	<a href="#">§5.1.3</a>
Functional	GENINSCAP_CCPC_F02	<a href="#">§5.1.3</a>
Functional	GENINSCAP_CCPC_F03	<a href="#">§5.1.3</a>
Functional	GENINSCAP_CCPC_F04	<a href="#">§5.1.3</a>
Functional	GENINSCAP_CCPC_F05	<a href="#">§5.1.3</a>
Functional	GENINSCAP_CCPC_F06	<a href="#">§5.1.3</a>
Technical	401	<a href="#">§5.2</a>
Technical	403	<a href="#">§5.2</a>
Technical	404	<a href="#">§5.2</a>
Technical	408	<a href="#">§5.2</a>
Technical	413	<a href="#">§5.2</a>
Technical	414	<a href="#">§5.2</a>
Technical	429	<a href="#">§5.2</a>
Technical	500	<a href="#">§5.2</a>
Technical	503	<a href="#">§5.2</a>
Technical	509	<a href="#">§5.2</a>

## 5 Details of errors

The diagram below shows the codes returned to the API's User depending on the sequencing of calls.

This paragraph details the generic errors that are common to all of the API's resources. As such, it does not describe request errors (HTTP 400 code). These errors are described resource by resource in the corresponding paragraph.



In the event of an error encountered during the authentication phase (while validating the username and password), an HTTP 401 "unauthorised" code is returned to the caller.

The second stage involves checking that the user has not exceeded the maximum number of calls authorised for the organisation. If exceeded, the caller is notified with an HTTP 429 code. In such cases, the response from the server will contain a "Retry-After:" header giving the time (in seconds) that the client will need to wait before resubmitting their request.

The third stage involves checking that the caller (identified by its OAuth2 token or its PKI certificate) has created an application on the Data Portal. Otherwise, the caller is informed by an HTTP 403 "forbidden" code.

The fourth stage involves checking that the API is associated with the application (subscription). Otherwise, the caller is informed by an HTTP 403 "forbidden" code.

The fifth stage involves accessing RTE's resources. Various functional errors may occur. These are communicated to the User as JSON errors by an HTTP 400 code.

In the event of a technical incident upon the request treatment the caller is informed by an HTTP 500 code.

JSON structure:

```
{
  "error": "short_name, error's explicit description",
  "error_description": "long name, readable by a user",
  "error_uri": "URI to the API user guide or the FAQ/documentation on the Data Portal"
  "error_details": {
    "transaction_id": "unique call identifier, useful in the event of an incident"
  }
}
```

- The short description ("error") is a code which enables the calling application to automatically process error messages. It is represented by a series of words separated by "\_".
- The long description ("error description") is a description enabling users to understand the source of the error more precisely. This name needs to be approved by the business line so as to ascertain that it is explicit enough.
- The URI to the user guide is present so as to provide more explanations depending on the API called.
- The transaction\_id field: provides a unique call identifier. This identifier can be communicated to RTE's support services if there is an incident.

## 5.1 Functional errors

### 5.1.1 capacities per production type

The table below lists the functional errors returned by the resource for an error in a request (HTTP 400 code):

GENINSCAP_CPPT_F01	
<b>Message</b>	If one of the fields "\start_date\" or "\end_date\" is used, the two fields are mandatory. Please used either fields or neither.
<b>RG</b>	If either of the <b>start_date</b> and <b>end_date</b> parameters are passed on their own, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_type?start_date=2023-02-01T00:00:00%2B02:00
GENINSCAP_CPPT_F02	
<b>Message</b>	The field "\start_date\" in the API input is more recently than the field "\end_date\". Please correct the values of these fields.
<b>RG</b>	If the <b>start_date</b> field is more recent than the <b>end_date</b> field, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_type?start_date=2023-02-16T00:00:00%2B01:00&end_date=2023-02-14T00:00:01%2B01:00

GENINSCAP_CPPT_F03	
<b>Message</b>	The API does not provide feedback on such a long period in one call. To retrieve all the data please make it with several calls to the API.
<b>RG</b>	If the period is greater than 366 days, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_type?start_date=2015-01-01T00:00:00%2B02:00&end_date=2017-06-02T00:00:00%2B02:00
GENINSCAP_CPPT_F04	
<b>Message</b>	The value of "\end_date\" field is incorrect. It is not possible to recover data to this term.
<b>RG</b>	If <b>end_date</b> is greater than 1 January of the next year, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_type?start_date=2026-01-02T00:00:00%2B02:00&end_date=2026-02-10T00:00:00%2B02:00
GENINSCAP_CPPT_F05	
<b>Message</b>	The period filled by fields "start_date" and "end_date" is too short to return values. Please check the user guide to verify the minimum period for this API.
<b>RG</b>	If the time interval between <b>start_date</b> and <b>end_date</b> is less than 1 calendar year, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_type?start_date=2024-06-01T00:00:00%2B02:00&end_date=2024-06-01T12:00:00%2B02:00
GENINSCAP_CPPT_F06	
<b>Message</b>	One of the dates in the API input does not follow the format described in the user guide. Please verify compliance with the format for each field.
<b>RG</b>	If the <b>start_date</b> or <b>end_date</b> are not in the expected format, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_type?start_date=2023-02-01&end_date=2023-02-14

### 5.1.2 [capacities per production unit](#)

The table below lists the functional errors returned by the resource for an error in a request (HTTP 400 code):

GENINSCAP_CPPU_F01	
<b>Message</b>	If one of the fields "\"start_date\" or \"end_date\" is used, the two fields are mandatory. Please used either fields or neither.
<b>RG</b>	If either of the <b>start_date</b> and <b>end_date</b> parameters are passed on their own, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_unit?start_date=2023-02-01T00:00:00%2B01:00
GENINSCAP_CPPU_F02	
<b>Message</b>	The field "\"start_date\" in the API input is more recently than the field "end_date". Please correct the values of these fields.
<b>RG</b>	If the <b>start_date</b> field is more recent than the <b>end_date</b> field, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_unit?start_date=2023-02-16T00:00:00%2B01:00&end_date=2023-02-14T00:00:01%2B01:00
GENINSCAP_CPPU_F03	

<b>Message</b>	The API does not provide feedback on such a long period in one call. To retrieve all the data please make it with several calls to the API.
<b>RG</b>	If the period is greater than 366 days, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_unit?start_date=2022-02-01T00:00:00%2B01:00&end_date=2023-02-14T00:00:01%2B01:00
<b>GENINSCAP_CPPU_F04</b>	
<b>Message</b>	The value of \"end_date\" field is incorrect. It is not possible to recover data to this term.\"}
<b>RG</b>	If <b>end_date</b> is greater than 1 January of the next year, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_unit?start_date=2025-04-02T00:00:00%2B02:00&end_date=2026-02-01T00:00:00%2B02:00 pour un appel le 30/10/2015
<b>GENINSCAP_CPPU_F05</b>	
<b>Message</b>	The period filled by fields \"start_date\" and \"end_date\" is too short to return values. Please check the user guide to verify the minimum period for this API.
<b>RG</b>	If the time interval between <b>start_date</b> and <b>end_date</b> is less than 1 calendar day, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_unit?start_date=2023-02-01T00:00:00%2B01:00&end_date=2023-02-01T00:00:01%2B01:00
<b>GENINSCAP_CPPU_F06</b>	
<b>Message</b>	One of the dates in the API input does not follow the format described in the user guide. Please verify compliance with the format for each field.
<b>RG</b>	If the <b>start_date</b> or <b>end_date</b> are not in the expected format, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_per_production_unit?start_date=2023-02-01&end_date=2023-02-14

### 5.1.3 capacities\_cpc

The table below lists the functional errors returned by the resource for an error in a request (HTTP 400 code):

GENINSCAP_CCPC_F01	
<b>Message</b>	If one of the fields \"start_date\" or \"end_date\" is used, the two fields are mandatory. Please used either fields or neither.
<b>RG</b>	If either of the <b>start_date</b> and <b>end_date</b> parameters are passed on their own, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_cpc?start_date=2023-02-01T00:00:00%2B02:00
GENINSCAP_CCPC_F02	
<b>Message</b>	The field \"start_date\" in the API input is more recently than the field \"end_date\". Please correct the values of these fields.
<b>RG</b>	If the <b>start_date</b> field is more recent than the <b>end_date</b> field, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_cpc?start_date=2023-02-16T00:00:00%2B02:00&end_date=2023-02-14T00:00:00%2B02:00
GENINSCAP_CCPC_F03	
<b>Message</b>	The API does not provide feedback on such a long period in one call. To retrieve all the data please make it with severals calls to the API.
<b>RG</b>	If the period is greater than 366 days, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_cpc?start_date=2023-02-01T00:00:00%2B02:00&end_date=2024-03-06T00:00:00%2B02:00
GENINSCAP_CCPC_F04	
<b>Message</b>	The value of \" <b>end_date</b> \" field is incorrect. It is not possible to recover data to this term.\"}
<b>RG</b>	If <b>end_date</b> is greater than D+1 compared with the system date, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_cpc?start_date=2015-10-31T00:00:00%2B02:00&end_date=2015-11-09T00:00:00%2B02:00 pour un appel le 30/10/2015
GENINSCAP_CCPC_F05	
<b>Message</b>	The period filled by fields \"start_date\" and \"end_date\" is too short to return values. Please check the user guide to verify the minimum period for this API.
<b>RG</b>	If the time interval between <b>start_date</b> and <b>end_date</b> is less than 1 calendar day, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_cpc? start_date=2023-02-01T00:00:00%2B01:00&end_date=2023-02-01T00:00:01%2B01:00
GENINSCAP_CCPC_F06	
<b>Message</b>	One of the dates in the API input does not follow the format described in the user guide. Please verify compliance with the format for each field.
<b>RG</b>	If the <b>start_date</b> or <b>end_date</b> are not in the expected format, the Service generates this error.
<b>Call example</b>	GET /open_api/generation_installed_capacities/v1/capacities_cpc?start_date=2023-02-01&end_date=2023-02-14

## 5.2 Technical errors

401	
<b>HTTP code</b>	401
<b>Message</b>	Unauthorized
<b>Description</b>	Error generated when authentication has failed
403	
<b>HTTP code</b>	403
<b>Message</b>	Forbidden
<b>Description</b>	Error generated if the caller is not authorised to call the resource
404	
<b>HTTP code</b>	404
<b>Message</b>	Not Found
<b>Example of a call</b>	The resource called does not exist or no data was found
408	
<b>HTTP code</b>	408
<b>Message</b>	Request Time-out
<b>Example of a call</b>	Error generated when there is no response from the service called or when the call to the service times out (http 408).
413	
<b>HTTP code</b>	413
<b>Message</b>	Request Entity Too Large
<b>Example of a call</b>	The size of the request exceeds 5 MB
414	
<b>HTTP code</b>	414
<b>Message</b>	Request-URI Too Long
<b>Example of a call</b>	The URI sent by the caller is longer than 512 characters.
429	
<b>HTTP code</b>	429
<b>Message</b>	Too Many Requests

<b>Call example</b>	The maximum number of calls has been made in a given period of time.
<b>500</b>	
<b>HTTP code</b>	500
<b>Message</b>	Internal Server Error
<b>Call example</b>	<b>Any other technical error.</b> (This error is accompanied by a JSON message with an error_code and error_description field)
<b>503</b>	
<b>HTTP code</b>	503
<b>Message</b>	Service Unavailable
<b>Call example</b>	Error generated during maintenance (HTTP 503).
<b>509</b>	
<b>HTTP code</b>	509
<b>Message</b>	Bandwidth Limit Exceeded.
<b>Call example</b>	The total number of client requests has reached the maximum limit.

## 6 Appendices

### 6.1 Sample Files

Once the User is logged on the Data Portal, sample files (including API responses) are available online on the API description page.

### 6.2 Language – Translations of names.

ENGLISH	FRENCH
start_date	date_debut
end_date	date_fin
updated_date	date de mise à jour
value	valeur
BIOMASS	BIOMASSE
FOSSIL_BROWN_COAL_LIGNITE	LIGNITE
FOSSIL_COAL_DERIVED_GAS	GAZ ISSU DU CHARBON
FOSSIL_GAS	GAZ
FOSSIL_HARD_COAL	CHARBON
FOSSIL_OIL	FIOUL
FOSSIL_OIL_SHALE	PETROLE DE SCHISTE
FOSSIL_PEAT	TOURBE
GEOHERMAL	GEOHERMIQUE
HYDRO_PUMPED_STORAGE	HYDRAULIQUE_STEP
HYDRO_RUN_OF_RIVER_AND_POUNDAGE	HYDRAULIQUE_FILEDELEAU_ECLUSEE
HYDRO_WATER_RESERVOIR	HYDRAULIQUE_LACS
MARINE	MARINE
NUCLEAR	NUCLEAIRE
OTHER_RENEWABLE	AUTRE-RENOUVELABLE
SOLAR	SOLAIRE
WASTE	DECHETS INDUSTRIELS
WIND_OFFSHORE	EOLIEN_OFFSHORE
WIND_ONSHORE	EOLIEN_TERRESTRE
OTHER	AUTRE

**END OF DOCUMENT**