CROATIAN POWER EXCHANGE

USER GUIDE DA AND ID Auctions

***Last update:* 13.8.2024**

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1 DA and ID - Auctions MEMBER TESTING

1.1 HOW TO ACCESS THE TEST SYSTEM

URL

The Day Ahead Web test system can be accessed from here: https://auctions.test.cropex.hr

Login

You login almost the same way as in production:

- Username: TEST_"your Username in production"
- Password: The same as in production

2 GETTING STARTED

CROPEX Auction uses a web-based trading client which is accessible via the link below. Please use the latest version of the internet browsers Chrome, Firefox, or Internet Explorer (JavaScript and Local Storage needs to be enabled).

https://auctions.cropex.hr

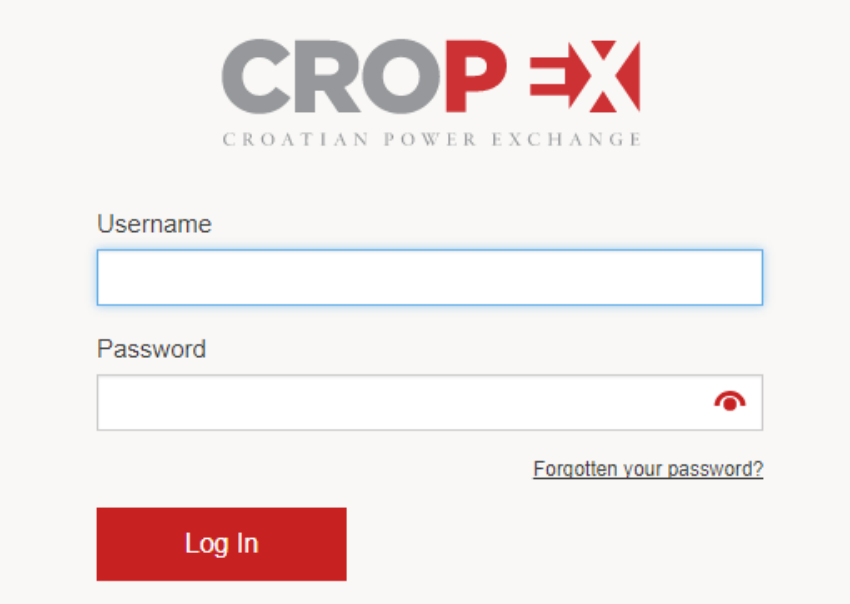
2.1 How to Log In

The platform utilizes CROPEX's Single Sign On (SSO) with 2-Factor Authentication (2FA):

- **SSO** makes it possible to access all CROPEX products with one single user account.
- **2FA** is security step to ensure the right person is accessing the account. To learn more about 2FA, please see **chapter 2.2.**

Access the platform via https://auctions.cropex.hr

1. Type in your Username and Password
    - **For the first use: It is important to choose the appropriate password according to the instructions in chapter 2.1.1. Password policy**



2. Click "Log in"

3. Provide your 2-Factor Authentication (**For the first use: please see chapter 2.2. 2-Factor Authentication)**

2.1.1 Password policy

The first time you sign in to your SSO account you are asked to make a personal password.

The requirements for the password is:

- **At least eight characters**
- **At least one lowercase letter**
- **At least one uppercase letter**
- **At least one number**
- **At least one special character from the following ! @ # & ( ) – [{ }] : ; ' , ? / ***

To reset your password, click on "Forgotten your password?" from the login screen and follow the instructions on the screen.

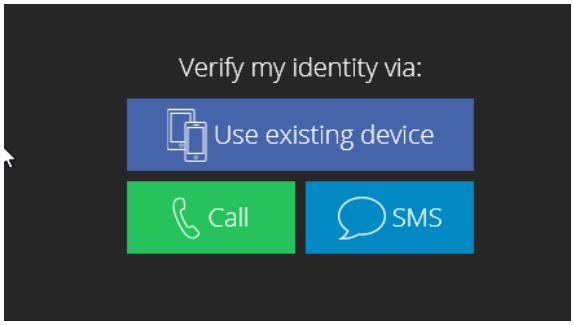
2.2 2-Factor Authentication

Access to the platform (Single Sign on Solution - SSO) is based on Nord Pool security protocol - 2-Factor Authentication security system.

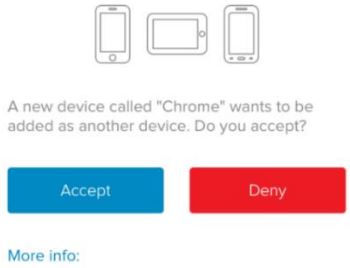
2.2.1 2FA install Authy app

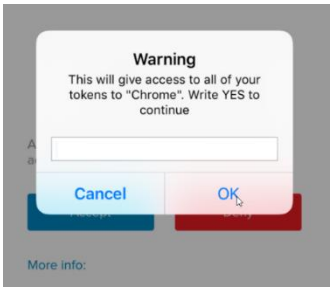
You can also use Auhty app in parallel.

After the installation of Authy app, you can approve the app with one touch in the **mobile app**.



You will get a request in the app to approve the access will look something like this:

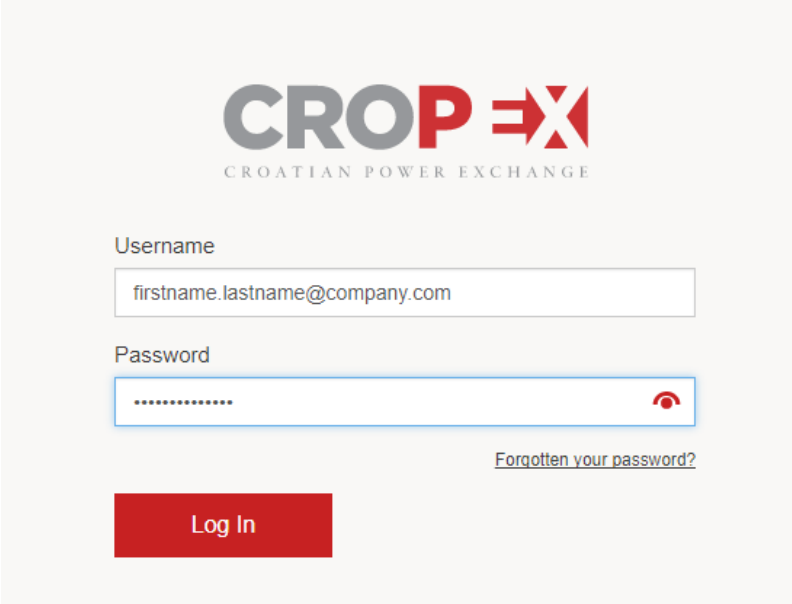




2.2.2 Using 2-Factor Authentication for login

Step 1: Username and password

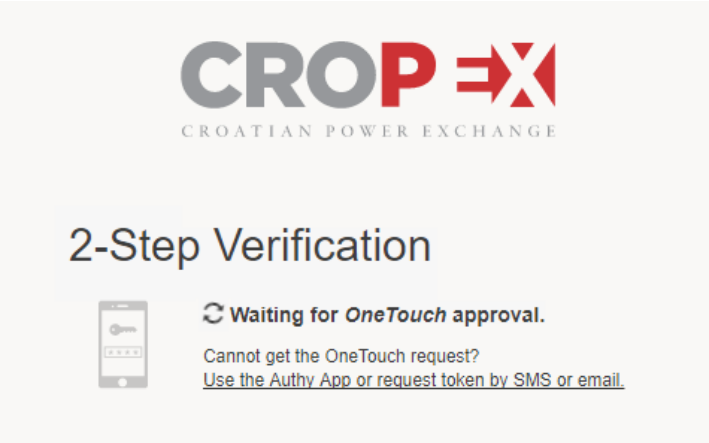
Enter your username and password for login as normal:



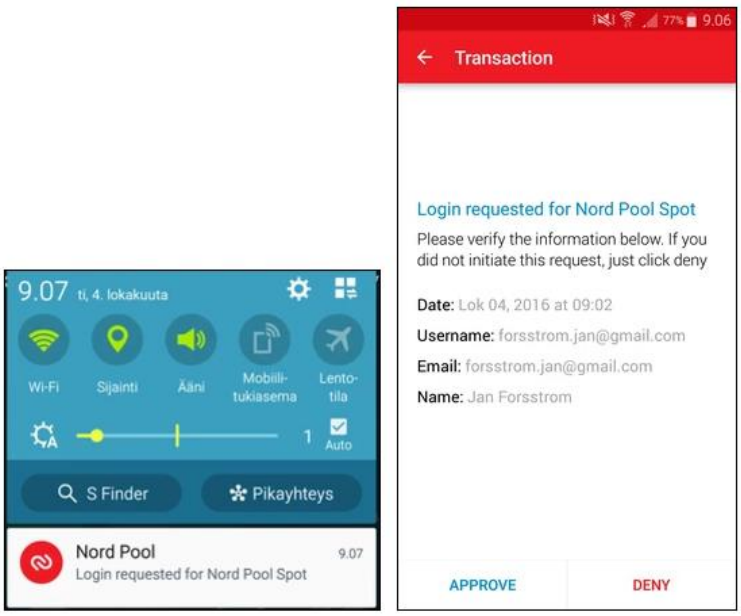
After you click on Log In, you will be re-directed to the next step in the process for 2-Factor Authentication

Step 2: 2-Factor Authentication

OneTouch approval can be used as the primary authentication method:



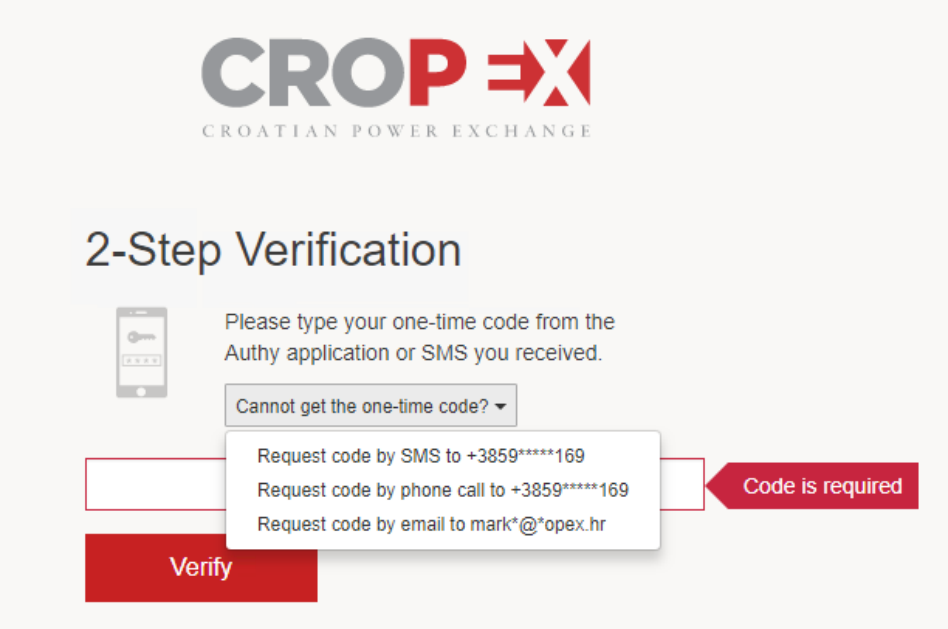
In the mobile phone (Android), the following views appear:



One-Time Token delivered with SMS, Phone Call or email

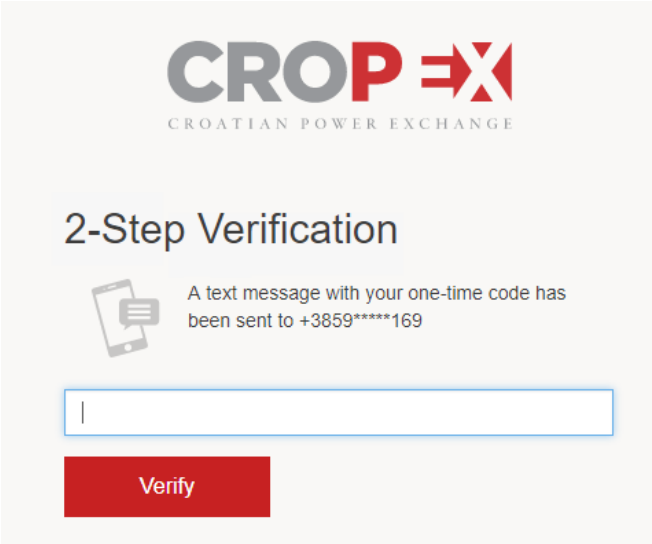
If the user has no Authy App installed in mobile, cannot access them at the given time, or does not want to use them, you can always order a One-Time Token via the following delivery methods:

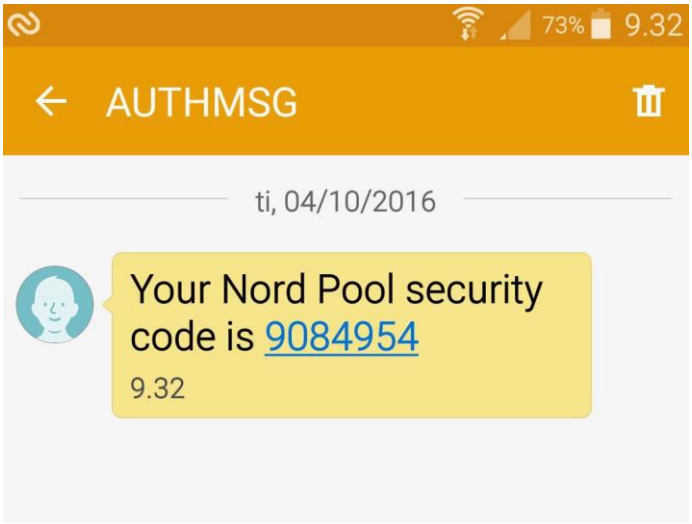
- SMS message (to the mobile number stored in CROPEX user database)
- Phone call (to the mobile number stored in CROPEX user database)
- Email (to the email stored in CROPEX user database)



SMS:

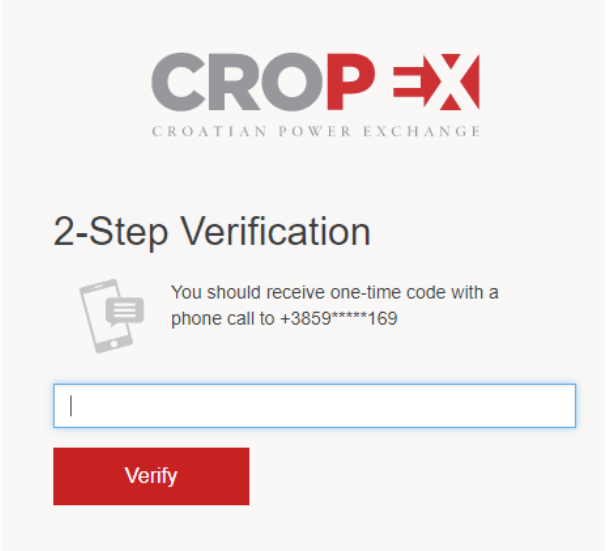
The user may request the Time-Based token to be delivered with an SMS by selecting this option from the dropdown list. The following screen is displayed, and the SMS contains the token to be used:





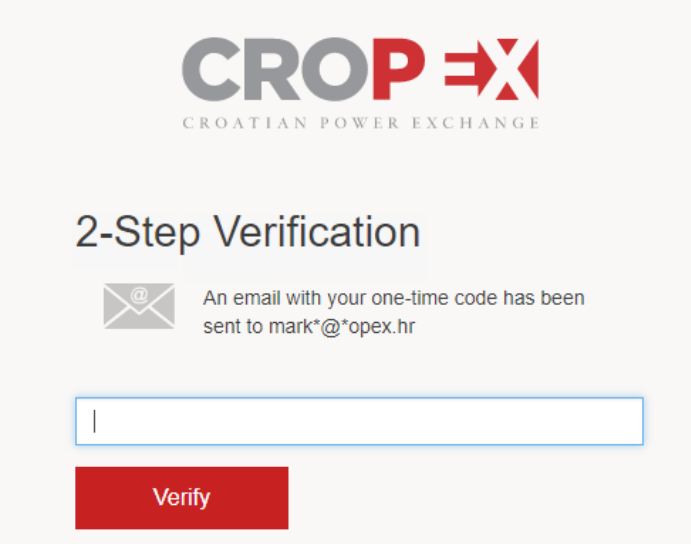
Phone Call:

An automated call is made to the mobile phone number of the user. The user is asked to press 1, if she was expecting this call from CROPEX. After that, the One-Time Token is read one number at a time, and the code is repeated after it is read the first time. The following screen is displayed, and the user can type the token while it is being read on the phone:



Email:

An email is sent to the user, and the following screen is displayed:

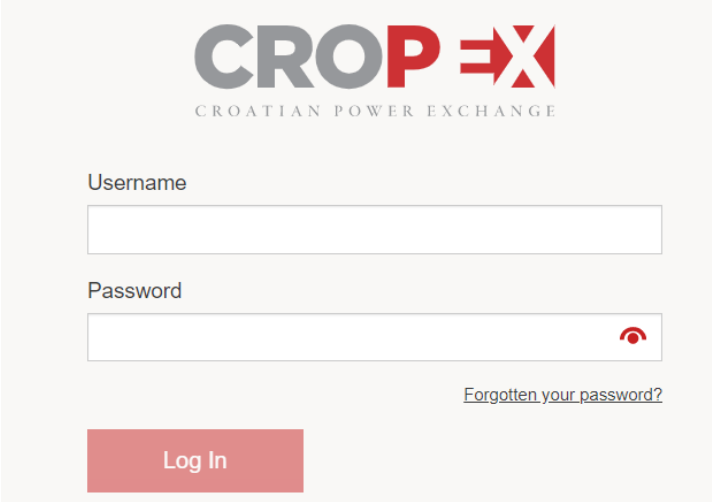


2.3 Accessing the platform

How to log in

To log in go to https://auctions.cropex.hr

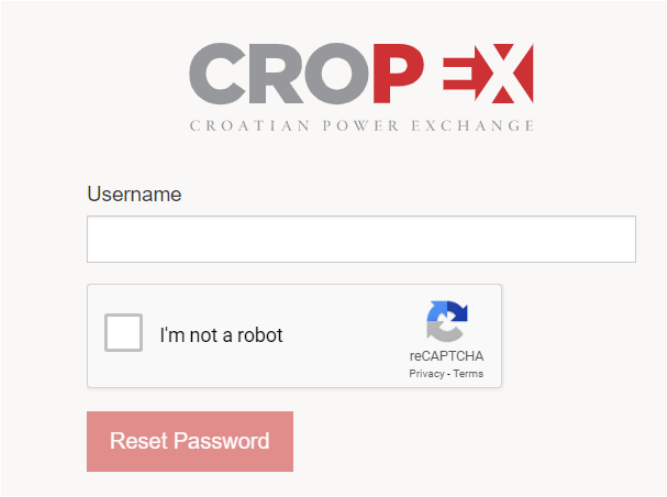
1. Enter your SSO username (e-mail address) in the first field
2. Enter your personal password in the second field
3. Click "Log In" to access the day-ahead trading system



Forgotten your password?

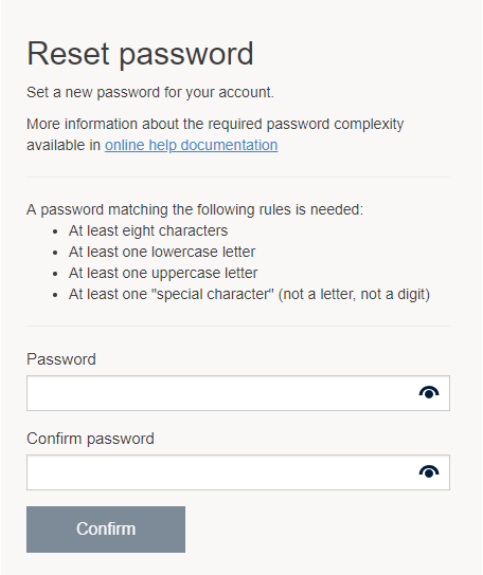
If you have forgotten your password, please click "Forgotten your password?"

1. Enter your username
2. Click "I'm not a robot" (follow verification steps if applicable)
3. Click "Reset Password"



You will receive an e-mail to your registered e-mail address.

1. Click on the link to reset the password in the e-mail
2. Type your new password in the password fields
3. Click "Confirm"
4. Log in with your new password



Problems logging in?

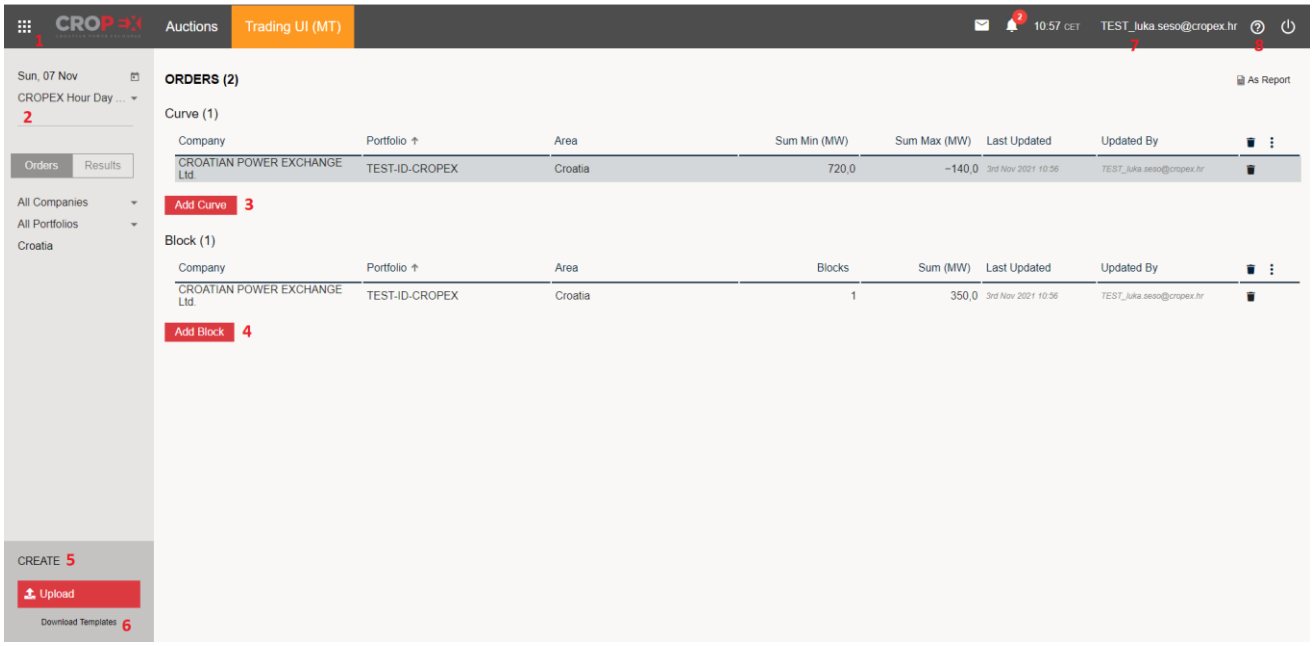
If you have problems logging in or you have forgotten your password, please contact CROPEX trading desk at +385 1 55 66 700 or via e-mail at support@cropex.hr.

3 THE OVERVIEW

3.1 The Home Screen Explained

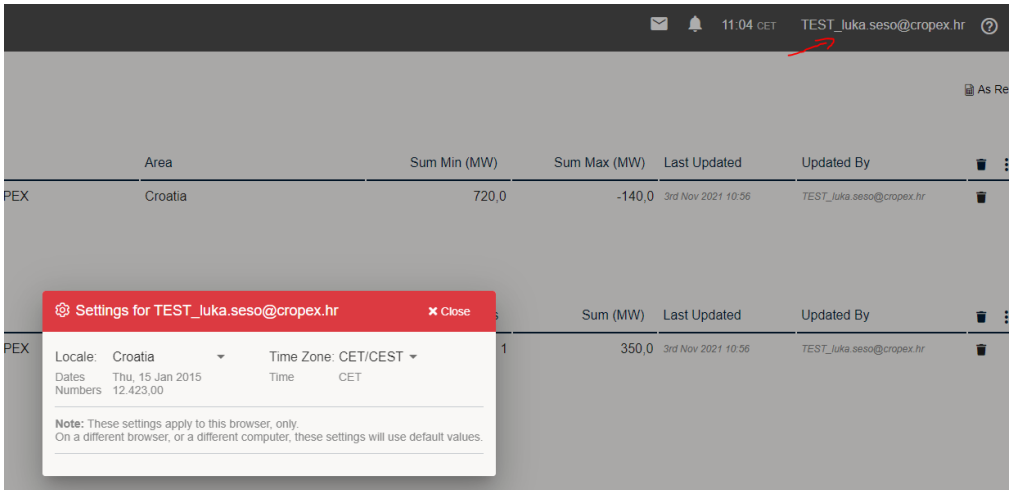
On the Home Screen you have the following options:

1. Easily navigate between the CROPEX systems (Auction system, Intraday, CASS, etc.). You will only be able to navigate across systems where you have approved access.
2. Filter your view by using the calendar icon and drop-down box within the filter panel on the left-hand side, filter between:
    - Auction Delivery Date
    - Auction
    - Order and Results view
    - Members (if you are registered to trade on behalf of multiple entities these can be selected here)
    - Portfolios (here you can choose the portfolio that you would like to use for submission/results)
    - Area
3. Add your Curve (hourly) orders by clicking "**Add Curve**".
4. Add your Block orders by clicking "**Add Block**".
5. Add your orders (Curve and/or Block) by using the "**Upload**" button and import through already filled our Excel template.
6. "**Download Templates**" to easily fill in orders in an Excel template.
7. Access your User Settings by clicking on the name of your user.
8. Access support page for User Guide.



3.2 How to change User Settings

To change the User Settings, **click on the username** in the Banner as shown in the picture below and a Settings box will open where you can change and save your preferences for **Locale**, **Time Zone** and **Session** inactivity timer.



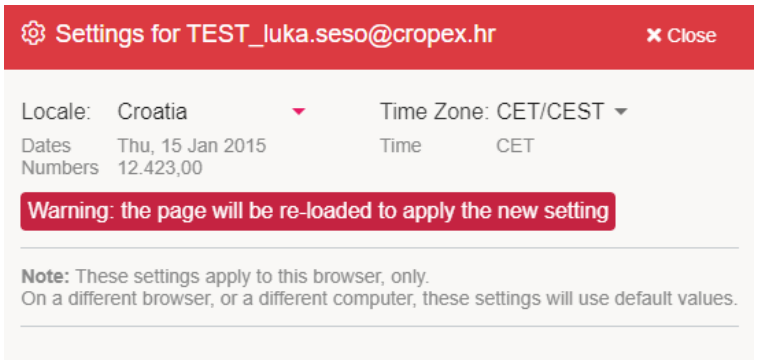
Important: settings per computer and browser

Be aware that all settings are per computer and per browser, and not per user. If you are using a different browser or computer, remember to change the settings accordingly, as these will be set to default values.

Locale will set your preference for Date and Number formats

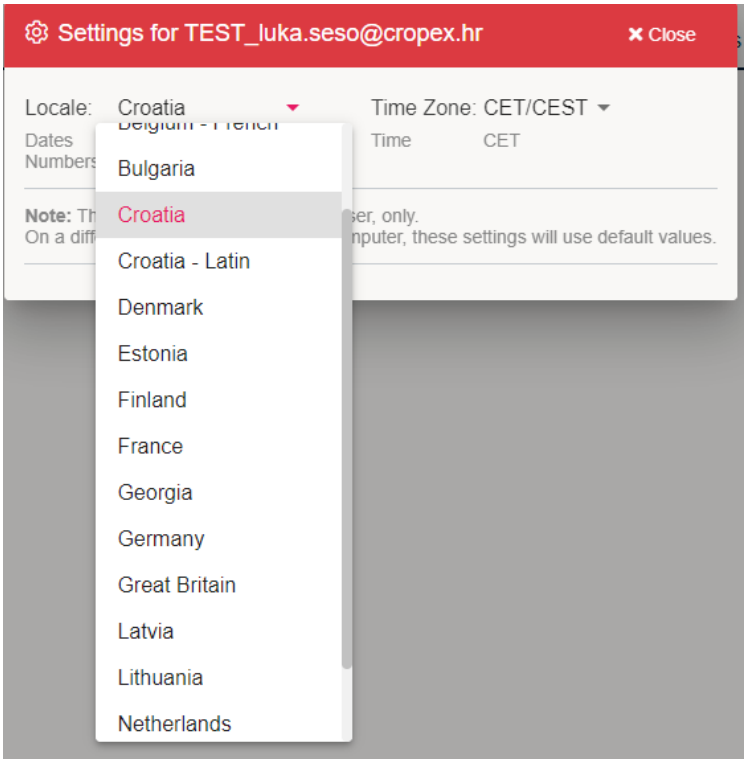
Example:

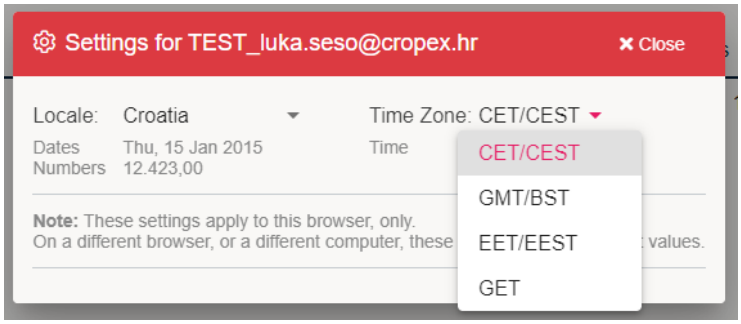
- If you have UK settings on your computer/Excel, the decimal separator is ".".
- If you have Croatia set as your **Locale** setting, the Auctions platform will read "," as your decimal separator.
- In this case, the auction system would not read the values from your UK-formatted Excel sheet as numbers. To have the system settings aligned with your local computer settings, change the **Locale** preference to "**Croatia**". Once you have selected your new locale preference, the system will give you the following warning:



Click "**Close**" in the upper right corner and the page will automatically be re-loaded.

- **Time Zone** can be either CET/CEST (Central European Time / Central European Summer Time), GMT/BST (Greenwich Mean Time / British Summer Time), EET/EEST (Eastern European Time/ Eastern European Summer Time)
    - The time zone influences:
        - The time stamps displayed on the visualisations.
        - The start and stop times used for entering block orders directly in the platform (00:00 - 24:00 for CET/CEST).
        - The time shown in the application bar.
        - In the Excel template, and additional field is required for specifying the relevant time zone for the order(s).





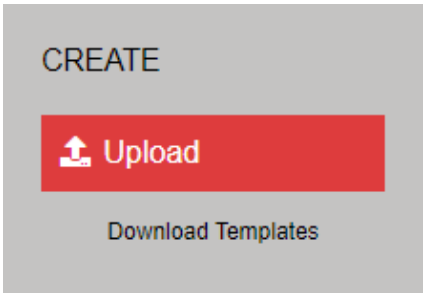
4 ORDERS

You can submit and update orders in two different ways:

1. You can upload orders using our Excel templates.
2. You can create/update your order in an Excel file, and thereafter copy the orders and paste it directly into the application with the “Add curve” or “Add block” button.
3. Copy orders from the past

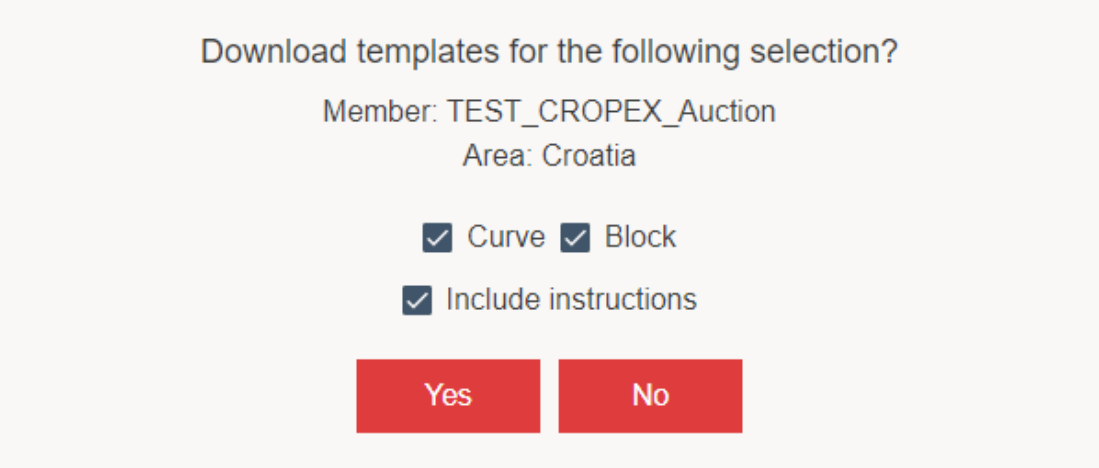
4.1 Excel Templates -> Introduction to Excel Template

The platform allows for uploading bids via Excel sheets. Click "**Download Templates**" in the bottom left corner of the platform to download the Excel templates.



A pop-up window appears, asking what order types you want the templates for. Click "**Yes**" to download the templates.

- Optional: Select the option to "**Include Instructions**" in the Excel file



Open the file as downloaded by your browser. The first seven rows must be included and are automatically filled with current information.

1	Type	**Curve**
2	Exported At	**21/06/2021 13:45 CEST**
3	Time Zone	**CEST**
4	Member	**TEST_CROPEX_Auction**
5	Portfolio	**PortfolioTestBuy**
6	Area	**Croatia**
7	Currency	**EUR**

- *Type:* Type of order.
- *Exported At*: Export time for the Excel sheet (no changes needed).
- *Time Zone*: Time zone for the bid (Time zone is determined by the User Settings)
- *Member:* Name of organization sending in the bids.
- *Portfolio:* Name of portfolio to submit bids for.
- *Area:* Which area to place bids in.
- *Currency:* Currency for the bids.

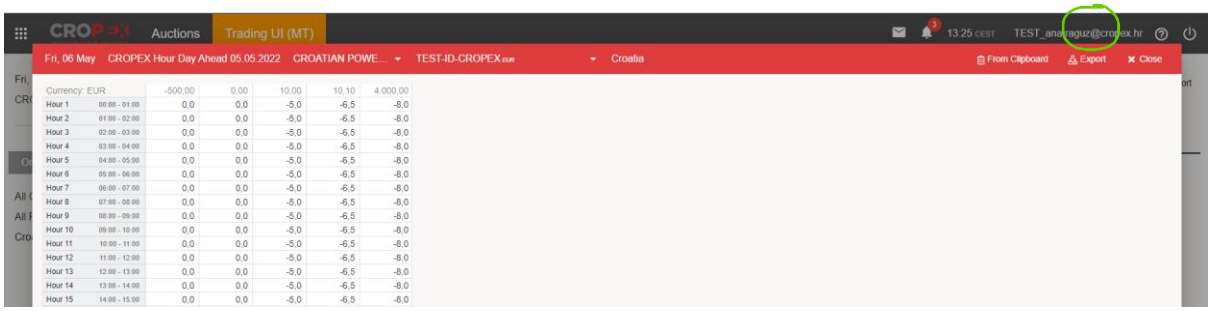
You will find templates for the chosen order types and portfolios in different tabs in the bottom left corner of the Excel sheet.

- Instructions will also appear in separate tabs of the Excel files, if the "**Include Instructions**" was selected when the template was downloaded.

It is also possible to download the current orders you have submitted to the platform. Two options exist:

To export all orders already submitted in the platform, click "**As Report**". This will export all orders submitted for the auction date selected.

To export a certain order, use the "**Export**" functionality from the order detail view.



After exporting the orders from the platform, you are free to make changes in Excel and re-upload them again using the "**Upload**" or "**Add**" buttons.

4.2 How to submit Curve orders from an Excel file

- Start by either **1)** downloading an empty Excel template or **2)** exporting an existing order.
- How to download an empty Excel template and export existing order is described in the previous chapter.
- **Day-Ahead Market:**
- Enter orders and price steps in the Excel template:
  - Positive volume = BUY
  - Negative volume = SELL
  - Minimum price (must be included) = -500 EUR
  - Maximum price (must be included) = 4000 EUR
  - Tick size = 0,01 EUR/MWh
  - Trade lot = 0,1 MW
  - Maximum 200 price steps
- In the Excel file, mark the price steps and the hourly volumes (DAM) and press **Ctrl + C**.

Type	**Curve**				
Exported At	**06/05/2022 09:51 CEST**				
Time Zone	**CEST**				
Member	**CROATIAN POWER EXCHANGE Ltd.**				
Portfolio	**TEST-ID-CROPEX**				
Area	**Croatia**				
Currency	**EUR**				
Price Steps	**-500,00**	**0,00**	**10,00**	**10,10**	**4000,00**
Hour 1	0,0	0,0	-5,0	-6,5	-8,0
Hour 2	0,0	0,0	-5,0	-6,5	-8,0
Hour 3	0,0	0,0	-5,0	-6,5	-8,0
Hour 4	0,0	0,0	-5,0	-6,5	-8,0
Hour 5	0,0	0,0	-5,0	-6,5	-8,0
Hour 6	0,0	0,0	-5,0	-6,5	-8,0
Hour 7	0,0	0,0	-5,0	-6,5	-8,0
Hour 8	0,0	0,0	-5,0	-6,5	-8,0
Hour 9	0,0	0,0	-5,0	-6,5	-8,0
Hour 10	0,0	0,0	-5,0	-6,5	-8,0
Hour 11	0,0	0,0	-5,0	-6,5	-8,0
Hour 12	0,0	0,0	-5,0	-6,5	-8,0
Hour 13	0,0	0,0	-5,0	-6,5	-8,0
Hour 14	0,0	0,0	-5,0	-6,5	-8,0
Hour 15	0,0	0,0	-5,0	-6,5	-8,0
Hour 16	0,0	0,0	-5,0	-6,5	-8,0
Hour 17	0,0	0,0	-5,0	-6,5	-8,0
Hour 18	0,0	0,0	-5,0	-6,5	-8,0
Hour 19	0,0	0,0	-5,0	-6,5	-8,0
Hour 20	0,0	0,0	-5,0	-6,5	-8,0
Hour 21	0,0	0,0	-5,0	-6,5	-8,0
Hour 22	0,0	0,0	-5,0	-6,5	-8,0
Hour 23	0,0	0,0	-5,0	-6,5	-8,0
Hour 24	0,0	0,0	-5,0	-6,5	-8,0

- **Intraday Auctions:**

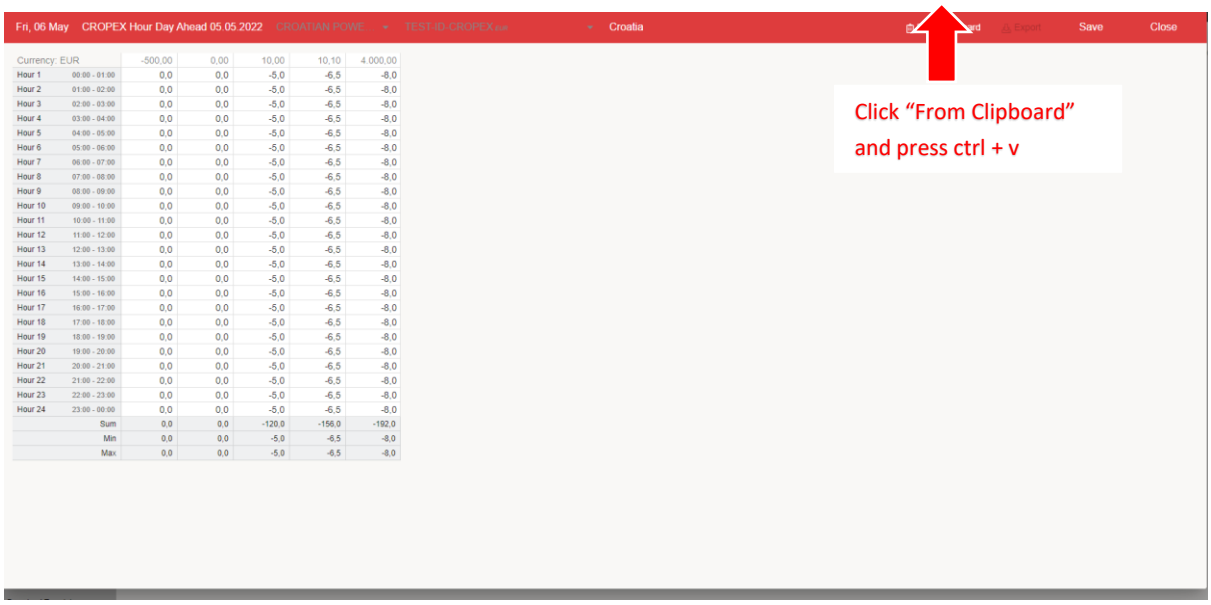
- Enter orders and price steps in the Excel template:
  - Positive volume = BUY
  - Negative volume = SELL
  - Minimum price (must be included) = -9999 EUR
  - Maximum price (must be included) = 9999 EUR
  - Tick size = 0,01 EUR/MWh
  - Trade lot = 0,1 MW
  - Maximum 200 price steps
- In the Excel file, mark the price steps and the quarter hourly volumes (IDA) and press **Ctrl + C**.

Type	Curve
Exported At	20/06/2024 11:09 CEST
Time Zone	CEST
Member	CROATIAN POWER EXCHANGE Ltd.
Portfolio	IDA_TEST_CROPEX
Area	Croatia
Currency	EUR

Price Steps	-9999,00	0,00	10,00	10,10	9999,00
Quarter Hour 1	0	0	-5,00	-6,50	-8,00
Quarter Hour 2	0	0	-5,00	-6,50	-8,00
Quarter Hour 3	0	0	-5,00	-6,50	-8,00
Quarter Hour 4	0	0	-5,00	-6,50	-8,00
Quarter Hour 5	0	0	-5,00	-6,50	-8,00
Quarter Hour 6	0	0	-5,00	-6,50	-8,00
Quarter Hour 7	0	0	-5,00	-6,50	-8,00
Quarter Hour 8	0	0	-5,00	-6,50	-8,00
Quarter Hour 9	0	0	-5,00	-6,50	-8,00
Quarter Hour 10	0	0	-5,00	-6,50	-8,00
Quarter Hour 11	0	0	-5,00	-6,50	-8,00
Quarter Hour 12	0	0	-5,00	-6,50	-8,00
Quarter Hour 13	0	0	-5,00	-6,50	-8,00
Quarter Hour 14	0	0	-5,00	-6,50	-8,00
Quarter Hour 15	0	0	-5,00	-6,50	-8,00
Quarter Hour 16	0	0	-5,00	-6,50	-8,00
Quarter Hour 17	0	0	-5,00	-6,50	-8,00
Quarter Hour 18	0	0	-5,00	-6,50	-8,00
Quarter Hour 19	0	0	-5,00	-6,50	-8,00
Quarter Hour 20	0	0	-5,00	-6,50	-8,00
Quarter Hour 21	0	0	-5,00	-6,50	-8,00
Quarter Hour 22	0	0	-5,00	-6,50	-8,00
Quarter Hour 23	0	0	-5,00	-6,50	-8,00
Quarter Hour 24	0	0	-5,00	-6,50	-8,00
Quarter Hour 25	0	0	-5,00	-6,50	-8,00
Quarter Hour 26	0	0	-5,00	-6,50	-8,00
Quarter Hour 27	0	0	-5,00	-6,50	-8,00
Quarter Hour 28	0	0	-5,00	-6,50	-8,00
Quarter Hour 29	0	0	-5,00	-6,50	-8,00

- **Price Steps**
  The first row in the screenshot above shows the price steps. Minimum and maximum price is included by default and must always have their own columns even though you have no volumes in these (depending on sell or buy bid). It is possible to have up to 200 price steps (including the minimum and maximum prices).

- **Volume**
  Insert volumes (MW) for each Power Hour and corresponding price step to make your Curve Orders. Positive (+) volume means buy bids, and negative (-) volume means sell bids. If you leave a volume field empty, the platform will read it as a zero. Hour 1 is 00:00 - 01:00 CET, Hour 2 is 01:00 - 02:00 CET, and so on.
- In the Auctions platform,
  - "Add Curve"
  - Select portfolio
  - Click "From Clipboard" and press **Ctrl + V**
  - "Save" and "Close"



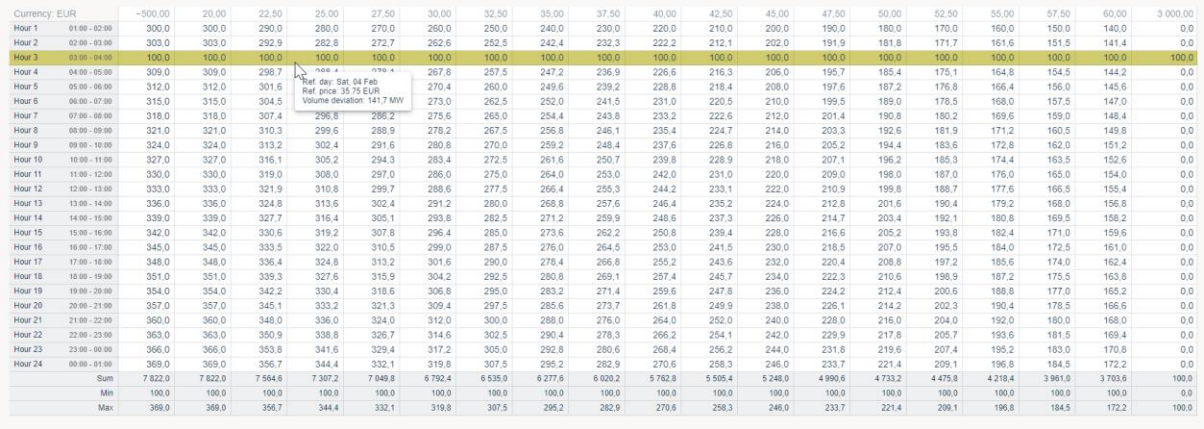
4.2.1 Reasonability check tool in Trading UI

Reasonability check calculation will now be available to members, in case their order is flagged. This is similar to the Reasonability check assist that was previously in place in the Day-ahead Web. This improvement is expected to make it easier to identify bidding errors, as members will receive notifications if their orders deviate from previous days based on the reference day price.

a) "When an order is flagged, it will be highlighted in yellow in the Trading UI. The member can choose to "approve" the order from this view, if desired."

Note that the approval has nothing to do with the order being accepted in the orderbook or not. Orders market in yellow are part of the orderbook, it just highlights that it deviates from the volume at reference price – to encourage members to have a second look to verify that it is ok.

b) When the member clicks the portfolio to see the order detail view, the flagged hour(s) are shown in yellow. The member can hover over the flagged hour to see the reference day, reference price and the volume deviation.



Currency: EUR		-500,00	20,00	22,50	25,00	27,50	30,00	32,50	35,00	37,50	40,00	42,50	45,00	47,50	50,00	52,50	55,00	57,50	60,00	3 000,00
Hour 1	01:00 - 02:00	300,0	300,0	290,0	280,0	270,0	260,0	250,0	240,0	230,0	220,0	210,0	200,0	190,0	180,0	170,0	160,0	150,0	140,0	0,0
Hour 2	02:00 - 03:00	303,0	303,0	292,9	282,8	272,7	262,6	252,5	242,4	232,3	222,2	212,1	202,0	191,9	181,8	171,7	161,6	151,5	141,4	0,0
Hour 3	03:00 - 04:00	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Hour 4	04:00 - 05:00	309,0	309,0	298,7			267,8	257,5	247,2	236,9	226,6	216,3	206,0	195,7	185,4	175,1	164,8	154,5	144,2	0,0
Hour 5	05:00 - 06:00	312,0	312,0	301,6			270,4	260,0	249,6	239,2	228,8	218,4	208,0	197,6	187,2	176,8	166,4	156,0	145,6	0,0
Hour 6	06:00 - 07:00	315,0	315,0	304,5			273,0	262,5	252,0	241,5	231,0	220,5	210,0	199,5	189,0	178,5	168,0	157,5	147,0	0,0
Hour 7	07:00 - 08:00	318,0	318,0	307,4	296,8	286,2	275,6	265,0	254,4	243,8	233,2	222,6	212,0	201,4	190,8	180,2	169,6	159,0	148,4	0,0
Hour 8	08:00 - 09:00	321,0	321,0	310,3	299,6	288,9	278,2	267,5	256,8	246,1	235,4	224,7	214,0	203,3	192,6	181,9	171,2	160,5	149,8	0,0
Hour 9	09:00 - 10:00	324,0	324,0	313,2	302,4	291,6	280,8	270,0	259,2	248,4	237,6	226,8	216,0	205,2	194,4	183,6	172,8	162,0	151,2	0,0
Hour 10	10:00 - 11:00	327,0	327,0	316,1	305,2	294,3	283,4	272,5	261,6	250,7	239,8	228,9	218,0	207,1	196,2	185,3	174,4	163,5	152,6	0,0
Hour 11	11:00 - 12:00	330,0	330,0	319,0	308,0	297,0	286,0	275,0	264,0	253,0	242,0	231,0	220,0	209,0	198,0	187,0	176,0	165,0	154,0	0,0
Hour 12	12:00 - 13:00	333,0	333,0	321,9	310,8	299,7	288,6	277,5	266,4	255,3	244,2	233,1	222,0	210,9	199,8	188,7	177,6	166,5	155,4	0,0
Hour 13	13:00 - 14:00	336,0	336,0	324,8	313,6	302,4	291,2	280,0	268,8	257,6	246,4	235,2	224,0	212,8	201,6	190,4	179,2	168,0	156,8	0,0
Hour 14	14:00 - 15:00	339,0	339,0	327,7	316,4	305,1	293,8	282,5	271,2	259,9	248,6	237,3	226,0	214,7	203,4	192,1	180,8	169,5	158,2	0,0
Hour 15	15:00 - 16:00	342,0	342,0	330,6	319,2	307,8	296,4	285,0	273,6	262,2	250,8	239,4	228,0	216,6	205,2	193,8	182,4	171,0	159,6	0,0
Hour 16	16:00 - 17:00	345,0	345,0	333,5	322,0	310,5	299,0	287,5	276,0	264,5	253,0	241,5	230,0	218,5	207,0	195,5	184,0	172,5	161,0	0,0
Hour 17	17:00 - 18:00	348,0	348,0	336,4	324,8	313,2	301,6	290,0	278,4	266,8	255,2	243,6	232,0	220,4	208,8	197,2	185,6	174,0	162,4	0,0
Hour 18	18:00 - 19:00	351,0	351,0	339,3	327,6	315,9	304,2	292,5	280,8	269,1	257,4	245,7	234,0	222,3	210,6	198,9	187,2	175,5	163,8	0,0
Hour 19	19:00 - 20:00	354,0	354,0	342,2	330,4	318,6	306,8	295,0	283,2	271,4	259,6	247,8	236,0	224,2	212,4	200,6	188,8	177,0	165,2	0,0
Hour 20	20:00 - 21:00	357,0	357,0	345,1	333,2	321,3	309,4	297,5	285,6	273,7	261,8	249,9	238,0	226,1	214,2	202,3	190,4	178,5	166,6	0,0
Hour 21	21:00 - 22:00	360,0	360,0	348,0	336,0	324,0	312,0	300,0	288,0	276,0	264,0	252,0	240,0	228,0	216,0	204,0	192,0	180,0	168,0	0,0
Hour 22	22:00 - 23:00	363,0	363,0	350,9	338,8	326,7	314,6	302,5	290,4	278,3	266,2	254,1	242,0	229,9	217,8	205,7	193,6	181,5	169,4	0,0
Hour 23	23:00 - 00:00	366,0	366,0	353,8	341,6	329,4	317,2	305,0	292,8	280,6	268,4	256,2	244,0	231,8	219,6	207,4	195,2	183,0	170,8	0,0
Hour 24	00:00 - 01:00	369,0	369,0	356,7	344,4	332,1	319,8	307,5	295,2	282,9	270,6	258,3	246,0	233,7	221,4	209,1	196,8	184,5	172,2	0,0
	Sum	7 822,0	7 822,0	7 564,6	7 307,2	7 049,8	6 792,4	6 535,0	6 277,6	6 020,2	5 762,8	5 505,4	5 248,0	4 990,6	4 733,2	4 475,8	4 218,4	3 961,0	3 703,6	100,0
	Min	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	0,0
	Max	369,0	369,0	356,7	344,4	332,1	319,8	307,5	295,2	282,9	270,6	258,3	246,0	233,7	221,4	209,1	196,8	184,5	172,2	100,0

Validation rules

Current reasonability check consists of three chained calculations for all time periods of a curve order in order to pass the validation. An order will be flagged if none of the three calculations are passed. The calculations executed are following (in order):

1. Absolute volume difference
2. Percentage difference
3. Standard Deviation

Any curve order change (new or update to existing) will trigger an asynchronous calculation of the reasonability results. For all calculation methods, a reference day is used to define prices (and orders for some calculation methods) to be used as part of calculations to see if there is significant difference in the order compared to the historical orders. Reference day is defined with following principles:

If Delivery Day is a weekday, the previous weekday with results is used as reference day price.

Example: For delivery day Tuesday (trading day Monday), results for delivery day Monday (trading day Sunday) is used as reference day price.

If Delivery Day is a weekend day, the previous weekend day with results is used as reference day price.

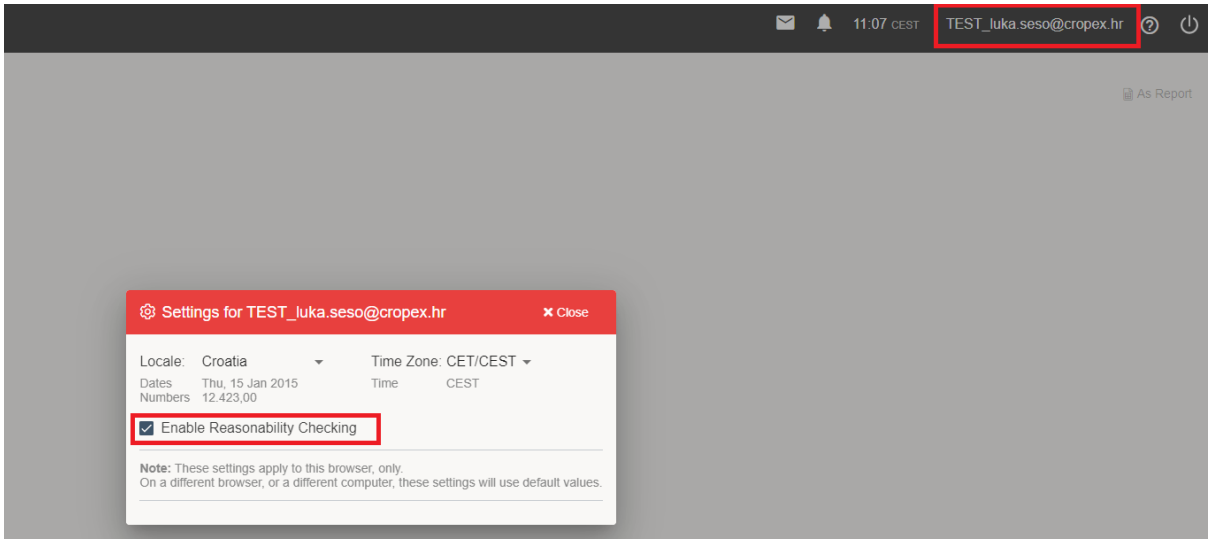
Example: For delivery day Sunday (trading day Saturday), results for delivery day Saturday (trading day Friday) is used as reference day price.

NOTE: There is no established logic to handle bank holidays. This may lead to more orders being flagged by reasonability check tool due the reference orders and prices corresponding with “normal” workdays rather than weekend or public holidays.

Important remark: Reasonability check tool does not prevent any orders from being part of the auction. It is meant as a tool to help distinguish anomalies compared to normal behavior in member bids, so that members can adjust/remove their bids before GCT if needed.

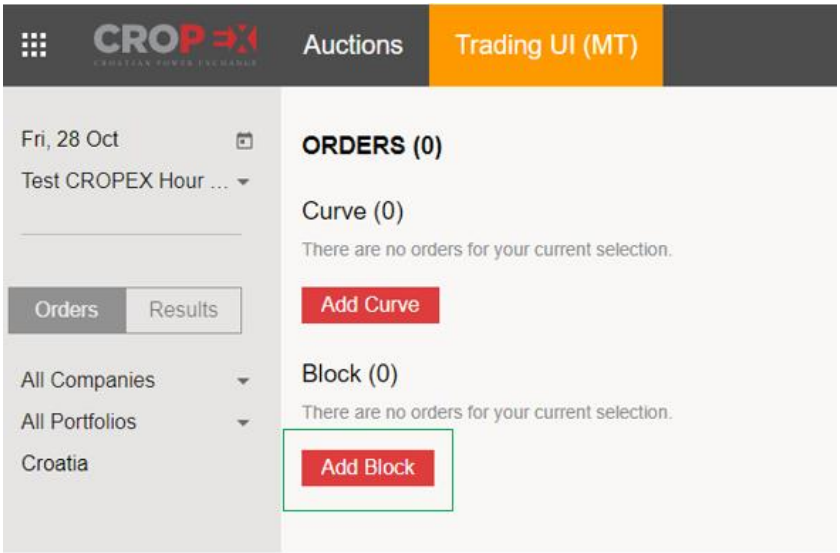
4.2.1.1 Reasonability check disable

Possibility to disable reasonability check in the Trading UI



4.3 How to manually enter Block orders directly in the Web UI (''Add block'' button)

- Click ''Add block'' button in the Orders view



- Fill all required fields and click "Done" to add block . Keep in mind that minimal acceptance ratio of order has to be 100 %.

- To add linked block it is necessary to link your block to an existing parent block in the optional Link Block field

4.4 How to submit Block orders from an Excel file

- Start by either **1)** downloading an empty Excel template or **2)** exporting an existing order.
- Download Excel sheets as explained in the introduction to Excel templates.
- Find the sheet named ''[portfolio name] Block'' and make your personalized bids.

Regular Block Orders

- Name
  Fill in the block name. All block names in the same portfolio must be unique.
- From – to
  Fill in for when the order is valid from and to.
- Volume
  For a regular block (same volume in each hour), fill in the volume column. Minus sign indicates a sale. Volumes can be defined to 1 decimal place.
- Price
  Strike price for the selected block
- Min.%
  Put minimum acceptance ratio to 100 %. If left empty, the system treats it as 100%.
- Link
  Not used for regular blocks and must be left empty.
- Hour 1-24
  Not used for regular blocks and must be left empty

Profile Blocks

- Name
  Fill in the block name. All block names in the same portfolio must be unique.
- From – to
  Fill in for when the order is valid from and to.
- Volume
  Leave empty
- Price
  Strike price for the selected block
- Min.%
  Put minimum acceptance ratio to 100 %. If left empty, the system treats it as 100%.
- Link
  Must be left empty, because it is not a linked block
- Hour 1-24
  Insert MW bids for each hour indicated in From and To

Linked Blocks

- Name
  Fill in the block name. All block names in the same portfolio must be unique.
- From – to
  Fill in for when the order is valid from and to.
- Volume
  MW to bid for the selected period
- Price
  Strike price for the selected block
- Min.%
  Put minimum acceptance ratio to 100 %. If left empty, the system treats it as 100%.
- Link
  Chose the block name you want to be the parent of the current block (block becomes child).
- Hour 1-24
  If block is not profile or spread leave empty

Spread Blocks

- Name
  Fill in the block name. All block names in the same portfolio must be unique.
- From – to
  Fill in for when the order is valid from and to.
- Volume
  Leave empty
- Price
  Strike price for the selected block
- Min.%
  Put minimum acceptance ratio to 100 %. If left empty, the system treats it as 100%.

- Link
  Choose the block name that should be linked to other
- Spread block
  ''TRUE'' should be inserted there
- Hour 1-24
  If block is not profile or spread leave empty

Examples:

In the Excel file, mark the cells containing the block order information (see picture below) and press **Ctrl + C**

Type	Block
Exported At	08/03/2024 14:43 CET
Time Zone	CET
Member	TEST_CROPEX_Auction
Portfolio	DA_TEST_1
Area	Croatia
Currency	EUR

Name	From	To	Volume	Price	Min.%	Link	SpreadBlock	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5	Hour 6	Hour 7	Hour 8	Hour 9	Hour 10
Test 1	0:00	4:00		40	100,00%												
Test 2	4:00	8:00		50	100,00%												

Example of regular blocks											
Name	From	To	Volume	Price	Min.%	Link	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5
Block 1	10:00	15:00	-300	150							
Block 2	11:00	16:00	-100	160							

Example of profile blocks											
Name	From	To	Volume	Price	Min.%	Link	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5
Profile 1	0:00	2:00		150			-25	-50			
Profile 2	0:00	3:00		150			-50	-100	-50	-100	

Example of linked block (both regular and profile)											
Name	From	To	Volume	Price	Min.%	Link	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5
Block 1	10:00	15:00	-300	150							
Block 2	11:00	16:00	-200	160		Block 1					
Block3	12:00	17:00	-100	170		Block 2					
Profile 1	0:00	2:00		150			-25	-50			
Profile 2	0:00	3:00		150		Profile 1	-35	-80	-80		
Profile 3	0:00	0:05		150		Profile 2	-50	-100	-100	-50	-50

Example of spread blocks																
Name	From	To	Volume	Price	Min.%	Link	SpreadBlock	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5	Hour 6	Hour 7	Hour 8	Hour 9
Spread1	0:00	4:00		40	100,00%	Spread2	TRUE	-50	-60	-40	-50					
Spread2	4:00	8:00		50	100,00%	Spread1	TRUE					50	60	40	50	

Some limitations for how much block order a market participant is allowed to enter are as follows:

- Block Volume Limit: 500 MW
- Maximum number of Blocks: 6 per Trading Portfolio
- Linked Block Orders: The linking of blocks is limited on the portfolio level. The linking is limited to three levels and has a total limitation of 4 Blocks per family.

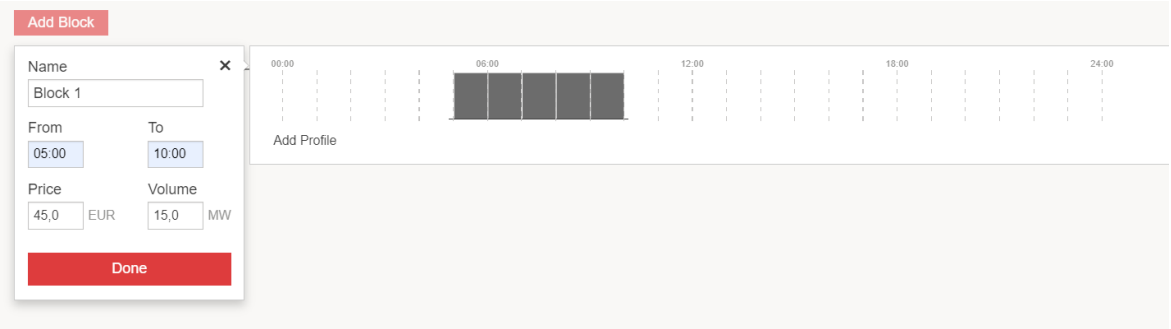
4.4.1 Types of Block Orders

A block order consists of a specified volume and price for a certain number of consecutive hours within the same day. There are three types of block orders defined in CROPEX markets: regular, linked and profile. A block order is particularly useful for example if the participant wants to run a power station for a longer period than one hour and wish to minimize costs related to start and stop.

4.4.1.1 Regular block orders

Regular block orders have an “all-or-nothing” condition. They must be fully accepted or fully rejected, and if accepted, the contract covers all hours and volume specified.

For regular block orders, the price is compared with the average day-ahead price for the hours to which the block order applies.



Acceptance criteria are:

Sale blocks

- If the order price of a sales block is lower than the average day-ahead area price during the specified block period, then the block will be fully accepted (unless paradoxically rejected).
- If the order price of a sales block is higher than the average day-ahead area price during the specified block period, then the block will be fully rejected.
- If the order price of a sales block is exactly the average day-ahead area price during the specified block period, then the block can either be fully accepted or fully rejected.

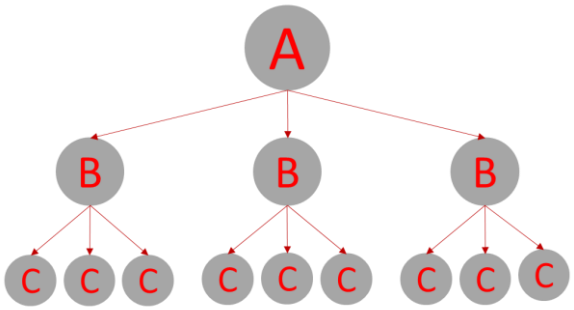
Purchase blocks

- If the order price of a purchase block is higher than the average day-ahead area price during the specified block period, then the block will be fully accepted (unless paradoxically rejected).
- If the order price of a purchase block is lower than the average day-ahead area price during the specified block period, then the block will be fully rejected.
- If the order price of a purchase block is exactly the average day-ahead area price during the specified block period, then the block can either be fully accepted or fully rejected.

4.4.1.2 Linked block orders

Block orders can be linked together in the Day-Ahead Market, i.e. the acceptance of an individual block order can be made dependent on the acceptance of other block orders. The linking is limited to three levels, and a total limitation of 4 blocks per family should be applied.

A is the parent, **B** the child, and **C** the grandchild.



- It is not possible to link blocks across bidding portfolios or areas, i.e. all linked blocks need to be connected to one bidding portfolio in one bidding area.
- A child order (B) can only be linked to one parent order (A).
- A grandchild (C) order can only be linked to one child order (B).
- Order A, B and C can span any set of hours independent of each other.
- Order A, B and C can have any order price independent of each other.
- The number of link levels must not exceed three.
- Circular link chains are not allowed, i.e. order C is linked to Order B that is linked to Order A that is linked to order C.
- The acceptance ratio of a parent block is greater than or equal to the highest acceptance ratio of its child blocks (acceptance ratio of a child block can be at most the lowest acceptance ratio among own parent blocks)
- A child block cannot be accepted without its parent being accepted.
- (Possibly partial) acceptance of child blocks can allow the acceptance of the parent block when:
    - the surplus of a family is non-negative
    - leaf blocks (block order without child blocks) do not generate welfare loss
- A parent block which is out-of-the-money can be accepted in case its accepted child blocks provide sufficient surplus to at least compensate the loss of the parent.
- A child block which is out-of-the-money cannot be accepted even if its accepted parent provides sufficient surplus to compensate the loss of the child, unless the child block is in turn parent of other blocks (in which case rule above applies).

Linked blocks allow to take into account financial and technical constraints of power plants.

Example of practical uses for linked blocks

There might be the high cost of start-up and/or stop of production. Once these costs are covered the producer can produce at a low marginal cost. The producer can therefore price the Mother block high to cover the start and stop cost, then price child blocks low to include the extra volume with low marginal cost. The child blocks can then only be accepted if the Mother (covering the start and stop cost) is accepted.

Taking as an example a thermal power plant with a production capacity of 200 MW, for which production and marginal costs are as follows:

Production costs	50 MW	200 MW
	60 €/MWh	55 €/MWh

Marginal cost to increase production	From 50 MW to 200 MW	From 50 MW to 140 MW	From 140 MW to 200 MW
	54 €/MWh	56 €/MWh	51 €/MWh

Presented are two bidding strategies of using linked block products in order to maximize the possibility of selling more electricity for a better price.

First Bidding Strategy	Second Bidding Strategy
• Block A: Sell 50 MW @ 60 € • Block B (linked to Block A): Sell 150 MW @ 54 € • The linked block order is fully accepted if P>55.5 (VWAP of linked block family) • Or only Block A of 50 MW is accepted if P>60 (if Block B is a PRB)	• Block A: Sell 50 MW @ 60 € • Block B (linked to Block A): Sell 90 MW @ 56 € • Block C (linked to Block B): Sell 60 MW @ 51 € • The linked block order is fully accepted if P>55.5 (VWAP of linked block family) • Or only Block A and Block B (50 MW + 90 MW = 140 MW) are accepted if P>57.43 (if Block C is PRB) • Or only Block A of 50 MW is accepted if P>60 (if Blocks B and C are PRBs)

- **Optimization of thermal power plants**
  - Allowing to offer multiple orders with different outputs, each reflected by their own cost level
  - More flexibility: run one or several hours earlier or later if prices remain interesting outside of the peak period

- **Optimization of consumption processes**
  - One part of a consumption process will be executed only if another part was started earlier
  - Two consumption processes will only be started if their overall costs will not exceed a certain amount
- **Optimization of storage capacity**
  - Sell only during peak hours if off-peak purchase order has been accepted and buy/sell combination is in the money

4.4.1.3 Profile block orders

A profile block is a block order in the Day-Ahead Market where hourly volumes can differ over the entire time span of the block. The minimum order duration is three hours. The start and stop time of a profile block order is defined by the Member. Profile block orders can be linked and they may be curtailable (with the same Minimum Acceptance Ratio applying for all periods).

The volume-weighted average price over the duration of the order is used to determine its acceptance. The price is compared with the block volume-weighted average Day-ahead price for the periods for which the block is defined.

Note: It is not possible to have both buy and sell volumes in the same block.

Example:

Block Order	Price	Period	Volume
Sell Block A	40 €	1-7	80 MW
Sell Block A	40 €	8-16	220 MW

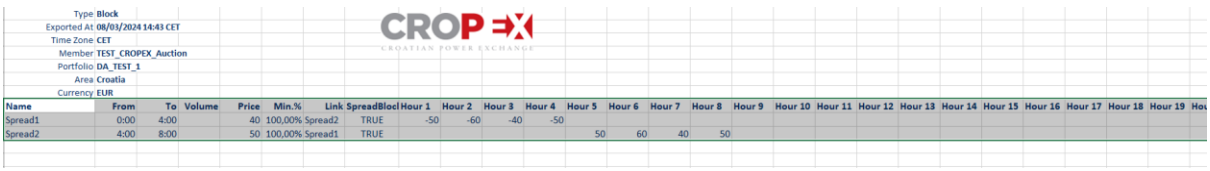
4.4.1.4 Spread block orders

Spread Blocks is an order type using linked blocks, where a pair of buy and sell blocks are mutually linked. In a spread block, both blocks are either accepted or rejected. This order type is asked for specifically related to battery/pump/storage assets where it makes sense to have one “charging period” and one “discharging period”. One of the blocks has to be a buy block and the other block has to be a sell block.

1. Copy and paste curve Spread Block from an Excel file

- Excel template can be directly downloaded from the platform

- In the Excel template mark the Spread Block order, as is shown below, and press Ctrl + c



2. In the Auctions platform,

a. "Add Block"

b. Select portfolio

c. CTRL + V

d. Will look like this when using the example attachement

e. After you validate the order press Save

4.4.1.5 Handling of block orders

A regular block order is an order with two characteristics. First, a block order refers to more than one hour, and second, a block order is either to be accepted or not accepted as a whole.

However, this “all-or-nothing” condition requires binary acceptance variables because fractional acceptance is not tolerated for regular block orders.

The main idea is to choose a combination of block orders that maximises social welfare. However, sometimes the block bidder can experience a loss relative to the resulting spot prices, i.e. block orders that have the accepted price level are not accepted (paradoxically rejected block).

4.4.1.6 Matching of block orders in the price calculation

For sales orders with order prices that are far from the calculated prices, sale orders with the lowest prices precede orders with higher prices. For order prices that are far from the calculated prices, purchase orders with the highest prices precede orders with lower prices.

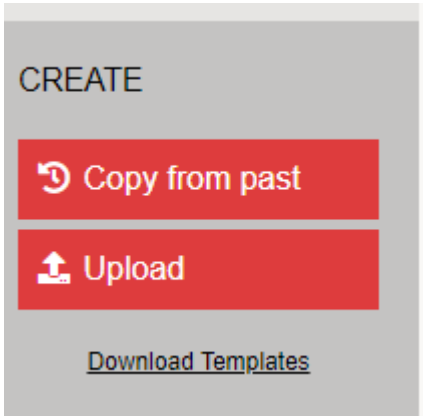
If two block orders are identical, but only one can be accepted, selection is random.

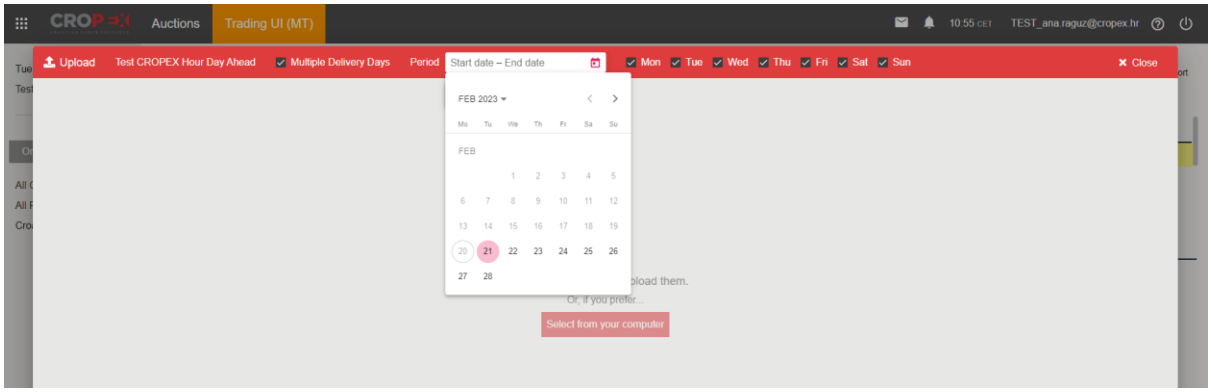
It should be noted that if two block orders have the same price, the highest volume does not necessarily precede.

4.5 Multiple Delivery Day submission functionality

It is possible to submit orders for multiple delivery days at once in the UI, through the **Upload** button. This is convenient for members that wish to submit the same order for multiple future delivery days in one operation.

Upload -> Multiple deliver days -> Select delivery period and delivery days -> Choose the Excel file with order(s) -> Submit



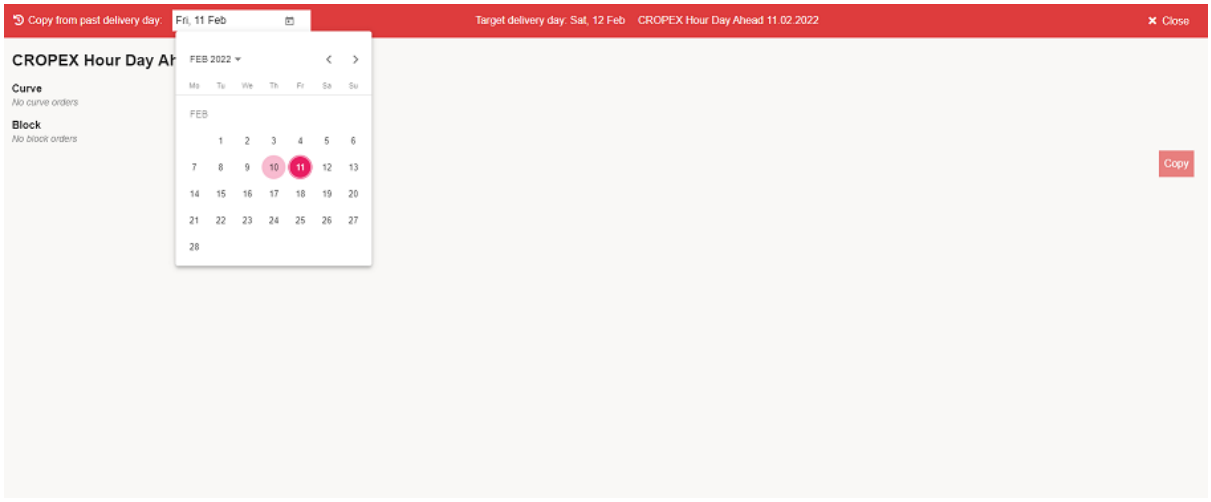


4.6 How to copy orders from the past

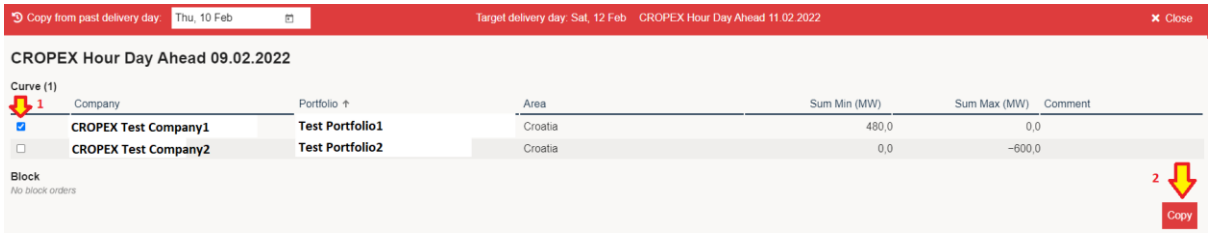
The "Copy from past" functionality works for all order types.

From the main overview, click the "Copy from past" button on the bottom left-hand side.

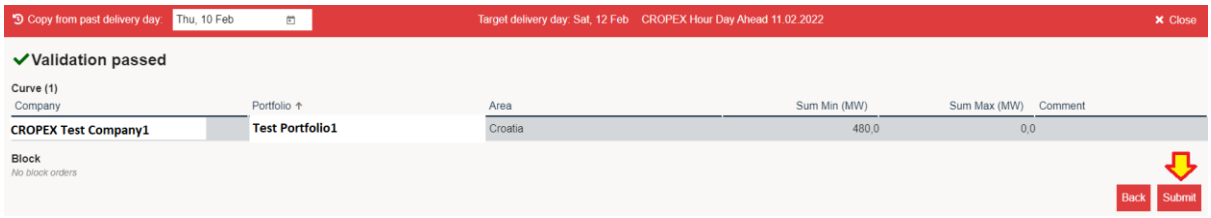
From the calendar, choose the delivery date in the past from which you want to copy your orders.



Select which orders to copy (1) and click "Copy" (2).



After the orders have been validated, click "Submit" to place your orders.

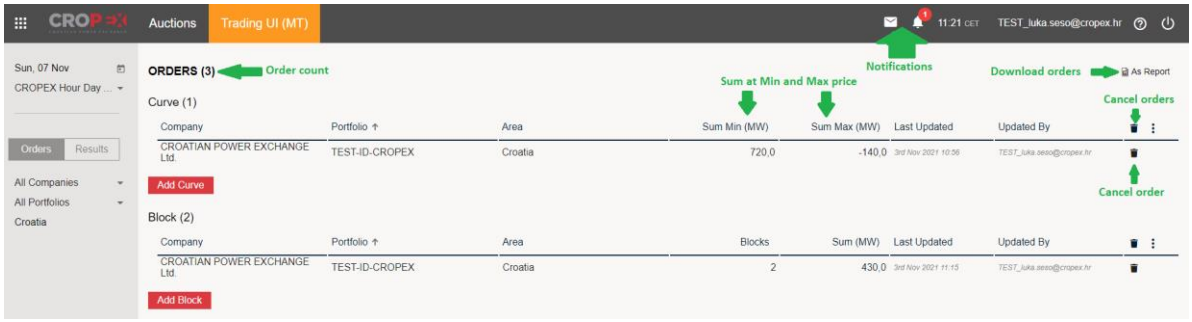


The selected orders have been successfully submitted:

4.7 Order Overview After Placing Orders

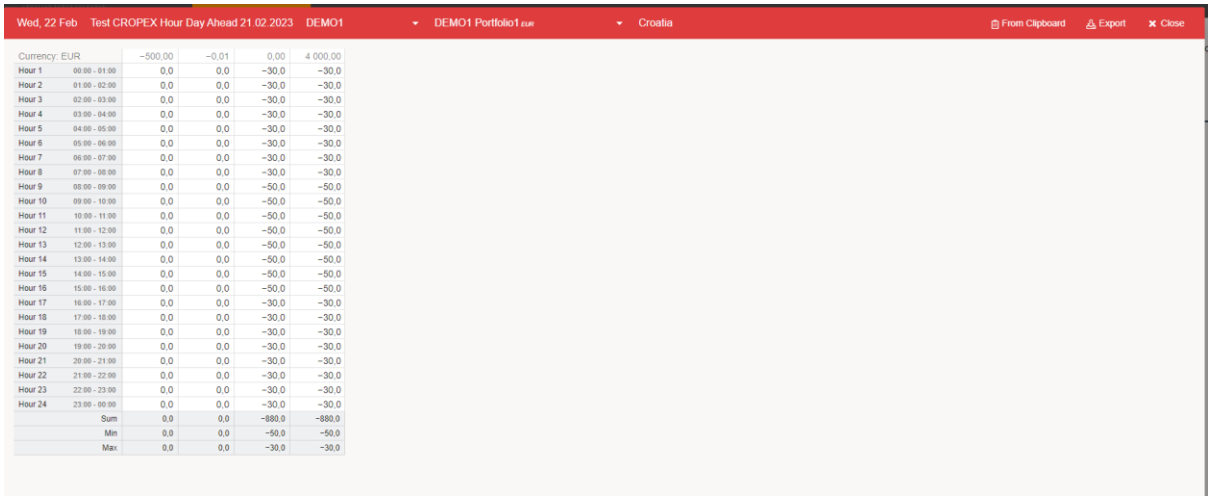
Download already entered orders "**As Report**".

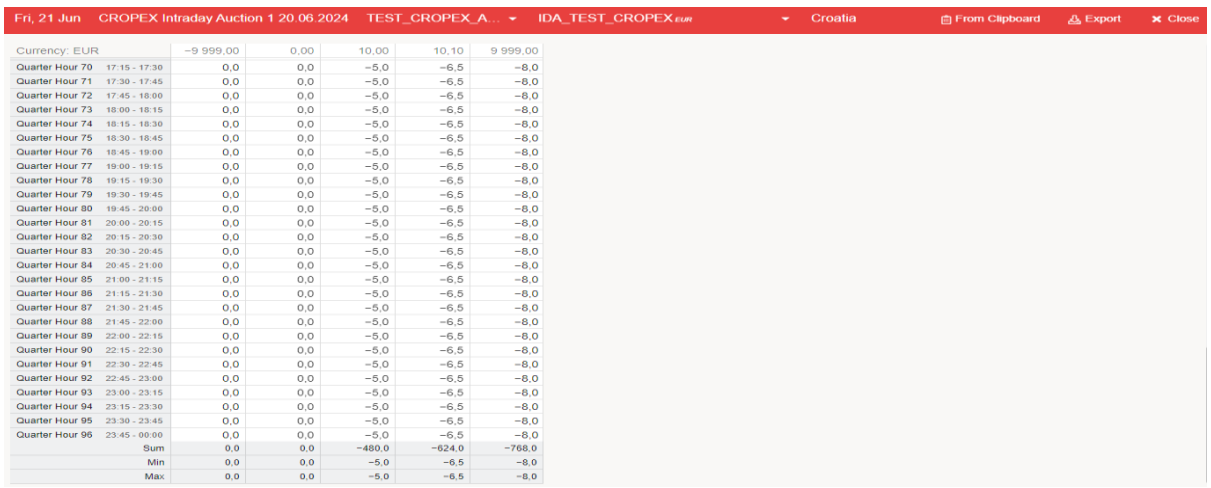
Order count lets you keep track of the numbers of orders submitted in total, and of each order type. Cancel orders with the **cancel bucket.**



4.8 Order Detail View

By clicking on an order, the order detail view appears:





4.9 Volume limits

Volume limits is a new risk management feature in the Auction system allowing the member to define portfolio specific volume limits on each underlying delivery area for curve orders/single hourly orders per MTU. Volume Limits are voluntary for CROPEX members, but we encourage our members to familiarize with the feature. Volume Limits are available for all Auctions in the Auction platform.

- Limit setting and modification will be available through the Trading UI **for users with trading responsible access** only.
- Regular user accounts will have access to view the Trading Limits.
- Operators at the trading desk will have access to portfolio limits for monitoring and to make changes to the limits if needed on behalf of member.

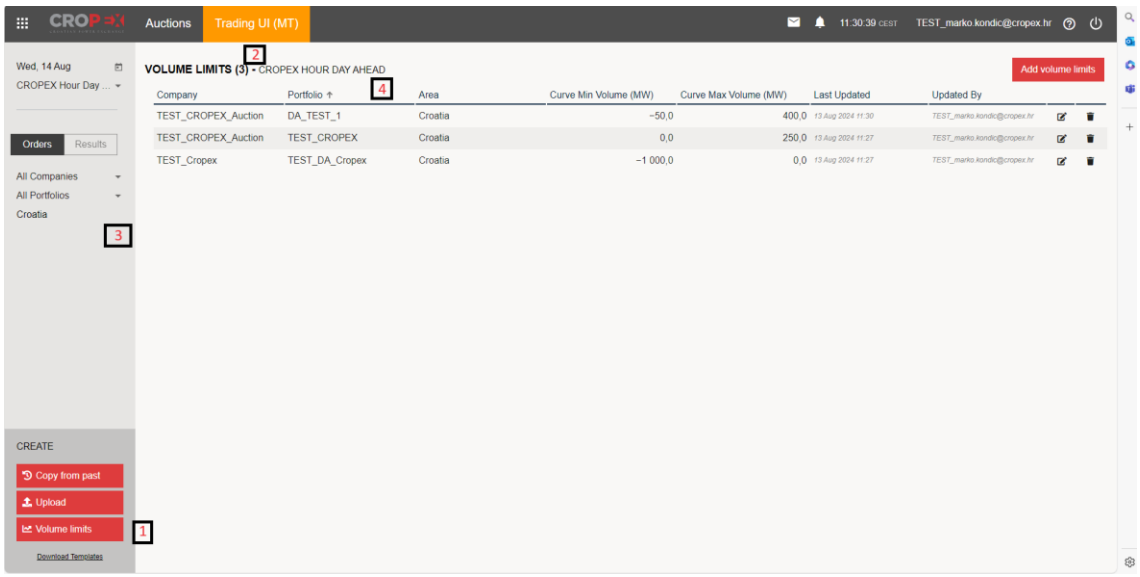
We encourage to limit the number of users with trading responsible access, i.e. to the market participant trading responsible. To activate trading responsible access for a user, please send a request to support@cropex.hr.

Any order breaching the Trading Limits would be rejected automatically with a normal "order rejected" message to the user.

Please note that the responsibility to submit correct orders lies with the members and that unintentional errors or ignorance can be seen as market manipulation under REMIT Article 5. In case of a technical problem preventing CROPEX from checking a placed order against the volume limits, the member remains responsible to ensure the order is correct.

Volume Limits main view (regular trader access)

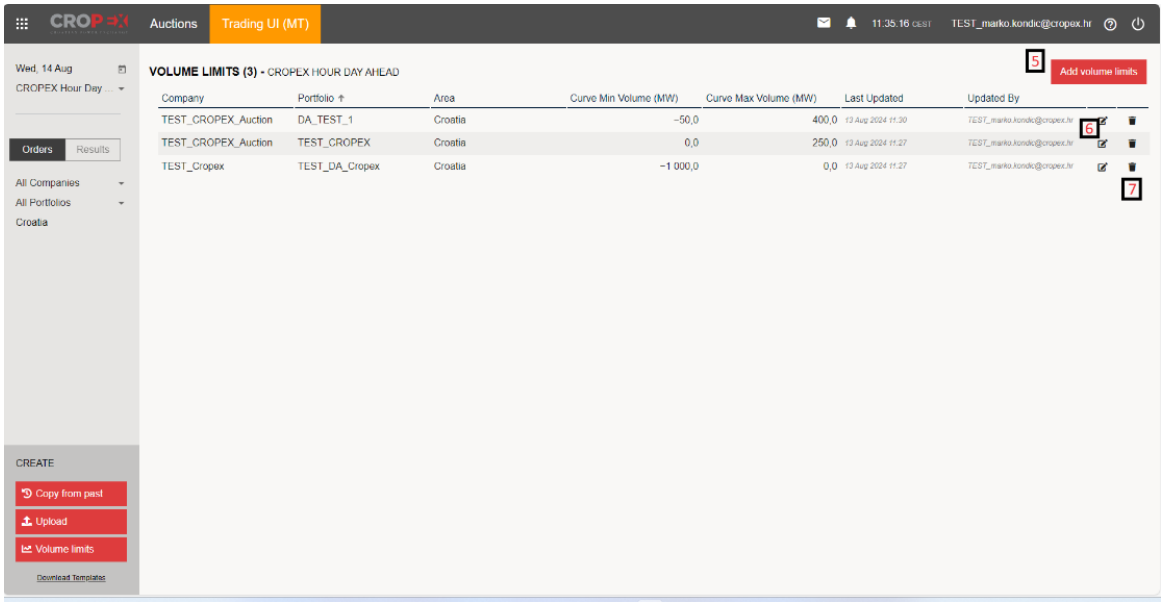
1. Click on the volume limit button in the main view to access the Volume Limits view
2. Volume Limits counting lets you keep track of the number of portfolio with volume limits
3. It is possible to filter volume limits on portfolio and area level
4. Click on the headings to sort the volume limit list



Volume Limits main view (trading responsible access)

Only the trading responsible can add, edit or cancel the volume limits in the Volume Limit view

5. Add new Volume Limits
6. Change existing Volume Limits
7. Delete existing Volume Limits

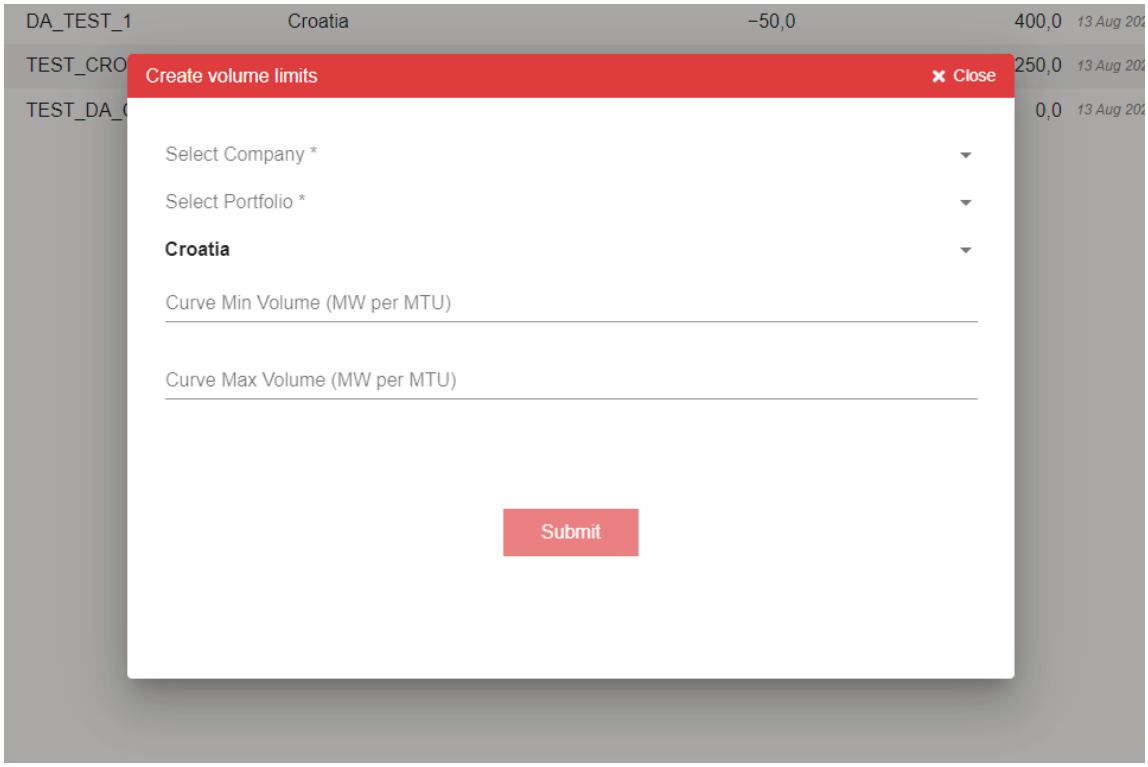


Add new volume Limits

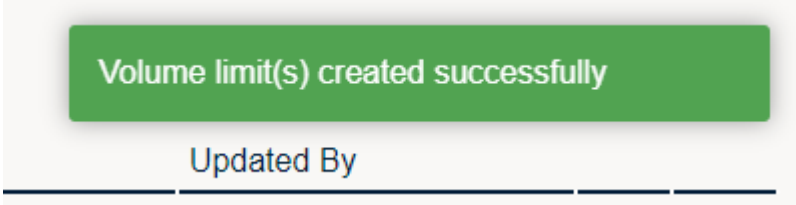
To add a new Volume Limit, select Portfolio, Area and define at least one Volume Limit (Min or Max MW per MTU) before clicking "Submit".

Volume Limits Examples:

- To restrict a portfolio to BUY only, set Curve Min to "0"
- To restrict a portfolio to SELL only, set Curve Max to "0"

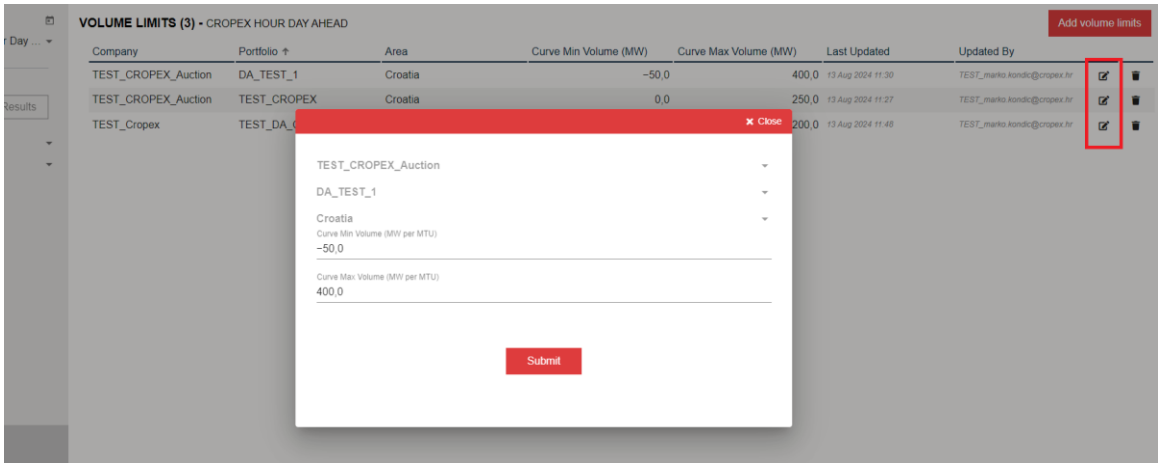


A green pop-up notification will appear confirming the successful creating of a new Volume Limit.



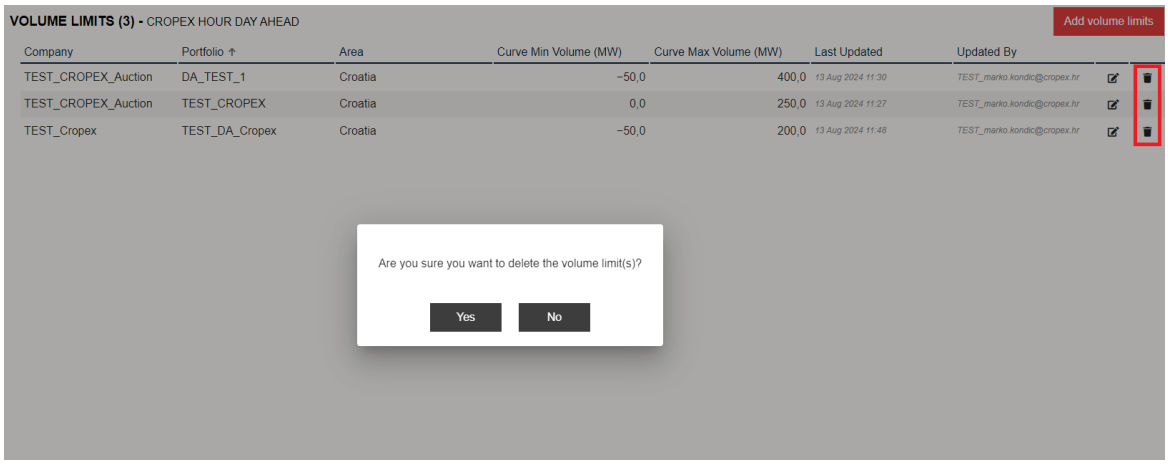
Change existing Volume Limits

When clicking on the "change" icon, a pop-up window will appear and the Volume Limits for the predefined Portfolio and Area can be adjusted. Once changes are done, click "submit" to save the new changes.

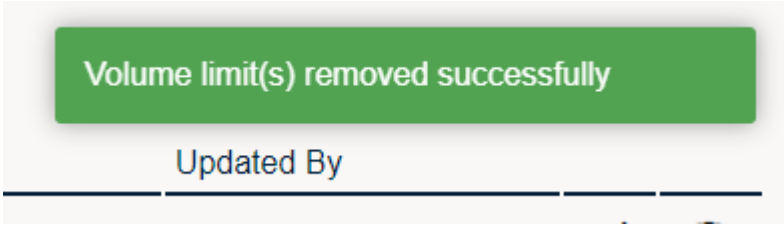


Delete existing Volume Limits

Click on the trashcan icon for the relevant portfolio. A pop-up box will appear, click "yes" to confirm.

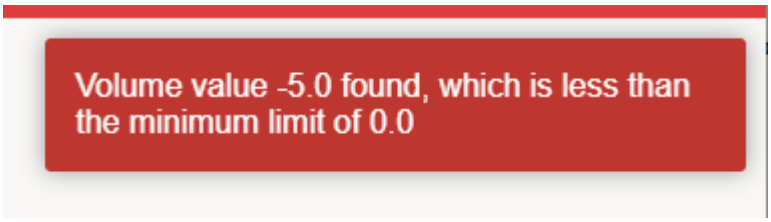


A green pop-up notification will appear confirming the successful cancellation of the Volume Limits.



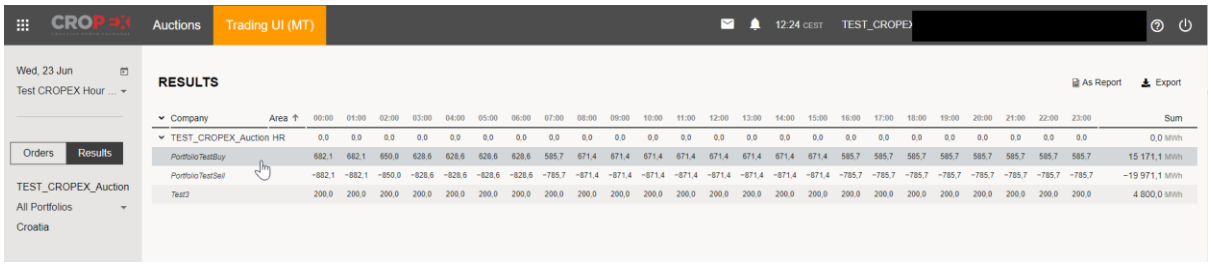
Placing orders in a portfolio with Trading Limits

If the order is exceeding the predefined Trading Limits in a portfolio, a red pop-up notification will appear indication why the order is not successfully submitted.

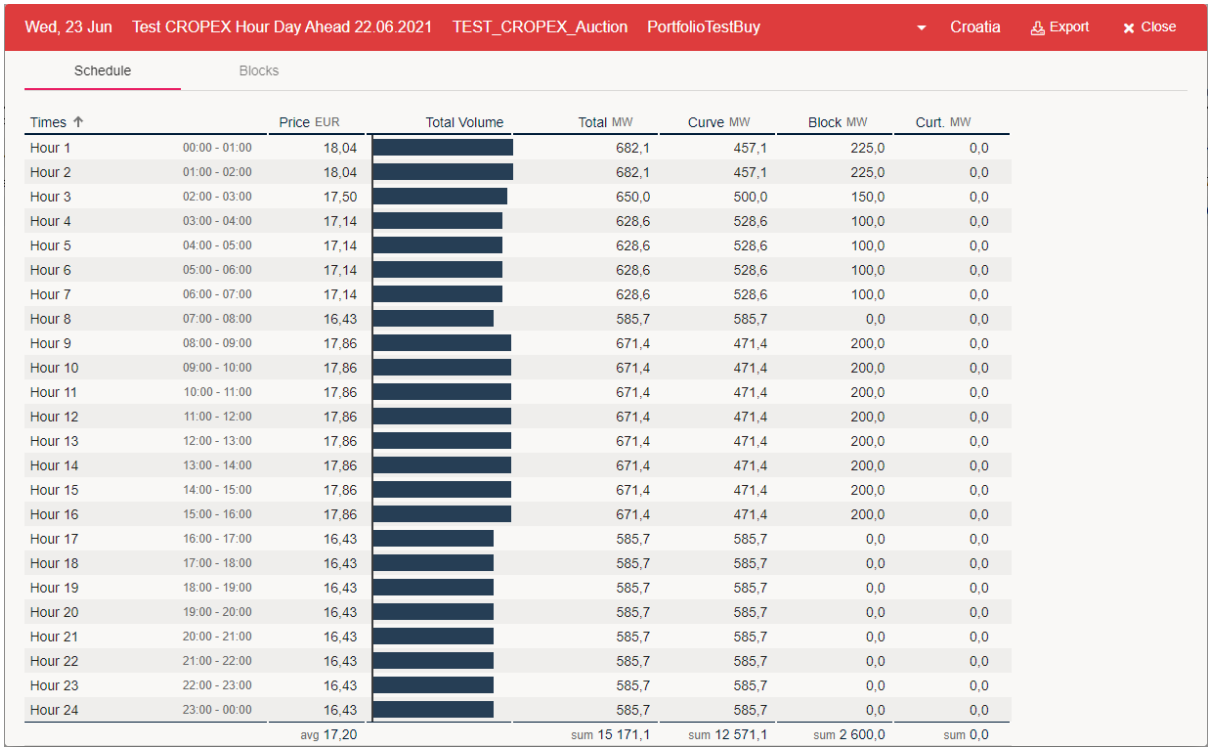


5 RESULTS

Once results from the auction are published the "**Results**" button is enabled. Click "**Results**" to see all auction results split by portfolio.



To view the results per portfolio, select the portfolio within the filter panel on the left-hand side of the screen. The schedule for the delivery day shows up. Click on "**Export**" to export results to Excel.



Times		Price EUR	Total Volume	Total MW	Curve MW	Block MW	Curt. MW
Hour 1	00:00 - 01:00	18,04		682,1	457,1	225,0	0,0
Hour 2	01:00 - 02:00	18,04		682,1	457,1	225,0	0,0
Hour 3	02:00 - 03:00	17,50		650,0	500,0	150,0	0,0
Hour 4	03:00 - 04:00	17,14		628,6	528,6	100,0	0,0
Hour 5	04:00 - 05:00	17,14		628,6	528,6	100,0	0,0
Hour 6	05:00 - 06:00	17,14		628,6	528,6	100,0	0,0
Hour 7	06:00 - 07:00	17,14		628,6	528,6	100,0	0,0
Hour 8	07:00 - 08:00	16,43		585,7	585,7	0,0	0,0
Hour 9	08:00 - 09:00	17,86		671,4	471,4	200,0	0,0
Hour 10	09:00 - 10:00	17,86		671,4	471,4	200,0	0,0
Hour 11	10:00 - 11:00	17,86		671,4	471,4	200,0	0,0
Hour 12	11:00 - 12:00	17,86		671,4	471,4	200,0	0,0
Hour 13	12:00 - 13:00	17,86		671,4	471,4	200,0	0,0
Hour 14	13:00 - 14:00	17,86		671,4	471,4	200,0	0,0
Hour 15	14:00 - 15:00	17,86		671,4	471,4	200,0	0,0
Hour 16	15:00 - 16:00	17,86		671,4	471,4	200,0	0,0
Hour 17	16:00 - 17:00	16,43		585,7	585,7	0,0	0,0
Hour 18	17:00 - 18:00	16,43		585,7	585,7	0,0	0,0
Hour 19	18:00 - 19:00	16,43		585,7	585,7	0,0	0,0
Hour 20	19:00 - 20:00	16,43		585,7	585,7	0,0	0,0
Hour 21	20:00 - 21:00	16,43		585,7	585,7	0,0	0,0
Hour 22	21:00 - 22:00	16,43		585,7	585,7	0,0	0,0
Hour 23	22:00 - 23:00	16,43		585,7	585,7	0,0	0,0
Hour 24	23:00 - 00:00	16,43		585,7	585,7	0,0	0,0
		avg 17,20		sum 15 171,1	sum 12 571,1	sum 2 600,0	sum 0,0

Explanation for column headers:

- *Times:* Delivery time
- *Price:* Area price
- *Total volume:* Graphical representation of the realised volume
- *Total:* Total realised volume (curve orders + blocks)
- *Curve*: Realised volume for curve orders only
- *Curt.:* Curtailed volume

6 PROBLEM SOLVING

6.1 QUICK TASK LIST FOR SOLVING PROBLEMS WITH THE TRADING SYSTEM

1. Check if there are market messages on planned maintenance of the Day-Ahead Auction system.
2. Log out of Day-Ahead Auction and log in again.
3. Test your internet connection by going to another webpage.
4. If possible, contact your IT staff to find out if any changes have been done to your network security settings. The most common causes of problems are firewall and/or proxy server settings. Also make sure you have the right to access: https://auctions.cropex.hr
5. Call the CROPEX DAM trading desk at +385 1 55 66 700

6.2 HOW TO REPORT AN ISSUE AND PROVIDE FEEDBACK

Please report any issues or provide us feedback on support@cropex.hr

7 DST

7.1 LONG CLOCK CHANGE

7.1.1 OVERVIEW AND GRAPHICS ON DST LONG

During the Autumn Daylight Saving Time long clock change, you can place orders on 25 individual hours.

The additional hour is named hour 3b.

On the overview page, all orders are displayed graphically using a user-defined reference price, however, for the DST long day, there is no area reference price for an hour 3b and the column is shown completely black for this hour.

Using the Max and Min price as a reference will give the corresponding volume in the graph for an hour 3b.

7.1.2 SINGLE HOURLY ORDERS ON DST LONG

Placing a Single Hourly order on DST long

The hour from 02-03 is called hour 3a and the additional DST hour from 02-03, has been added to the matrix and, is called hour 3b as shown below.

Place the order as normal including this extra hour.

When copying a Single Hourly Order from a template or excel sheet, make sure that you have included hour 3b.

Copy in 25 hours in total.

Copy from past to DST long day

When copying from past an information message will appear informing that hour 3b will be left blank.

Hour 3b can be filled in manually.

7.2 SHORT CLOCK CHANGE

7.2.1 OVERVIEW OF DST SHORT

During the spring Daylight Saving Time short clock change, you can only place orders on 23 individual hours since hour 3 is removed.

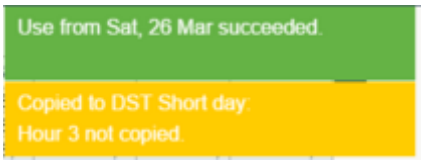
On the overview page, all orders are displayed graphically using a user-defined reference price, however for DST short the bar graph for an hour 3 is empty since there are no bids spanning this hour.

7.2.2 SINGLE HOURLY ORDERS ON DST SHORT

Placing a Single Hourly Order on DST Short

The Single Hourly Order matrix looks exactly as before, but hour 3 is removed. Uploading files or copying bids from Excel also works as before, but remember to remove hour 3 (note that just leaving hour 3 blank will not work, your clipboard can maximum contain 23 cells). If you try to copy from Excel or upload an Excel file containing more than 23 hours, you will get an error message.

Copy From Past to DST Short



When copying from past, hour 3 will be removed from the bid you are copying. An information message will appear informing that hour 3 is removed.

8 SDAC MEASURES IN CASES OF SHORT SUPPLY

The main purpose of this chapter is to disseminate and facilitate the understanding of price calculation processes in the Single Day-Ahead Coupling among stakeholders and the wider public.

Price calculation process is not necessarily able to satisfy supply and demand in all Market Time Units (MTUs) due to lack of offered resources (supply/demand) to the market. To avoid extreme prices, in this situation, there are different methodologies established in the relevant bidding zones (BZs). These methodologies are regulated nationally. The focus is on the high/maximum prices processes, however, some of the methodologies are also applicable in case of minimum prices.

In Single Day-Ahead Coupling (SDAC), we use three kinds of mitigation processes: 2nd auction, Peak Load Capacity, and curtailment management.

2nd auction is triggered when a threshold price is reached. This threshold is lower than the maximum price to improve supply or lower demand in the market and also help the market find a balance for a reasonable price. Currently, the price threshold limit is set to €2,400 in most countries where 2nd auction is applied. When triggered, NEMOs Order Books (OBKs) are (re-)opened, and market parties are able to update their orders, then a new SDAC calculation is run. In case the price is still above thresholds, the new calculated results are still valid.

In very few countries, TSOs have reserved capacity from the market that can be utilized when the maximum price is reached. This is called **Peak Load Capacity**. In this procedure, peak load capacity order is included in the calculation, and a new SDAC calculation is performed . In case the price is still above thresholds, the new calculated results are still valid. Currently, this mitigation procedure is used only in Lithuania.

If no mitigation actions are provided when maximum price is reached, if needed, **curtailment** procedure could be applied to reach equilibrium point of the order curves (which means that some price taking demand orders will be rejected). This is also applicable in cases where the mitigation actions (2nd auction or peak load reserves) are initially used.

In the EUPHEMIA algorithm, curtailment management has several steps: curtailment minimization, curtailment sharing and curtailment mitigation. Curtailment sharing is applied almost in all SDAC countries except in Poland and Italy, where curtailment is not applied due the nature of the order types (Merit orders) and Slovenia, where establishment of curtailment sharing is in progress.

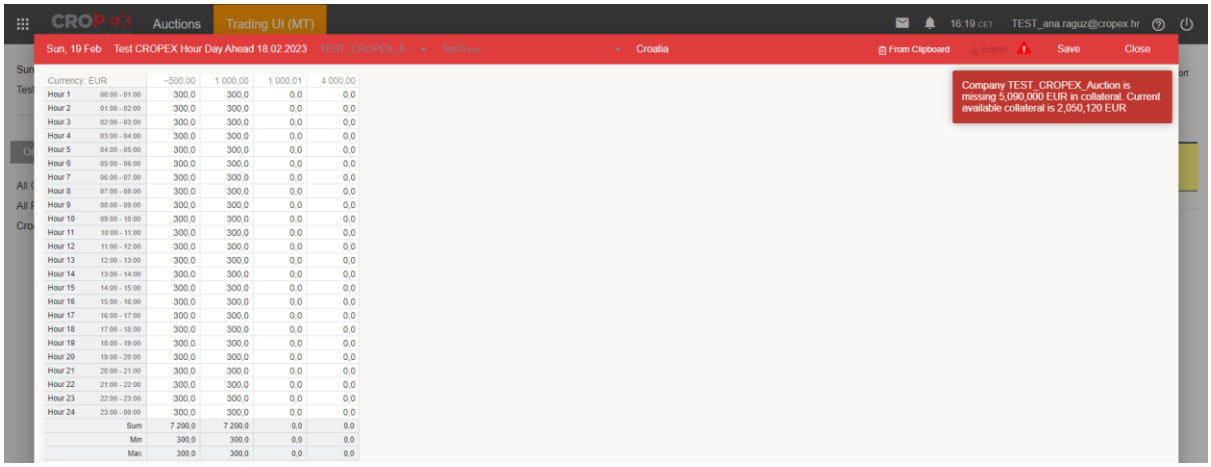
You can find the full explanation here.

9 LIMIT CHECK

The Limit Check integrates an order verification system with an available deposit to ensure that orders placed are not larger than the available funds.

It performs a simultaneous comparison of the deposit balance with orders placed on both CROPEX markets (Day Ahead & Intraday Market), which is particularly important for members who trade on both markets.

Picture below shows example when an order exceeds the available deposit. In that case the trading platform will notify the member that the desired order cannot be entered due to insufficient funds and the member will be required to adjust the order to align with the available deposit (reduce the quantity, price, or both).



10 CONTACT INFORMATION

If you have any questions, please do not hesitate to contact our Day-Ahead Trading Desk which operates every day from 8:00 CET to 16:00 CET.

Phone: **+385 1 55 66 700**

E-mail: support@cropex.hr