Version	1.2	
Date	15-02-2022	
Status	☐ Draft	☒ Final

Contents

1 Landing page

Please note that all data presented in this document is available through one single platform which is the JAO Publication Tool. In the last section you will find information on how to get access through the web service.

Publication day or time is also indicated for each item: please consider that “DATE” represents the delivery day (business day)
Please also consider that until the full implementation of the extension of the IBWT IDCC process to cover the full day (00:00 – 24:00), no ID data will be available for each “HOUR” time interval between 00:00 and 12:00.

Figure 1: Screenshot of the landing page

The landing page shows the “Italy North CCR” data menu which shows the different tabs containing the different sets of information:

- CNEC info D-2
- CNEC info intraday
- Forecasted & LTN day-ahead
- Forecasted intraday
- Adjustment NTC 70% day-ahead
- Adjustment NTC 70% intraday
- Final TTC & NTC day-ahead
- Final TTC and NTC intraday
- Allocation Constraint
- Static Grid Model – Lines
- Static Grid Model – Transformers
- Validation day-ahead
- Validation intraday

2 Data publication pages

2.1 CNEC info (day-ahead and Intraday)

On this page, the data for all Critical Network Elements and Contingency (CNEC) considered in the day-ahead and intraday cNTC capacity calculation process is provided.

2.1.1 Information on the CNE

CNE_Name
This field provides the human readable name of the network element.

EIC_Code
This field provides the EIC of the network element.

Direction
This field provides information on the direction in which the element was monitored. Direction(s) for which the flow needs to be monitored is from the first node to the second node printed.

Hub From
This field provides information of the starting hub of the element.

Hub To
This field provides information of the destination hub of the element.

2.1.2 Information on the Contingency

Contingency Name
This field provides the human readable name of the contingency.

contEIC
This field provides the EIC of the contingency.

Hub From
This field provides information of the starting hub of the element.

Hub To
This field provides information of the starting hub of the element.

2.1.3 CNEC Selection Information

Sensitivity [%]
This value indicates the sensitivity of the CNEC to the cross-border exchanges. For a given element, if this value is below a certain threshold the element will be filtered out from the optimization process. It is possible for an element to be selected, even if it falls below the sensitivity threshold, for example tie lines part of the CCR are always selected.

Selected
This Boolean value indicates whether the CNEC was selected during the CNEC selection step and therefore considered during the optimization process.

Limiting
This Boolean value indicates whether the CNEC was limiting during the optimization process. A CNEC might be selected (see definition above) without being limiting.

2.1.4 Information on maximum and calculated flows

Fmax [MW]
This value represents the maximum theoretical capacity of the element.

Fref [MW]
This value represents the loading of the element induced by the reference flows present in the initial grid model.

FNTC [MW]
This value represents the available loading of the element at the end of the Italy North cNTC process.

2.1.5 Information for adjustment for minimum capacity

MNCC [MW]
This is the Margin from non-Coordinated Capacity Calculation. Please note that the adjustment for minimum capacity process is not yet implemented in Italy North CCR. Once this process is implemented, the relevant cells will be filled with the resulting data.

MCCC [MW]
This value represents the margin from Coordinated Capacity Calculation. Please note that the adjustment for minimum capacity process is not yet implemented in Italy North CCR. Once this process is implemented, the relevant cells will be filled with the resulting data.

Total MACZT [MW]
This value represents the total margin available for cross-zonal trade and is obtained by summing the MNCC and MCCC. Please note that the adjustment for minimum capacity process is not yet implemented in Italy North CCR. Once this process is implemented, the relevant cells will be filled with the resulting data.

Zone-to-zone NTC PTDF values
These values are the PTDF values at the end of the coordinated NTC process for each of the zone-to-zone combinations.

Zone-to-zone REF PTDF values
These values are the PTDF values at the beginning of the coordinated NTC process for each of the zone-to-zone combinations.

2.1.6 Flow-based information

Please note that a flow-based capacity calculation process is not yet implemented in Italy North CCR. Once this process is implemented, the relevant cells will be filled with the resulting data.

2.2 Forecasted load, production and net position (day-ahead and intraday) and Long-term Nominations (day-ahead)

On this page, the forecasted production, generation, and net position is provided in MW for each date and timestamp. For day-ahead, the long-term nominations are also provided.

2.2.1 Forecasted Vertical Load [MW]

The vertical grid load reflects the sum with correct sign of all power exchanges from the Intaly North control area via directly connected transformers and lines to distribution networks and end consumers, per bidding Zone.

2.2.2 Forecasted Production [MW]

This Value represents the sum of all generation in respective Grid Model used for the Capacity calculation, per bidding Zone.

2.2.3 Forecasted Net Position [MW]

These values are the delta of the sum of all loads and the sum of all generation in the respective Grid Model used in the Capacity calculation, per bidding Zone. With a positive *Net Position* value the respective bidding zone is importing and with a negative *Net Position* value the bidding zone is Exporting.

2.2.4 Long Term Nominations [MW] (only for D-2)

Already nominated capacity by market Participants before D-2 timeframe, per bidding zone. This could be for example, a year ahead or month ahead product.

2.3 Adjustment NTC 70% (day-ahead and intraday)

On these pages, the total adjustment that was performed in day-ahead and intraday in the Italy North CCR in order to reach at least 70% MACZT will be published.

2.3.1 Adjustment to NTC values to match 70% provisions [MW]

This value represents the difference between the NTC calculated by the day-ahead/intraday CC process and the NTC needed to fulfill the minimum capacity requirement on the limiting CNEC. This value can be positive when the calculated NTC is lower than the minimum NTC, in which case it shows the increase needed to fulfill the requirement, or negative when the calculated NTC is higher than the minimum NTC, in which case the requirement is fulfilled.

2.4 Final TTC & NTC (day-ahead and intraday)

2.4.1 Final TTC [MW]

This value reflects the Total Transfer Capacity at the Italy North CCR level (the sum of all NTCs and the TRM) and is the ultimate TTC output value of the Capacity Calculation process.

2.4.2 Final NTC [MW]

This is the ultimate NTC value, which is the output of the NTC calculation process. The global *Final NTC* value, at the Italy North CCR level, is obtained by subtracting the TRM value from the Final TTC value (see definition above). The *Final NTC* value displayed in the JAO publication tool is a *Final NTC* value per border, which is obtained by multiplying the global *Final NTC* value (at the CCR level) by the splitting factor relative to this particular border.

2.5 Allocation Constraints

On this page, information on the allocation constraints is provided if an allocation constraint was applied during (part of) the business day. If this is the case, Italy North TSOs will publish the following information for the affected timestamps:

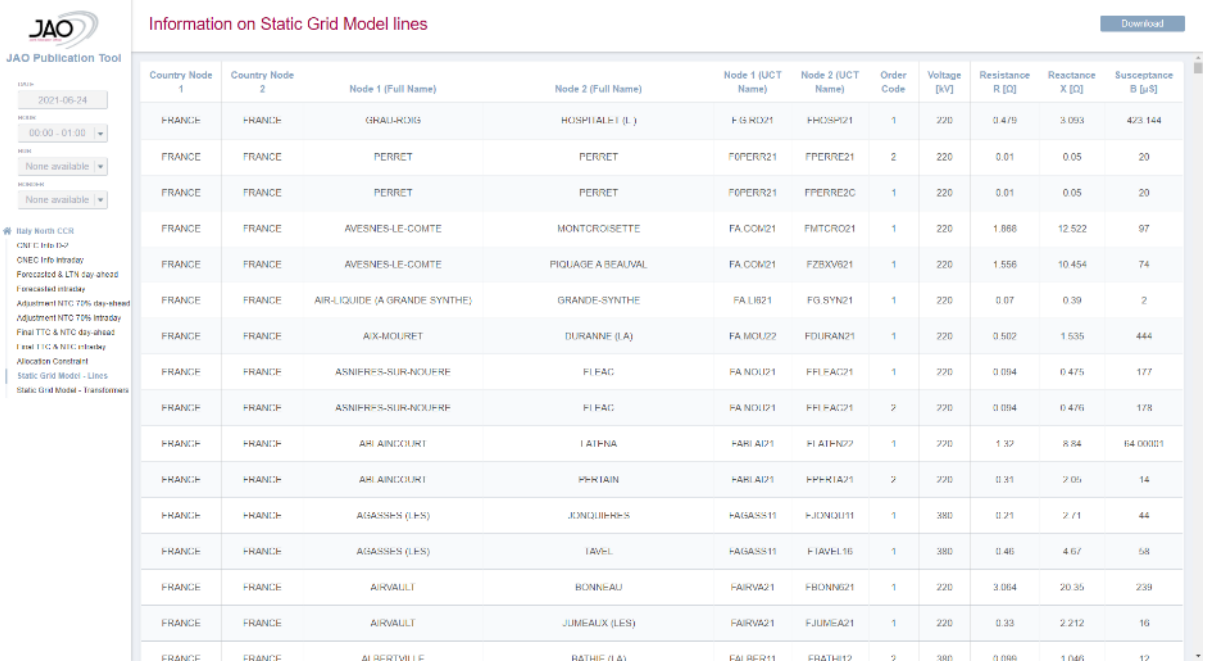
- Expected Total Load (MW)
- Expected total non-dispatchable production (MW)

- Minimum dispatchable thermal generation needed to grant voltage and system stability (MW)
- Allocation constraint (MW): in case no limitations are applied, “N/A” is published.

On this page, an explanatory note of the cross-dependence between the level of the allocation constraint and the published parameters is provided.

2.6 Static Grid Model – Lines

On this page, the information on the Static Grid Model lines is published. This information will be updated by Italy North TSOs on an annual basis, towards the end of each calendar year.

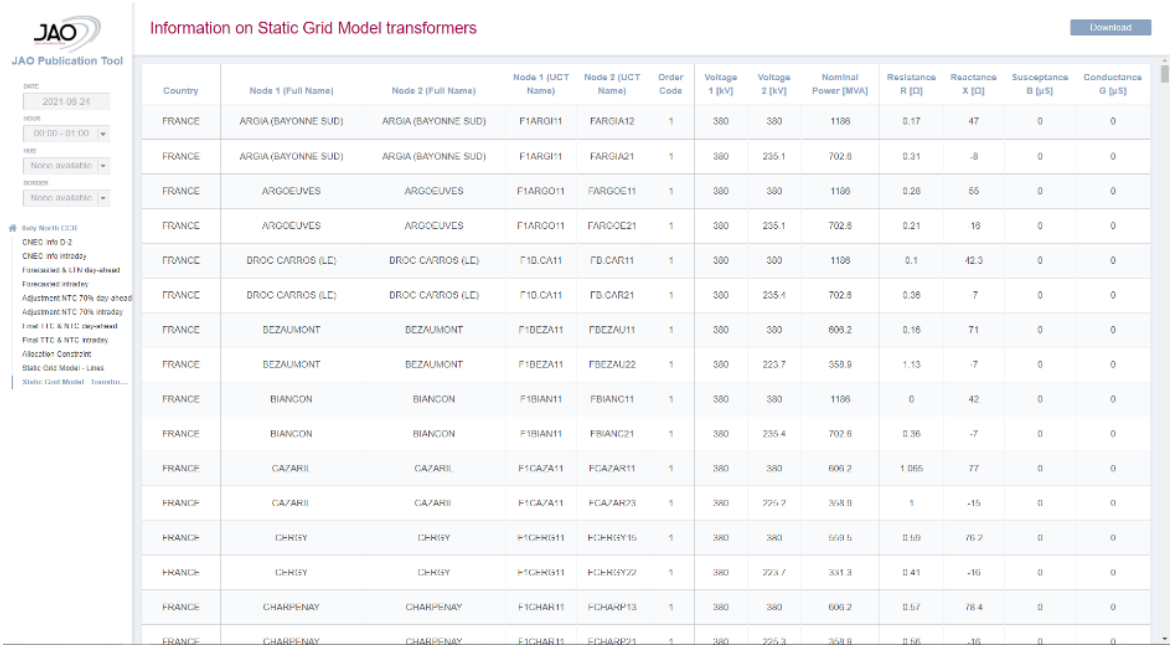


For each element, the following information is provided:

- Country Node 1 - name of country where Node belongs to
- Country Node 2 - name of country where Node belongs to
- Full Name Node 1 – full name of node 1
- Full Name Node 2 – full name of node 2
- Node 1 UCT Name - UCT name of node 1 where element is connected
- Node 2 UCT Name - UCT name of node 2 where element is connected
- Order code - order code of element
- Voltage (kV) - voltage level of element
- Resistance R (Ω) - electrical parameter of element
- Reactance X (Ω) - electrical parameter of element
- Susceptance B (µS) - electrical parameter of element

2.7 Static Grid Model – Transformers

On this page, the information on the Static Grid Model transformers is published. This information will be updated by Italy North TSOs on an annual basis, towards the end of each calendar year.



Country	Node 1 (Full Name)	Node 2 (Full Name)	Node 1 (UCT Name)	Node 2 (UCT Name)	Order Code	Voltage 1 [kV]	Voltage 2 [kV]	Nominal Power [MVA]	Resistance R [Ω]	Reactance X [Ω]	Susceptance B [µS]	Conductance G [µS]
FRANCE	ARGIA (BAYONNE SUD)	ARGIA (BAYONNE SUD)	F1ARGI11	FARGIA12	1	380	380	1186	0.17	47	0	0
FRANCE	ARGIA (BAYONNE SUD)	ARGIA (BAYONNE SUD)	F1ARGI11	FARGIA21	1	380	235.1	702.8	0.31	-8	0	0
FRANCE	ARGOEUVES	ARGOEUVES	F1ARGO11	FARGOE11	1	380	380	1186	0.28	55	0	0
FRANCE	ARGOEUVES	ARGOEUVES	F1ARGO11	FARGOE21	1	380	235.1	702.8	0.21	16	0	0
FRANCE	DROC CARROS (LE)	DROC CARROS (LE)	F1D.CA11	FD.CAR11	1	380	380	1186	0.1	42.3	0	0
FRANCE	DROC CARROS (LE)	DROC CARROS (LE)	F1D.CA11	FD.CAR21	1	380	235.4	702.8	0.36	7	0	0
FRANCE	BEZAUMONT	BEZAUMONT	F1BEZA11	FBEZAU11	1	380	380	606.2	0.16	71	0	0
FRANCE	BEZAUMONT	BEZAUMONT	F1BEZA11	FBEZAU22	1	380	223.7	358.9	1.13	-7	0	0
FRANCE	BIANCON	BIANCON	F1BIAN11	FBIANC11	1	380	380	1186	0	42	0	0
FRANCE	BIANCON	BIANCON	F1BIAN11	FBIANC21	1	380	235.4	702.8	0.36	-7	0	0
FRANCE	CAZARIL	CAZARIL	F1CAZA11	FCAZAR11	1	380	380	606.2	1.065	77	0	0
FRANCE	CAZARIL	CAZARIL	F1CAZA11	FCAZAR23	1	380	225.7	358.9	1	-15	0	0
FRANCE	CHRISY	CHRISY	F1CHRG11	FCHRISY15	1	380	380	668.5	0.59	76.7	0	0
FRANCE	CHRISY	CHRISY	F1CHRG11	FCHRISY22	1	380	223.7	331.3	0.41	-16	0	0
FRANCE	CHARPENAY	CHARPENAY	F1CHAR11	FCHARP13	1	380	380	606.2	0.57	78.4	0	0
FRANCE	CHARPENAY	CHARPENAY	F1CHAR11	FCHARP21	1	380	225.3	358.9	0.56	-16	0	0

For each element, the following information is provided:

- Country - name of country to which the transformer belongs to
- Full Name Node 1 - full name of node 1
- Full Name Node 2 – full name of node 2
- Node 1 UCT Name - UCT name of node 1 where element is connected
- Node 2 UCT Name - UCT name of node 2 where element is connected
- Order code - order code of element
- Voltage 1 (kV) - electrical parameter of element – nominal voltage of transformer's primary winding
- Voltage 2 (kV) - electrical parameter of element - nominal voltage of transformer's secondary winding
- Nominal Power (MVA) - electrical parameter of element
- Resistance R (Ω) - electrical parameter of element
- Reactance X (Ω) - electrical parameter of element
- Susceptance B (µS) - electrical parameter of element
- Conductance (µS) - electrical parameter of element

2.8 Validation (day-ahead and intraday)

On these pages, for each market time unit, the following information about reductions in the Validation Phase per country is provided:

Global Validation X [MW]
This value represents a new value for the Maximum Northern Italian import triggered by country X. If this value is lower than the calculation result, out of the lowest value a new total transfer capacity and net transfer capacity is calculated.

Bilateral validation X [MW]
This value represents a new value of the bilateral NTC X->IT triggered by country X.

Reason X
This value represents the explanation of the reduction applied by X.

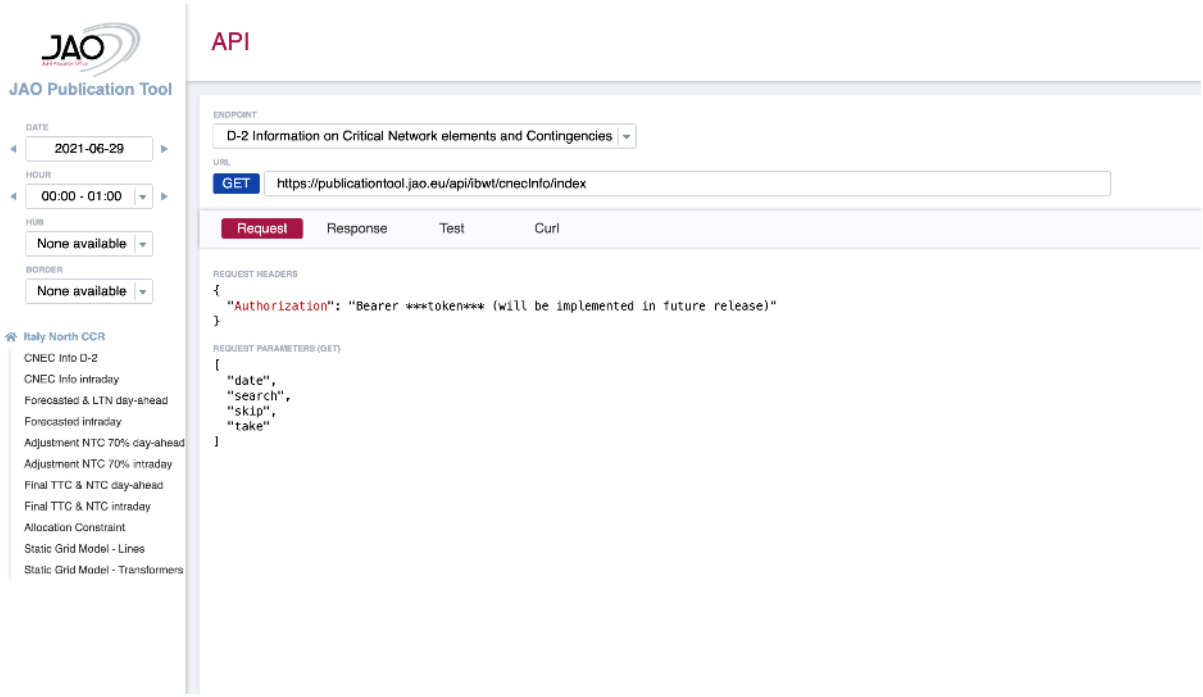
3 Web Service

On https:// publicationtool.jao.eu/ibwt/api, users will find:

- Endpoint (drop down): Displays the different available publications.
- Request-tab: Displays the parameter structure which will be needed to retrieve the data, as it is a GET-method it will be needed to append the parameters to the URL
- Response-tab: displays how the response will be structured
- Test-tab: what the URL looks like with the provided parameters.

Before using web services, please note the following:

- An authentication token will be required in the future to access web services
- All Timestamp and Date parameters are stored and used in UTC (Coordinated Universal Time)
- All parameter values should be encoded in UTF-8
- All endpoints should be called via the GET-method
- The RESTful-API should be called via HTTPS and returns JSON



4 Publication tool (underlying architecture)

The publication tool website is developed with a .netCore backend and a react frontend, communicating via rest-api.

A .netCore service runs on a separate server saving all data retrieved via FTP into an SQL-database.

6 Downloading data

Users are able to download data in two formats (CSV or XML) via the “Download” button on the right upper corner. Users may opt to download data covering a range of days or a single day. If preferred, further filtering option to download specific time period is also available.
A download option for the Border Data Overview page is not planned as it is an overview page.

The main date filter in the navigation bar allows users to select and display data for a given day. Displaying multiple days in the GUI is not foreseen due to large volume of data (especially for domain pages).

The download option allows users additional filter functionality, users have an option to:

- Download a larger dataset (>24 hours)
- Download a shorter dataset (<24 hours)

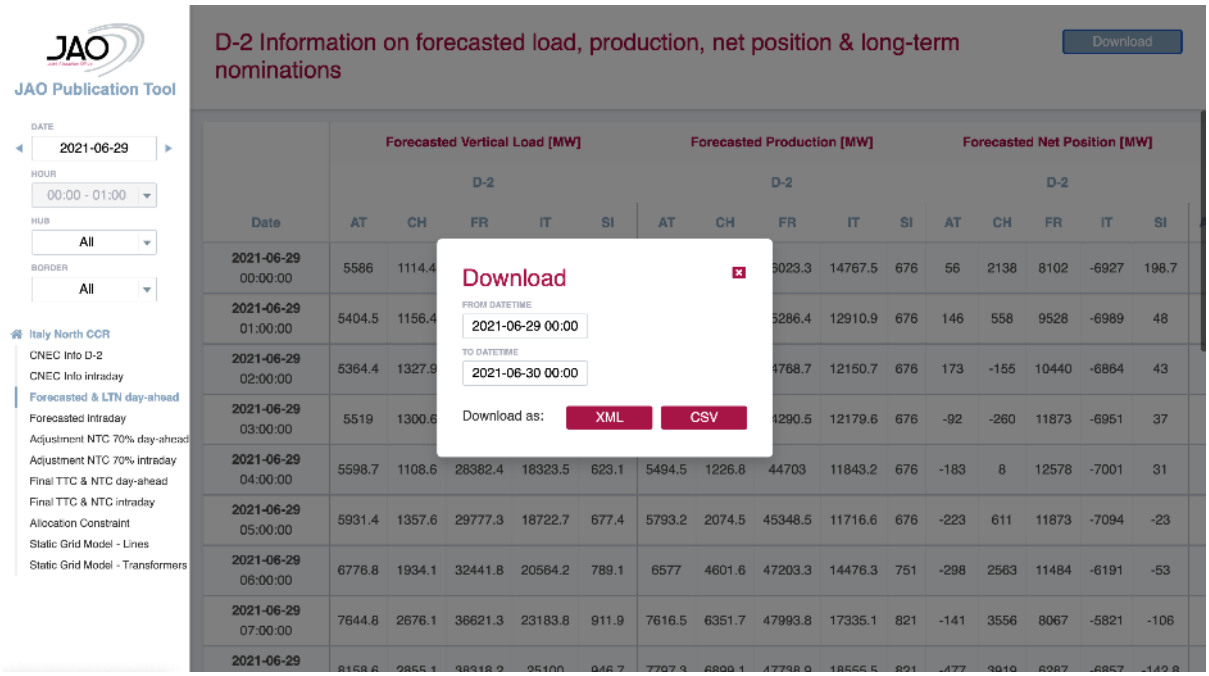


Figure 2: Example for data downloading screen