

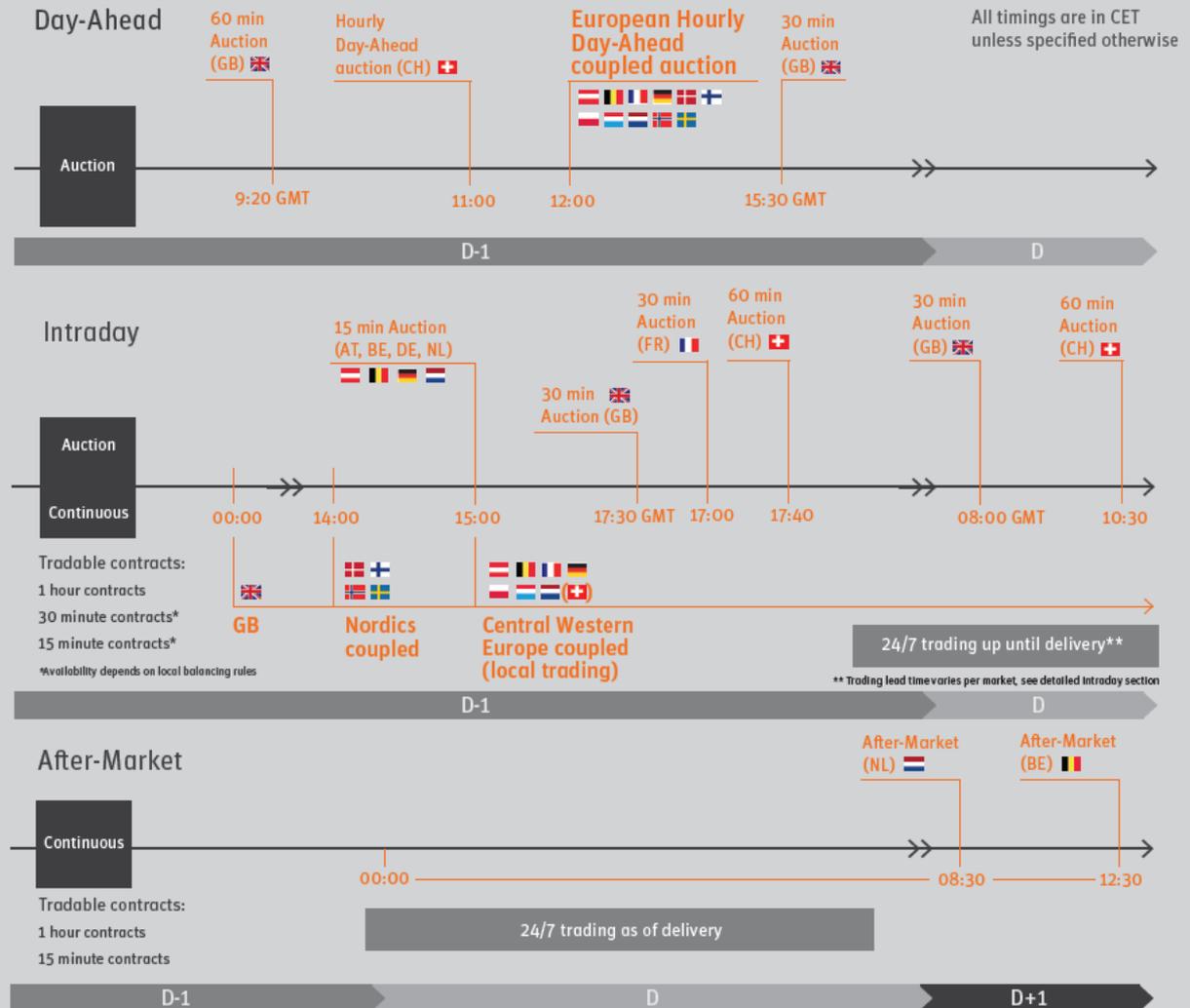
ETS – Auction Trading system overview

22 August 2022

1. Introduction

Trading from D-1 to D+1 at EPEX SPOT

- **1** European coupled Day-Ahead 60 min auction at 12:00 with Single Day-Ahead Coupling (SDAC) – 12 countries
- **2** local Day-Ahead 60 min auctions in GB & CH
- **7** local Intraday auctions in AT, BE, CH, DE, NL & FR
- **2** coupled Intraday auctions in GB
- **24/7** Intraday continuous trading up until delivery with Single Intraday coupling (SDAC) – 12 countries
- **D+1** After-Market continuous trading in BE & NL



The Exchange's Trading Modalities

Auctions

Social welfare optimisation

Continuous trading

First come first served

Orders

Orders collection until orderbook closure

24/7 orders collection, sorted by price

Orderbook

Blind auction: orderbook nonvisible

Orders visible by all participants

Matching

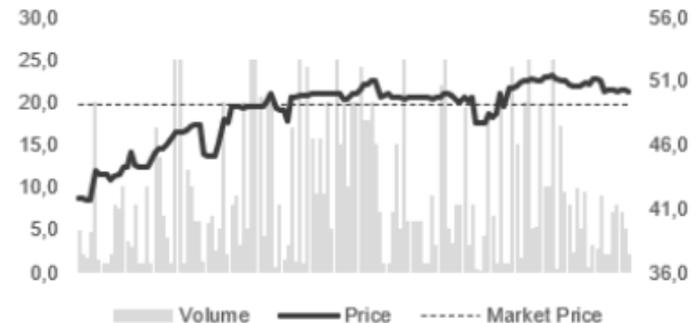
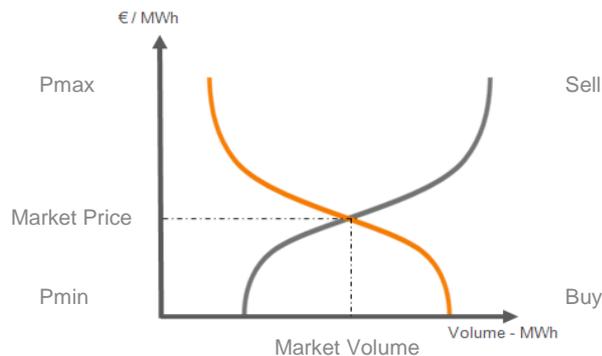
One single matching once orderbook is closed, all orders are considered

Compatible buy and sell orders are matched along the trading session

Market price

One clearing price for all buyers and sellers

Different execution prices for all transactions and price indices are computed



2. Order management – Linear Order

ETS Main Screen: Global View

Market Global View - My view [Epex Trading System]

File View Format Settings Window Help

Day Type

Auction Day Date Range

From Date: 13/02/2020 Auction Status: All Auction Group: All Auction Name: All Market Area: AS1-MA1 Area: All Participant: All

MARKET AREA FLAG

Delivery Day	Area	Portfolio	Auction Date Time	Order Book Status	Duration	Currency	Linear	Last Update Time	Block	Last Update Time	Complex	Last Update Time
14/02/2020	AS1-MA1-A1	P5	Day Ahead 1-14.00 2020-02-13-14:00 (cet/cest)	OBK Open	60 min	EUR	Exists	12/02/2020 15:36:12	Exists	12/02/2020 15:36:11	Deleted	13/02/2020 10:48:14
14/02/2020	AS1-MA1-A1	P5	Day Ahead 1-13.00 2020-02-13-13:00 (cet/cest)	OBK Open	60 min	EUR	none		none		none	
14/02/2020	AS1-MA1-A1	P5	Day Ahead 1-12.00 2020-02-13-12:00 (cet/cest)	OBK Open	60 min	EUR	none		none		none	
14/02/2020	AS1-MA1-A2	P5	Day Ahead 1-14.00 2020-02-13-14:00 (cet/cest)	OBK Open	60 min	EUR	Exists	12/02/2020 15:36:13	none		none	
14/02/2020	AS1-MA1-A2	P5	Day Ahead 1-13.00 2020-02-13-13:00 (cet/cest)	OBK Open	60 min	EUR	none		none		none	
14/02/2020	AS1-MA1-A2	P5	Day Ahead 1-12.00 2020-02-13-12:00 (cet/cest)	OBK Open	60 min	EUR	none		none		none	

Show Linear Show Block Show Complex Show Market Results Show Indexes

Messages:

Time	Text
13 February 2020 10:48:14	Cancelled ComplexOrder P5 / AS1-MA1-A1 / 1 hour / 2020-02-13-13:00 / TR5
13 February 2020 10:48:04	Submitted ComplexOrder P5 / AS1-MA1-A1 / 1 hour / 2020-02-13-13:00 / TR5
13 February 2020 10:03:56	Submitted LinearOrder P5 / AS21-MA1-A2 / 15 Minutes / 2020-02-16-13:00 / TR5
13 February 2020 10:03:54	Submitted LinearOrder P5 / AS21-MA1-A1 / 15 Minutes / 2020-02-16-13:00 / TR5
13 February 2020 10:03:53	Submitted Block Bid(s) P5 / AS21-MA1-A1 / 15 Minutes / 2020-02-16-13:00 / TR5
13 February 2020 09:56:17	Submitted LinearOrder P5 / AS21-MA1-A2 / 15 Minutes / 2020-02-15-13:00 / TR5
13 February 2020 09:56:16	Submitted LinearOrder P5 / AS21-MA1-A1 / 15 Minutes / 2020-02-15-13:00 / TR5
13 February 2020 09:56:14	Submitted Block Bid(s) P5 / AS21-MA1-A1 / 15 Minutes / 2020-02-15-13:00 / TR5
13 February 2020 09:50:08	Submitted LinearOrder P5 / AS21-MA1-A2 / 15 Minutes / 2020-02-14-13:00 / TR5
13 February 2020 09:50:07	Submitted LinearOrder P5 / AS21-MA1-A1 / 15 Minutes / 2020-02-14-13:00 / TR5
13 February 2020 09:50:05	Submitted Block Bid(s) P5 / AS21-MA1-A1 / 15 Minutes / 2020-02-14-13:00 / TR5
13 February 2020 09:42:49	Submitted LinearOrder P5 / AS11-MA1-A2 / 30 Minutes / 2020-02-16-15:00 / TR5
13 February 2020 09:42:48	Submitted LinearOrder P5 / AS11-MA1-A1 / 30 Minutes / 2020-02-16-15:00 / TR5
13 February 2020 09:42:47	Submitted Block Bid(s) P5 / AS11-MA1-A1 / 30 Minutes / 2020-02-16-15:00 / TR5
13 February 2020 09:39:46	Submitted LinearOrder P5 / AS11-MA1-A2 / 30 Minutes / 2020-02-15-15:00 / TR5
13 February 2020 09:39:45	Submitted LinearOrder P5 / AS11-MA1-A1 / 30 Minutes / 2020-02-15-15:00 / TR5
13 February 2020 09:39:43	Submitted Block Bid(s) P5 / AS11-MA1-A1 / 30 Minutes / 2020-02-15-15:00 / TR5
13 February 2020 09:36:36	Submitted Block Bid(s) P5 / AS11-MA1-A1 / 30 Minutes / 2020-02-14-15:00 / TR5
13 February 2020 09:33:27	Submitted LinearOrder P5 / AS3-MA1-A2 / 15 Minutes / 2020-02-16-13:00 / TR5
13 February 2020 09:33:26	Submitted LinearOrder P5 / AS3-MA1-A1 / 15 Minutes / 2020-02-16-13:00 / TR5

TR5@localhost:33443 10:48:35

Hourly order entering (Piecewise)

- Manually
- Excel Copy/Paste

FR-RTE::COMPANYA-SABT01::60 min Linear Bid Entry [Epex Trading System]

File View Format Settings Window Help

Auction Date Time: 23 June 2020 - 12:00 cet/cest | Auction Name: PWR-MRC-D+1 | Delivery Date: 24 June 2020 | Area: FR-RTE | Portfolio: COMPANYA-SABT01 | Duration: 60 min

EUR Piecewise RTE

Import Bid Export Bid Delete Differences

No errors

Order - 60 min

Submit Several Delivery Days

User Comment

Comment	Period (cet/cest)	-500.0	0.0	0.1	3,000.0
	00 - 01	100.0	100.0	-400.0	-400.0
	01 - 02	100.0	100.0	-400.0	-400.0
	02 - 03	100.0	100.0	-400.0	-400.0
	03 - 04	100.0	100.0	-400.0	-400.0
	04 - 05	100.0	100.0	-400.0	-400.0
	05 - 06	100.0	100.0	-400.0	-400.0
	06 - 07	100.0	100.0	-400.0	-400.0
	07 - 08	100.0	100.0	-400.0	-400.0
	08 - 09	100.0	100.0	-400.0	-400.0
	09 - 10	100.0	100.0	-400.0	-400.0
	10 - 11	100.0	100.0	-400.0	-400.0
	11 - 12	100.0	100.0	-400.0	-400.0
	12 - 13	100.0	100.0	-400.0	-400.0
	13 - 14	100.0	100.0	-400.0	-400.0
	14 - 15	100.0	100.0	-400.0	-400.0
	15 - 16	100.0	100.0	-400.0	-400.0
	16 - 17	100.0	100.0	-400.0	-400.0
	17 - 18	100.0	100.0	-400.0	-400.0
	18 - 19	100.0	100.0	-400.0	-400.0
	19 - 20	100.0	100.0	-400.0	-400.0
	20 - 21	100.0	100.0	-400.0	-400.0
	21 - 22	100.0	100.0	-400.0	-400.0
	22 - 23	100.0	100.0	-400.0	-400.0
	23 - 00	100.0	100.0	-400.0	-400.0
	Sum	2,400.0	2,400.0	-9,600.0	-9,600.0

Price limit offer
Buy from -500€ to 0€ : Positive quantity
Sell from 0,1€ to 3000€ : Negative quantity

Possibility to trader buy and sale order

Add Prices Modify Price Remove Price Copy Line Paste Line Replicate To All Adjust to Price Limit Close Submit

TCOMAZER01@simu2.ets1.epex.spot:443 15:56:09

Hourly order entering (Piecewise)

- Manually
- Excel Copy/Paste

FR-RTE::COMPANYA-SABT01::60 min Linear Bid Entry [Epex Trading System]

File View Format Settings Window Help

Auction Date Time: 23 June 2020 - 12:00 cet/cest | Auction Name: PWR-MRC-D+1 | Delivery Date: 24 June 2020 | Area: FR-RTE | Portfolio: COMPANIA-SABT01 | Duration: 60 min

EUR Piecewise RTE

Import Bid Export Bid Delete Differences

No errors

Order - 60 min

Submit Several Delivery Days

User Comment

Comment	Period (cet/cest)	-500.0	0.0	0.1	3,000.0
	00 - 01	100.0	100.0	-400.0	-400.0
	01 - 02	100.0	100.0	-400.0	-400.0
	02 - 03	100.0	100.0	-400.0	-400.0
	03 - 04	100.0	100.0	-400.0	-400.0
	04 - 05	100.0	100.0	-400.0	-400.0
	05 - 06	100.0	100.0	-400.0	-400.0
	06 - 07	100.0	100.0	-400.0	-400.0
	07 - 08	100.0	100.0	-400.0	-400.0
	08 - 09	100.0	100.0	-400.0	-400.0
	09 - 10	100.0	100.0	-400.0	-400.0
	10 - 11	100.0	100.0	-400.0	-400.0
	11 - 12	100.0	100.0	-400.0	-400.0
	12 - 13	100.0	100.0	-400.0	-400.0
	13 - 14	100.0	100.0	-400.0	-400.0
	14 - 15	100.0	100.0	-400.0	-400.0
	15 - 16	100.0	100.0	-400.0	-400.0
	16 - 17	100.0	100.0	-400.0	-400.0
	17 - 18	100.0	100.0	-400.0	-400.0
	18 - 19	100.0	100.0	-400.0	-400.0
	19 - 20	100.0	100.0	-400.0	-400.0
	20 - 21	100.0	100.0	-400.0	-400.0
	21 - 22	100.0	100.0	-400.0	-400.0
	22 - 23	100.0	100.0	-400.0	-400.0
	23 - 00	100.0	100.0	-400.0	-400.0
	Sum	2,400.0	2,400.0	-9,600.0	-9,600.0

Price limit offer
Buy from -500€ to 0€ : Positive quantity
Sell from 0,1€ to 3000€ : Negative quantity

Possibility to trader buy and sale order

Add Prices Modify Price Remove Price Copy Line Paste Line Replicate To All Adjust to Price Limit Close Submit

TCOMAZER01@simu2.ets1.epex.spot:443 15:56:09

Submit for several days

FR-RTE::COMPANYA-SABT01::60 min Linear Bid Entry [Epex Trading System]

File View Format Settings Window Help

Auction Date Time: 23 June 2020 - 12:00 cet/cest
 Auction Name: PWR-MRC-D+1
 Delivery Date: 24 June 2020
 Area: FR-RTE
 Portfolio: COMPANYA-SABT01
 Duration: 60 min

EUR Piecewise RTE

Import Bid Export Bid Delete Differences

No errors

Order - 60 min

Submit Several Delivery Days

From: 24/06/2020 To: 29/06/2020

All Monday To Friday Saturday To Sunday Mon Tue Wed Thu Fri Sat Sun

User Comment

Comment	Period (cet/cest)	-500.0	0.0	0.1	3,000.0
PowerPlant1	00 - 01	100.0	100.0	-400.0	-400.0
	01 - 02	100.0	100.0	-400.0	-400.0
	02 - 03	100.0	100.0	-400.0	-400.0
	03 - 04	100.0	100.0	-400.0	-400.0
	04 - 05	100.0	100.0	-400.0	-400.0
	05 - 06	100.0	100.0	-400.0	-400.0
	06 - 07	100.0	100.0	-400.0	-400.0
	07 - 08	100.0	100.0	-400.0	-400.0
	08 - 09	100.0	100.0	-400.0	-400.0
	09 - 10	100.0	100.0	-400.0	-400.0
	10 - 11	100.0	100.0	-400.0	-400.0
	11 - 12	100.0	100.0	-400.0	-400.0
	12 - 13	100.0	100.0	-400.0	-400.0
	13 - 14	100.0	100.0	-400.0	-400.0
	14 - 15	100.0	100.0	-400.0	-400.0
	15 - 16	100.0	100.0	-400.0	-400.0
	16 - 17	100.0	100.0	-400.0	-400.0
	17 - 18	100.0	100.0	-400.0	-400.0
	18 - 19	100.0	100.0	-400.0	-400.0
	19 - 20	100.0	100.0	-400.0	-400.0
	20 - 21	100.0	100.0	-400.0	-400.0
	21 - 22	100.0	100.0	-400.0	-400.0
	22 - 23	100.0	100.0	-400.0	-400.0
	23 - 00	100.0	100.0	-400.0	-400.0
	Sum	2,400.0	2,400.0	-9,600.0	-9,600.0

Add Prices Modify Price Remove Price Copy Line Paste Line Replicate To All Adjust to Price Limit

Close Submit

TCOMAZER01@simu2.ets1.epex.spot:443 16:08:26

Order modification and differences

FR-RTE::COMPANYA-SABT01::60 min Linear Bid Entry [Epex Trading System]

File View Format Settings Window Help

Auction Date Time: 23 June 2020 - 12:00 cet/cest | Auction Name: PWR-MRC-D+1 | Delivery Date: 24 June 2020 | Area: FR-RTE | Portfolio: COMPANYA-SABT01 | Duration: 60 min

EUR  RTE

Import Bid Export Bid Delete Differences 1

No errors

Order - 10000000170426 - 60 min

Submit Several Delivery Days

From 24/06/2020 To 29/06/2020 All Monday To Friday Saturday To Sunday Mon Tue Wed Thu Fri Sat Sun

User Comment

Comment	Period (cet/cest)	-500.0	0.0	0.1	3,000.0
PowerPlant1	00 - 01	100.0	100.0	-400.0	-400.0
	01 - 02	100.0	100.0	-400.0	-400.0
	02 - 03	100.0	100.0	-400.0	-400.0
	03 - 04	100.0	100.0	-400.0	-400.0
	04 - 05	100.0	100.0	-400.0	-400.0
	05 - 06	100.0	100.0	-400.0	-400.0
	06 - 07	100.0	100.0	-400.0	-400.0
	07 - 08	100.0	100.0	-400.0	-400.0
	08 - 09	100.0	100.0	-400.0	-400.0
	09 - 10	100.0	100.0	-400.0	-400.0
	10 - 11	100.0	100.0	-400.0	-400.0
	11 - 12	100.0	100.0	-400.0	-400.0
	12 - 13	100.0	100.0	-400.0	-400.0
	13 - 14	100.0	100.0	-400.0	-400.0
	14 - 15	100.0	100.0	-400.0	-400.0
	15 - 16	100.0	100.0	-400.0	-400.0
	16 - 17	100.0	100.0	-400.0	-400.0
	17 - 18	100.0	100.0	-400.0	-400.0
	18 - 19	100.0	100.0	-400.0	-400.0
	19 - 20	100.0	100.0	-400.0	-400.0
	20 - 21	100.0	100.0	-400.0	-400.0
	21 - 22	100.0	100.0	-400.0	-400.0
	22 - 23	100.0	100.0	-400.0	-400.0
	23 - 00	100.0	100.0	-400.0	-400.0
	Sum	2,400.0	2,400.0	-9,600.0	-9,600.0

Add Prices Modify Price Remove Price Copy Line Paste Line Replicate To All Adjust to Price Limit

Close Submit

TCOMAZER01@simu2.ets1.epex.spot:443 16:56:14

Order modification and differences

FR-RTE::COMPANYA-SABT01::60 min Linear Bid Entry [Epex Trading System]

File View Format Settings Window Help

Auction Date Time: 23 June 2020 - 12:00 cet/cest | Auction Name: PWR-MRC-D+1 | Delivery Date: 24 June 2020 | Area: FR-RTE | Portfolio: COMPANYA-SABT01 | Duration: 60 min | EUR | RTE

Import Bid | Export Bid | Delete | Differences: 3 | Piecewise DELETED

No errors

Order - 1000000170439 - 60 min

Submit Several Delivery Days

From: 24/06/2020 To: 29/06/2020 | All | Monday To Friday | Saturday To Sunday | Mon Tue Wed Thu Fri Sat Sun

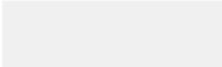
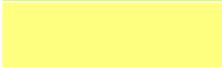
User Comment

Comment	Period (cet/cest)	-500.0	3,000.0
	00 - 01	0.0	0.0
	01 - 02	0.0	0.0
	02 - 03	0.0	0.0
	03 - 04	0.0	0.0
	04 - 05	0.0	0.0
	05 - 06	0.0	0.0
	06 - 07	0.0	0.0
	07 - 08	0.0	0.0
	08 - 09	0.0	0.0
	09 - 10	0.0	0.0
	10 - 11	0.0	0.0
	11 - 12	0.0	0.0
	12 - 13	0.0	0.0
	13 - 14	0.0	0.0
	14 - 15	0.0	0.0
	15 - 16	0.0	0.0
	16 - 17	0.0	0.0
	17 - 18	0.0	0.0
	18 - 19	0.0	0.0
	19 - 20	0.0	0.0
	20 - 21	0.0	0.0
	21 - 22	0.0	0.0
	22 - 23	0.0	0.0
	23 - 00	0.0	0.0
	Sum	0.0	0.0

Add Prices | Modify Price | Remove Price | Copy Line | Paste Line | Replicate To All | Adjust to Price Limit | Close | Submit

TCOMAZER01@simu2.ets1.epex.spot:443 16:59:30

Possible Linear Bid States:

- Initial 
- Active 
- Inactive 
- Deleted 
- Suspended 

3. Order management – Block Order

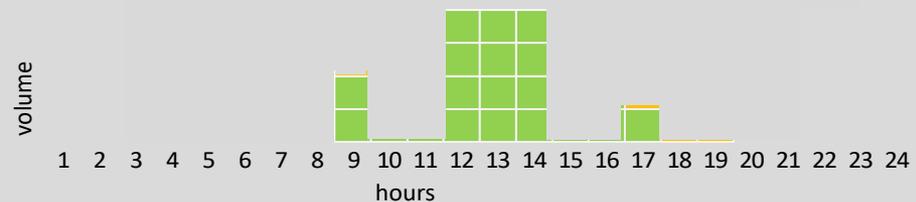
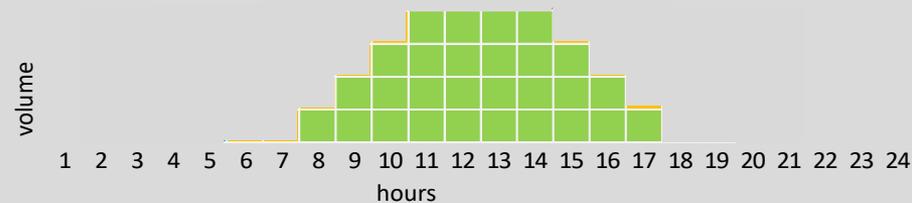
Classic block orders

In Day-Ahead trading, block orders are orders which encompass blocks of several hours, all of them submitted at the same (weighted average) price.

Conditions

- A classic block order is either **executed** or **rejected** for all hours.
- Either all hours in the order are executed at the determined price, or all hours in the order are rejected.
- If it is not curtailable, the whole volume of each hour is executed.
- A block can only be either on the sell or on the buy side, but not on both sides. Otherwise, it can be profiled as you wish.

Examples of block orders:



Classic Block order entering

- Manually
- Excel Copy/Paste

FR-RTE::COMPANYA-SABT01::60 min Block Bid Entry [Epex Trading System]

File View Format Settings Window Help

Auction Date Time: 23 June 2020 - 12:00 cet/cest | Auction Name: PWR-MRC-D+1 | Delivery Date: 24 June 2020 | Area: FR-RTE | Portfolio: COMPANYA-SABT01 | Duration: 60 min

EUR 

Side: [Import from Excel](#) [Export Bids](#) [Block Graph](#)

No errors

Active Block Bids: 2 60 min

First Period: 2020-06-24-00:00 cet/cest / Last Period: 2020-06-24-23:00 cet/cest

Block Id	Block Code	BlockCodePRM	MAR	Comment	Price	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	10000000170304	C01	1.00		100.0	681.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
2	10000000170305	C01	1.00		85.0	-180.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0
				Sum		501.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0

Block Bid Entry

First Period: 2020-06-24-00:00 cet/cest / Last Period: 2020-06-24-23:00 cet/cest

Block Id	BlockCode	Id	BlockCodePRM	MAR	Comment	Price	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	C01			1.00		0.0																									

[Add Block](#) [Add Linked Block](#) [Add Exclusive Block](#) [Add Loop Block](#) [Clear Block](#) [Remove Block](#) [Clear All Blocks](#)

[Simple View](#) [Close](#) [Submit](#)

TCOMAZER01@simu2.ets1.epex.spot:443 12:42:02

Linked blocks entering

FR-RTE::COMPANYA-SABT01:60 min Block Bid Entry (Epex Trading System)

File View Format Settings Window Help

Auction Date Time: 13 April 2022 - 15:00 cet/cest
 Auction Name: PWR-MRC-D+1
 Delivery Date: 14 April 2022
 Area: FR-RTE
 Portfolio: COMPANYA-SABT01
 Duration: 60 min

EUR 

Import from Excel Export Bids Block Graph Show All

No errors

Active Block Bids: 0 60 min

First Period: 2022-04-14-00:00 cet/cest / Last Period: 2022-04-14-23:00 cet/cest

Block Id	Block Code	BlockCodePRM	MAR	Comment	Price	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Sum																														

Edit Edit Groups Delete Delete Groups View Versions View Deleted Block Bids

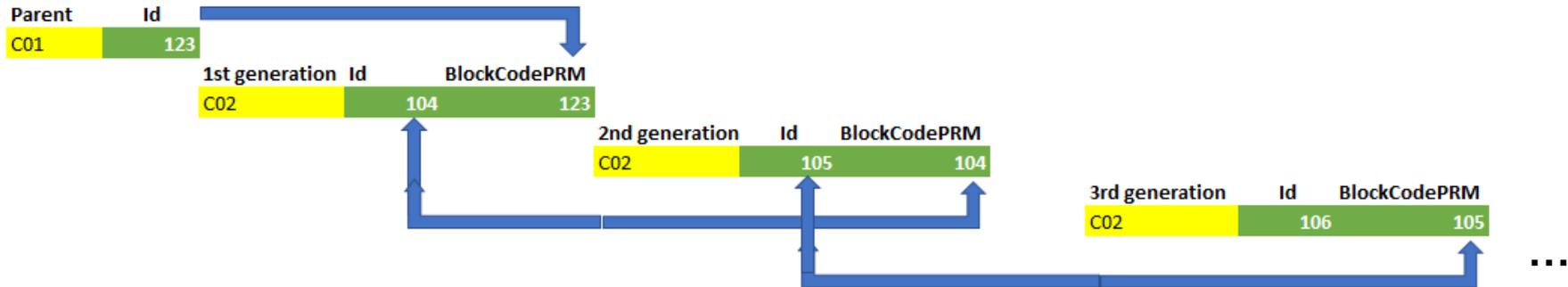
Block Bid Entry

First Period: 2022-04-14-00:00 cet/cest / Last Period: 2022-04-14-23:00 cet/cest

Block Id	BlockCode	Id	BlockCodePRM	MAR	Comment	Price	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
▶ 123	C01	123		1.00		85.0	-360.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0
▶ 104	C02	104	123	1.00		65.0	-450.0																						
▶ 105	C02	105	104	1.00		60.0	-330.0																						
▶ 106	C02	106	105	1.00		55.0	-280.0																						
▶ 108	C02	108	106	1.00		50.0	-200.0																						

Add Block Add Linked Block Add Exclusive Block Add Loop Block Add Spread Block Clear Block Remove Block Clear All Blocks Simple View Close Submit

Linked family Manual entry and Excel upload



Linked blocks with 3 generations

Block Bid Entry

First Period: 2022-04-14-00:00 cet/cest / Last Period: 2022-04-14-23:00 cet/cest

Block Id	BlockCode	Id	BlockCodePRM	MAR	Comment	Price	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
123	C01	123		1.00		85.0	-360.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0	-15.0
104	C02	104	123	1.00		65.0	-450.0															-45.0	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0
105	C02	105	104	1.00		60.0	-330.0																						
106	C02	106	105	1.00		55.0	-280.0																						
108	C02	108	106	1.00		50.0	-200.0																						

Block Code	Id	BlockCodePRM	MAR	Comment	Price	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21				
C01	123		1		85	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15	-15				
C02	104	123			65																-45	-45	-45	-45	-45	-45	-45			
C02	105	104			60																						-55	-55	-55	
C02	106	105			55																								-140	-140
C02	108	106			50																									-200

Linked family exposure calculation:

Block Code	Block Id	BlockCodePRM	MAR	Comment	Price	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Volumes	Exposure		
1	C01	345		1	85	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	360	30 600,00	
2	C02	110	345	1	100								45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	585	58 500,00
																											945,00	89 100,00					

Trading Limits

Id	Version	Exchange	CCP Id	CCP Version	TL Status	Currency	Initial Value	Current Value	Exposure	Min Price	Max Price	Realistic Min Price	Realistic Max Price	Creator	Instrument
1099	5	EPEX	-1		Created	EUR	5000000	4910900	89100					ClearingMember	
1100	2	EPEX	-1		Created	GBP	5000000	5000000	0					ClearingMember	

Exposure => Max Buy Price x Block total volume

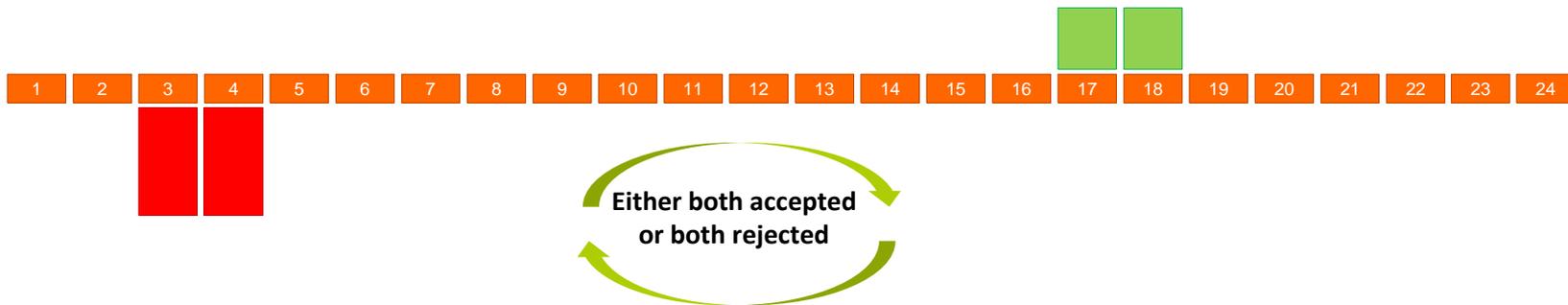
C01 => 85*360 = 30 600€

C02 => 100*585 = 58 500€

C01 + C02 = 89 100€

Loop Blocks - Enhanced Linked Blocks

Loop blocks are defined as a set of **2 classic profile blocks** (1 sell and 1 buy block for instance) that are **either both accepted, either both rejected**.



Producer parameters:

- Pump Hydro Storage (PHS) efficiency, or *eff* : X% (example 70%)
- Batteries circa. 76%
- **Minimum net expected revenue or *rev*: Y€**

Producer inputs in ETS in order to reflect the parameters:

- Buy block parameters: Volume buy and Price buy
- Sell block parameters: Volume sell and Price sell

Use-case: Bid pricing for (pumped hydro) storage

Producer inputs in ETS in order to reflect net minimum expected revenue:

Buy block parameters: 10 MW at 04h for 15€ → Cost of 150€

Sell block parameters: 7 MW at 19h for 25€ → Income of 175€

→ Net minimum expected revenue: $175 - 150 = 25€$

All market price combinations that provide a net revenue of 25€ or above will lead to the execution of the loop block.

If Market Clearing Price=10€ with Market Clearing Price=20€ → net revenue of 40€.

ETS Submission screen

Block Bid Entry

First Period: 2022-04-14-00:00 cet/cest / Last Period: 2022-04-14-23:00 cet/cest

Block Id	BlockCode	Id	BlockCodePRM	MAR	Comment	Price	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	C88	▼	1	1.00		15.0	10.0				10.0																		
	C88	▼	1	1.00		25.0	-7.0																			-7.0			

Loop family exposure calculation:

Trading Limits

Id	Version	Exchange	CCP Id	CCP Version	TL Status	Currency	Initial Value	Current Value	Exposure	Min Price	Max Price	Realistic Min Price	Realistic Max Price	Creator
1099	5	EPEX	-1		Created	EUR	5000000	4999850	150					ClearingMember
1100	2	EPEX	-1		Created	GBP	5000000	5000000	0					ClearingMember

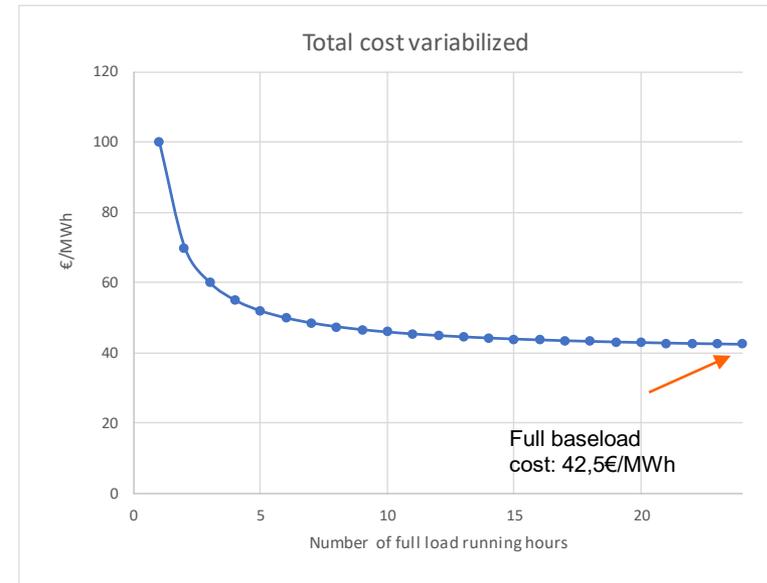
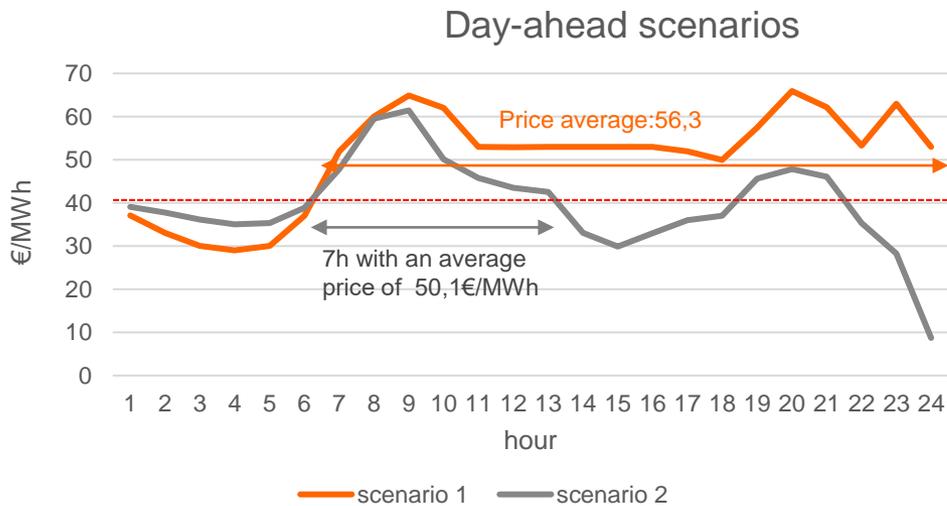
Exposure => Max Buy Price x Block total volume

C88 Buy => $10 * 15 = 150\text{€}$

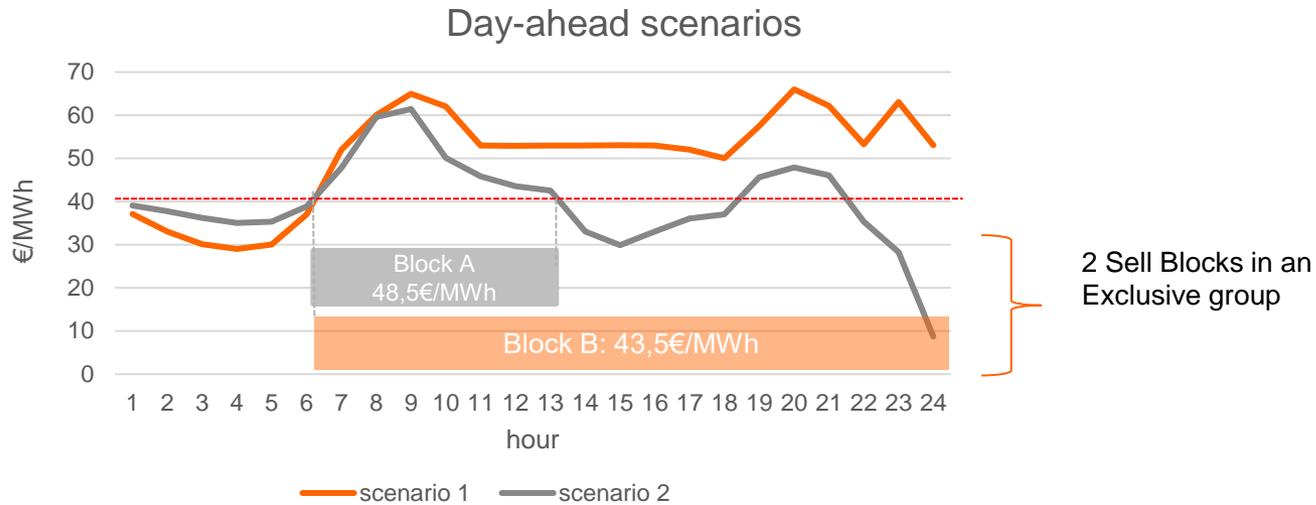
Exclusive block

Assumptions:

- Dispatch at Nominal Capacity 400MW only
- Variable generation cost: 40€/MWh
- Start-up cost (fixed cost): 24 000€
- Member has 2 different price forecasts



Use case: power plant with start-up costs



Note: this strategy can also be used while taking into account additional techno-economical constraints.

ETS Submission screen

Block Bid Entry

First Period: 2021-09-14-00:00 cet/cest / Last Period: 2021-09-14-23:00 cet/cest

Block Id	BlockCode	Id	BlockCodePRM	MAR	Comment	Price	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
C04		100		1.00		48.5	-2,800.0							-400.0	-400.0	-400.0	-400.0	-400.0	-400.0												
C04		100		1.00		43.5	-7,200.0							-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	-400.0	

[Add Block](#)
[Add Linked Block](#)
[Add Exclusive Block](#)
[Add Loop Block](#)
[Clear Block](#)
[Remove Block](#)
[Clear All Blocks](#)

Use case: 2 Scenarios for several assets

Possible strategy: submit 2 blocks per asset within an exclusive group, each block corresponding to one of the price scenarios.

The Block maximizing the global welfare will be selected by Euphemia.

Block Code	Block Id	BlockCodePRM	MAR	Comment	Price	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	C04		1	1 Asset1	100	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400	-400			
2	C04		1	1 Asset1	140															-400	-400	-400	-400	-400	-400	-400	-400	-400	-400			
3	C04		2	1 Asset2	120	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700	-700		
4	C04		2	1 Asset2	150															-700	-700	-700	-700	-700	-700	-700	-700	-700	-700			
5	C04		3	1 Asset3	120	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500	-500		
6	C04		3	1 Asset3	200															-500	-500	-500	-500	-500	-500	-500	-500	-500	-500			
7	C04		4	1 Asset4	65	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300	-300		
8	C04		4	1 Asset4	120																								-300	-300	-300	-300
9	C04		5	1 Asset5	55																									-140	-140	
10	C04		5	1 Asset5	50																										-200	

Max group size can go up to 24 blocks. 24 possible scenarios per asset

6. Q&A

Thank you for your attention!

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