

mFRR Capacity Settlement in Norway

Viivi Lemström | 22.10.2024



Practicalities

- Questions can be written in the chat
- The webinar will be recorded
- Material together with the recoding will be put up on eSett's project page afterwards
 - Projects ➡ Capacity Settlement in Norway to eSett



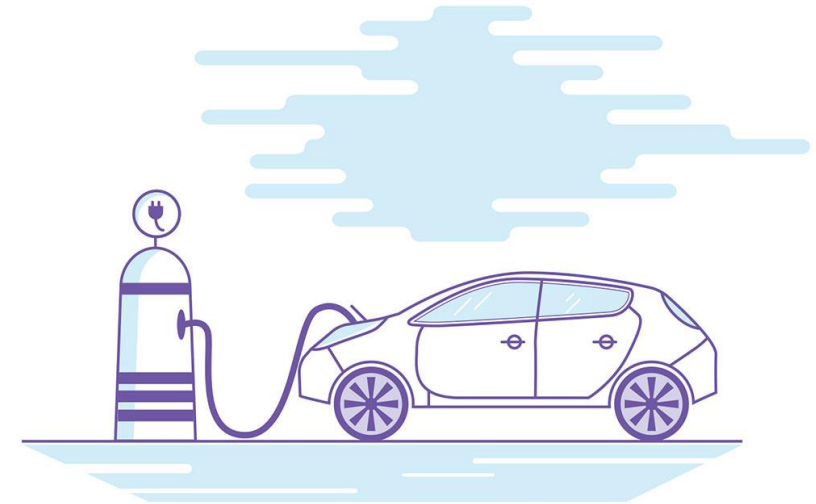
Agenda

- Overview
- Timeline
- Affected areas
 - Settlement
 - Invoicing
 - Online Service
- Verification of values
- Questions and answers



Overview

- Statnett will transfer the settlement of mFRR and mFRR-D capacity reserves to eSett from the go-live of mFRR EAM
 - Original go-live date was 3.12.2024 but it is now postponed to the beginning of next year
- aFRR will be transferred to eSett later during 2025 and after that possibly the FCR market as well
- Aim is to simplify the settlement of balancing services
 - All information will be gathered in one place in eSett's system
- Invoicing of balancing capacity will be more straightforward
 - eSett is the one sending out the capacity reserve invoices to the BRPs so no separate invoicing process needed with Statnett



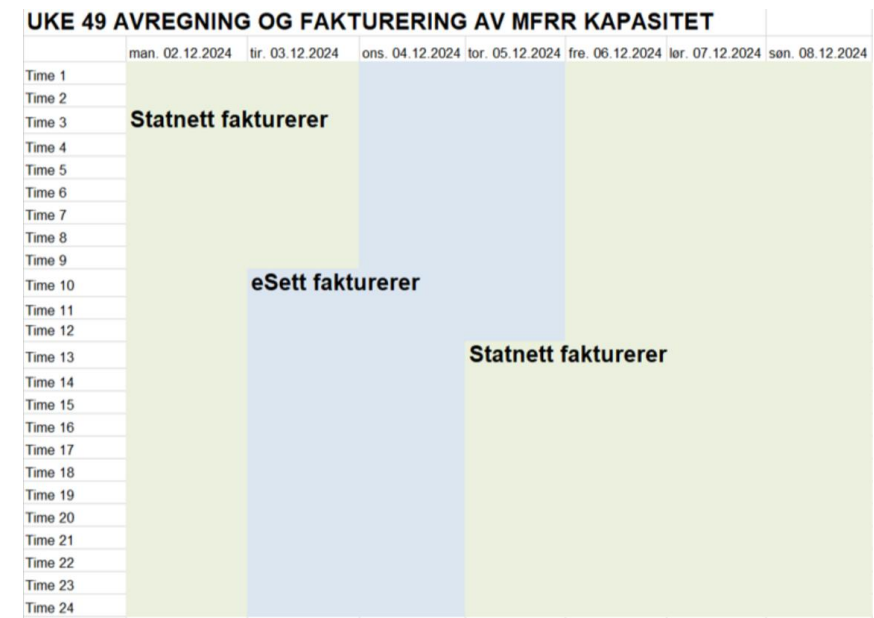
Timeline

- From the go-live of mFRR EAM, the settlement of mFRR capacity reserves are moved from Statnett to eSett
 - mFRR and mFRR-D
- eSett will receive values from Statnett for the delivery day on delivery day + 2
 - For example values for 25.1.2025 are received on 27.1.2025
- First invoicing of mFRR capacity reserves takes place on the third Monday after the go-live
 - Only values after the go-live are part of eSett's invoice
 - mFRR for days before go-live will be invoiced by Statnett



Roll-back scenario

- If something goes wrong after the go-live, Statnett has prepared a roll-back scenario
- The roll-back will happen at latest 2 days after the go-live
- If a roll-back is needed and it happens for example on the second day after the go-live, eSett invoices the mFRR for the days and hours for which we have values and Statnett invoices the rest of the week
- After the roll-back, Statnett will continue to invoice the mFRR capacity reserves until a new go-live date is set

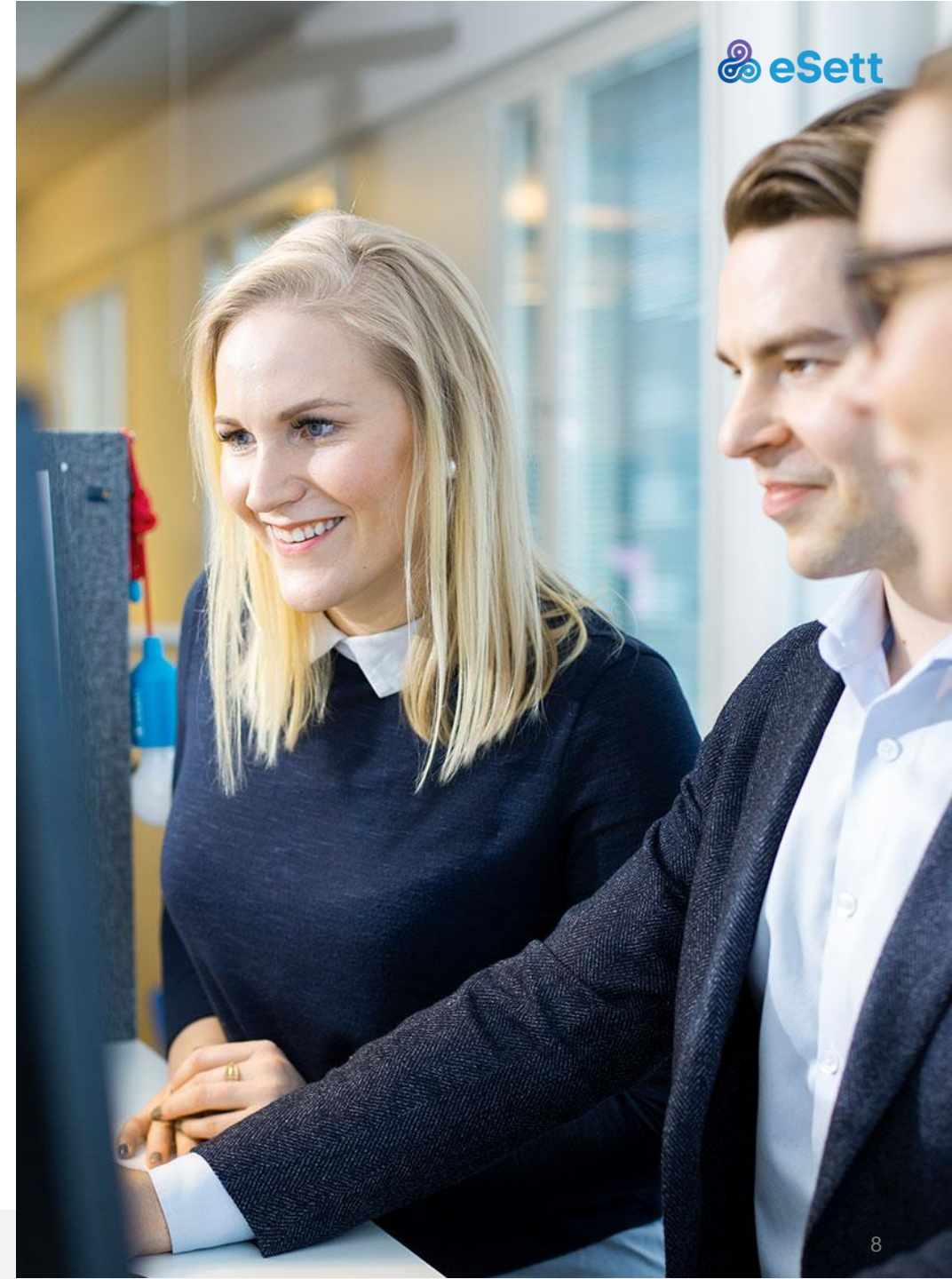


Picture is done by Statnett

Affected areas

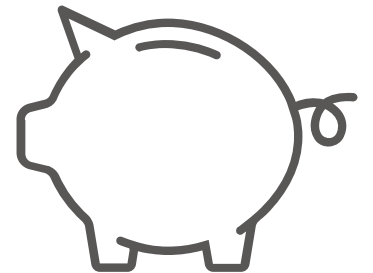
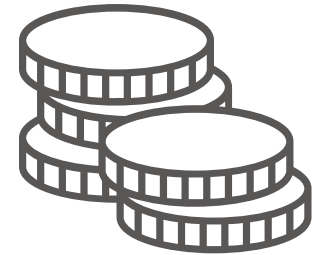
Settlement

- The settlement of capacity reserves is a separate settlement in eSett
 - No impact on balance responsible party's (BRPs) current imbalance settlement
- No impact on the BRPs collateral calculation or the fees
- Statnett will send the procured volumes (MW) to eSett who calculates the mFRR capacity settlement results and invoices them
- The settlement period for balancing capacity is 60 minutes



Invoicing

- Norwegian BSPs are able to decide whether they want to include the capacity reserves on their current Imbalance Settlement invoice or have them on a separate BSP invoice
- The default option is to include the capacity reserve products on the Imbalance Settlement invoice
 - Same currency will be used for the capacity reserves as for imbalances
- Those BSPs that gets invoice by eSett in NOK and by Statnett in EUR can separate their BRP- and BSP-roles resulting to an individually standing BSP within the company
 - BSP receives its own invoice in EUR which includes both activated reserves and capacity reserves
 - BRP continues to receive the Imbalance Settlement invoice in NOK but without the activated reserves
 - New bank account in EUR as well as signing eSett's bank agreement are needed for this set up



Invoicing products

- In the default option, capacity reserve products will be included on the BRPs imbalance settlement invoice as own separate rows under “Purchases by eSett Oy”
- If BRP- and BSP-roles are separated, the activated and capacity reserves are found on the BSPs invoice instead
 - The names of the capacity reserves products will be “BSP Bought...”
- Products are separated to Up and Down products
- Correction products will be used for the volumes that BSP fails to deliver
- If the BSP has planned to deliver 50 MWh of capacity but only deliver 48 MWh, 50 MWh is sent to the mFRR product and 2 MWh to the mFRR correction product

BRP Bought FRR-M, Balancing Power Up, Capacity Reserves

BRP Bought FRR-M, Balancing Power Down, Capacity Reserves

BRP Bought FRR-M Up, Correction, Capacity Reserves

BRP Bought FRR-M Down, Correction, Capacity Reserves

BRP Bought FRR-M-D Balancing Power Up, Capacity Reserves

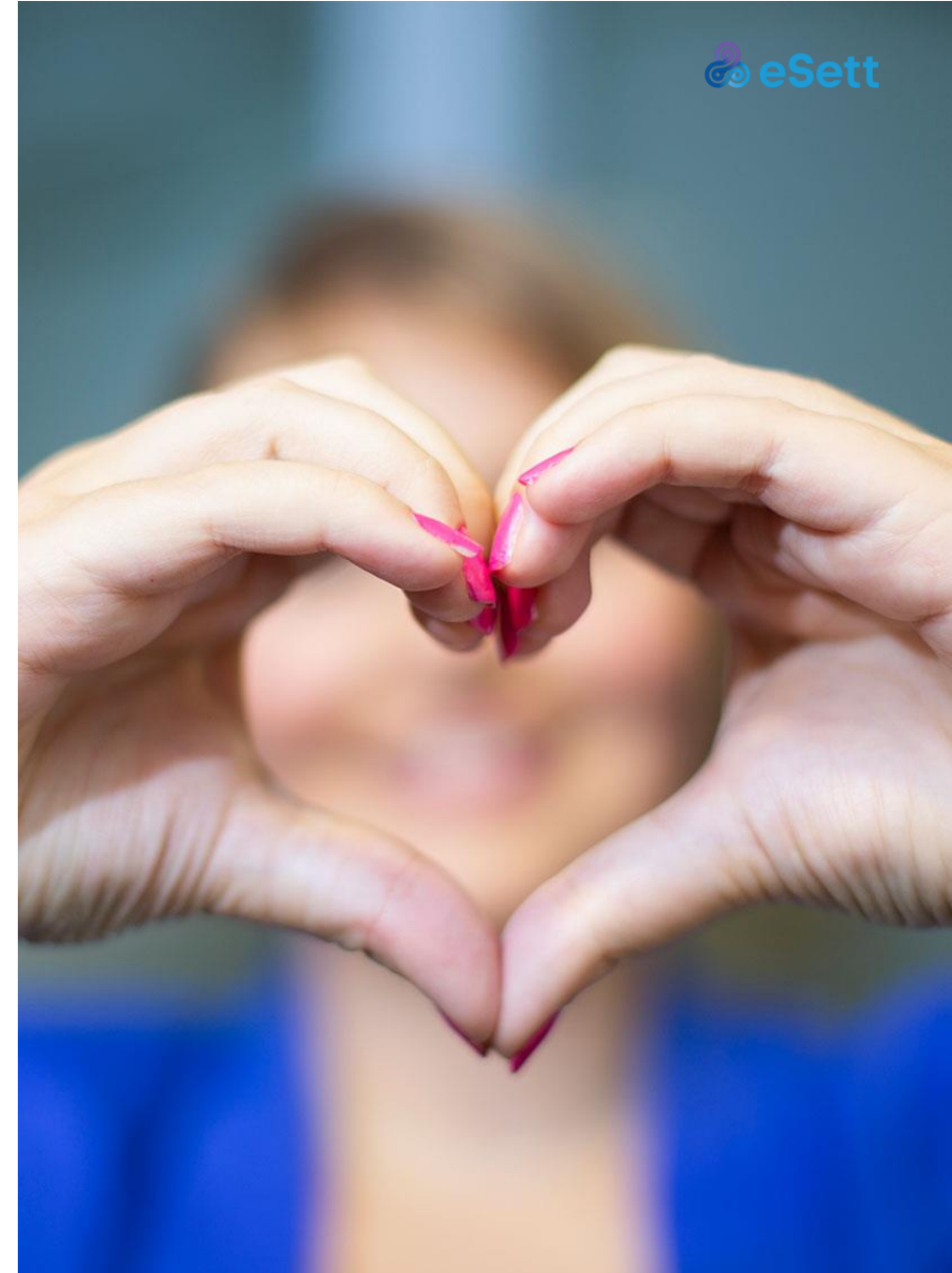
BRP Bought FRR-M-D Balancing Power Down, Capacity Reserves

BRP Bought FRR-M-D Up, Correction, Capacity Reserves

BRP Bought FRR-M-D Down, Correction, Capacity Reserves

Online Service

- Hourly capacity reserve volumes and amounts will be visible under the BSP view
 - Input Data ➡ Capacity reserves
 - Overview of the products with drill-down to detail and time series level
 - Aggregated data per product
 - Totals
- New data package under BSP view
 - Reports ➡ Data Packages Management
 - Tertiary Replacement Reserves (RR) – contracted reserves
 - mFRR – Z31
 - mFRR correction – Z76
 - mFRR-D – Z74
 - mFRR-D correction – Z93



Verification of values

Verification of values

- After Statnett starts reporting the mFRR capacity reserve values to eSett, please verify them via Online Service
 - Contact eSett immediately at settlement@esett.com if you find any errors or are unsure if the values are correct
 - eSett will contact Statnett and check the values with them



INPUT DATASTRUCTURESFINANCESREPORTSMESSAGESINFORMATIONADMINISTRATION

Others

Activated Reserves

Capacity Reserves

Prices

All market parties have sufficient collateral

Messages

ACK Status	Created	Type	Direction	Status
Not received	01.10.2024 06:54	DP_ACTIVE_RE	Outbound	Delivered
Not received	01.10.2024 06:53	DP_ACTIVE_RE	Outbound	Delivered
Not received	01.10.2024 06:40	DP_ACTIVE_RE	Outbound	Delivered
Not received	30.09.2024 06:40	DP_ACTIVE_RE	Outbound	Delivered
Not received	30.09.2024 06:40	DP_ACTIVE_RE	Outbound	Delivered
Not received	30.09.2024 06:40	DP_ACTIVE_RE	Outbound	Delivered
Not received	30.09.2024 06:40	DP_ACTIVE_RE	Outbound	Delivered
Not received	29.09.2024 06:52	DP_ACTIVE_RE	Outbound	Delivered
Not received	29.09.2024 06:51	DP_ACTIVE_RE	Outbound	Delivered
Not received	29.09.2024 06:51	DP_ACTIVE_RE	Outbound	Delivered
Not received	28.09.2024 06:41	DP_ACTIVE_RE	Outbound	Delivered

Messages

Help/Service Requests

In case of any issues or questions please contact eSett's support:

Create Customer Service Request: <https://esett.service-now.com/public/>

Send email to settlement@esett.com

Call +358 10 5018500 Open hours 09-15 CET

[Online Service](#) [tutorial videos](#)

System information:

Messaging Service

Web service URL: <https://service.esett.com/MSGS/messagingServiceInputInterface>

FTP host: <sftp://service.esett.com>

SMTP host: service.esett.com, email: inbox@service.esett.com

Information Service

Web service URL: <https://service.esett.com/INFS/InformationService.svc>

eSett's external IP address

eSett calls market participants' servers from:

193.66.248.234

193.66.248.235

News

Invoicing View is accessible again

20.09.2024 10:00

Dear Customers,

We are pleased to inform you that the issues with the Invoicing view in our Online Service have been resolved, and the view is accessible again.

Thank you for your patience and understanding during this time. If you have any questions or need assistance, please don't hesitate to reach out.

Important Update on Invoicing View in Online Service

20.09.2024 10:00

Dear Customers,

We are currently experiencing issues with the Invoicing view in our Online Service. To avoid any confusion, we have temporarily hidden the view while we work on resolving the

Notifications

Notification ID	Notification Name	Time Stamp (CET/CES
The data isn't available in the system.		

Total pages: 0 (0 rows)

OverviewAggregationsTotals

Validity

18.09.2024

Active

MBA

Balancing Service

Balancing Sub Service

FilterClear

RefreshExport to ExcelSave SettingsRestore DefaultView Columns

From	To	MBA	Balancing Service	Balancing Sub Service
16.08.2024 00:00	Undefined	NO2	Frequency Restoration Reserve	FRR-M, Balancing Power
16.08.2024 00:00	Undefined	NO2	Frequency Restoration Reserve	FRR-M, correction
20.08.2024 00:00	Undefined	NO2	Frequency Restoration Reserve	FRR-M-D
20.08.2024 00:00	Undefined	NO2	Frequency Restoration Reserve	FRR-M-D, correction

Total pages: 1 (4 rows)

DetailTime Series

Input Data > Capacity Reserves

Capacity Reserves

Units:

MWh

kWh

 Decimal Unit:

6

Capacity Reserves

Help

MBA

NO2

Balancing Service

Frequency Restoration Reserve

Balancing Sub Service

Frequency Restoration Reserve - Manual (FRR-M), Balancing Power

DetailTime Series

Period

09.09.2024 00

-

11.09.2024 24

Refresh

Export to Excel

Status	Date	Interval	Up Quantity	Down Quantity	Up Amount	Down Amount	Last Modification
Load previous day							
Closed	09.09.2024	00:00-01:00	104,000000	0,000000	-312,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	01:00-02:00	0,000000	0,000000	0,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	02:00-03:00	0,000000	20,000000	0,000000	-60,000000	17.09.2024 14:38:52 CEST
	09.09.2024	03:00-04:00	0,000000	20,000000	0,000000	-60,000000	17.09.2024 14:38:52 CEST
	09.09.2024	04:00-05:00	0,000000	0,000000	0,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	05:00-06:00	110,000000	0,000000	-495,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	06:00-07:00	70,000000	0,000000	-770,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	07:00-08:00	160,000000	0,000000	-3 040,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	08:00-09:00	160,000000	0,000000	-3 680,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	09:00-10:00	110,000000	0,000000	-2 090,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	10:00-11:00	110,000000	0,000000	-1 595,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	11:00-12:00	80,000000	0,000000	-1 040,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	12:00-13:00	70,000000	20,000000	-560,000000	-70,000000	17.09.2024 14:38:52 CEST
	09.09.2024	13:00-14:00	50,000000	20,000000	-300,000000	-100,000000	17.09.2024 14:38:52 CEST
	09.09.2024	14:00-15:00	50,000000	20,000000	-275,000000	-100,000000	17.09.2024 14:38:52 CEST
	09.09.2024	15:00-16:00	50,000000	20,000000	-200,000000	-90,000000	17.09.2024 14:38:52 CEST
	09.09.2024	16:00-17:00	50,000000	0,000000	-300,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	17:00-18:00	70,000000	0,000000	-560,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	18:00-19:00	87,000000	0,000000	-1 131,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	19:00-20:00	107,000000	0,000000	-1 551,500000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	20:00-21:00	107,000000	0,000000	-1 498,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	21:00-22:00	107,000000	0,000000	-1 498,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	22:00-23:00	70,000000	0,000000	-805,000000	0,000000	17.09.2024 14:38:52 CEST
	09.09.2024	23:00-24:00	70,000000	0,000000	-525,000000	0,000000	17.09.2024 14:38:52 CEST

Capacity Reserves

MBA	NO2	Balancing Service	Frequency Restoration Reserve	Balancing Sub Service	Frequency Restoration Reserve - Manual (FRR-M), Balancing Power
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DetailTime Series

Period

Interval is automatically shortened to max allowed length

09.09.2024 00

15.09.2024 24

Time Aggregation

Hour

Day

Week

Month

Year

Display

Table

Chart

Time Series

Up Quantity

Up Amount

Down Quantity

Down Amount

Date	09.09.2024	10.09.2024	11.09.2024	12.09.2024	13.09.2024	14.09.2024
Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
00:00-01:00	104,000000	110,000000	200,000000	130,000000	0,000000	
01:00-02:00	0,000000	0,000000	115,000000	130,000000	0,000000	
02:00-03:00	0,000000	0,000000	115,000000	130,000000	0,000000	
03:00-04:00	0,000000	0,000000	115,000000	130,000000	0,000000	
04:00-05:00	0,000000	0,000000	115,000000	130,000000	0,000000	
05:00-06:00	110,000000	110,000000	180,000000	180,000000	0,000000	
06:00-07:00	70,000000	50,000000	206,000000	180,000000	50,000000	
07:00-08:00	160,000000	90,000000	200,000000	200,000000	112,000000	
08:00-09:00	160,000000	90,000000	220,000000	200,000000	160,000000	
09:00-10:00	110,000000	90,000000	200,000000	200,000000	86,000000	
10:00-11:00	110,000000	90,000000	200,000000	180,000000	50,000000	
11:00-12:00	80,000000	50,000000	160,000000	160,000000	50,000000	
12:00-13:00	70,000000	50,000000	200,000000	180,000000	0,000000	
13:00-14:00	50,000000	50,000000	50,000000	171,000000	0,000000	
14:00-15:00	50,000000	42,000000	50,000000	160,000000	0,000000	
15:00-16:00	50,000000	50,000000	175,000000	160,000000	0,000000	
16:00-17:00	50,000000	50,000000	200,000000	180,000000	0,000000	
17:00-18:00	70,000000	50,000000	200,000000	50,000000	50,000000	
18:00-19:00	87,000000	70,000000	200,000000	50,000000	50,000000	
19:00-20:00	107,000000	90,000000	220,000000	50,000000	50,000000	
20:00-21:00	107,000000	90,000000	220,000000	50,000000	50,000000	
21:00-22:00	107,000000	90,000000	200,000000	50,000000	50,000000	
22:00-23:00	70,000000	90,000000	200,000000	50,000000	50,000000	
23:00-24:00	70,000000	50,000000	220,000000	50,000000	50,000000	
Min	0,000000	0,000000	50,000000	50,000000	0,000000	
Max	160,000000	110,000000	220,000000	200,000000	160,000000	
Total	1 792,000000	1 452,000000	4 161,000000	3 151,000000	858,000000	

100,000000

100,000000

100,000000

100,000000

100,000000

80,000000

100,000000

80,000000

80,000000

100,000000

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80,000000

80,000000

100,000000

100,000000

20,000000

20,000000

20,000000

170,000000

170,000000

170,000000

170,000000

130,000000

20,000000

170,000000

2 290,000000

Capacity Reserves

OverviewAggregationsTotals

Balancing Sub Service									
Frequency Restoration Reserve - Manual (FRR-M), Balancing Power									
Frequency Restoration Reserve - Manual (FRR-M), correction									
Frequency Restoration Reserve - Manual (FRR-M), Disturbance									
Frequency Restoration Reserve - Manual (FRR-M), Disturbance, correction									
Date	09.09.2024	10.09.2024	11.09.2024	12.09.2024	13.09.2024	14.09.2024	15.09.2024		
Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		
00:00-01:00	104,000000	110,000000	200,000000	130,000000	0,000000		100,000000		
01:00-02:00	0,000000	0,000000	115,000000	130,000000	0,000000		100,000000		
02:00-03:00	0,000000	0,000000	115,000000	130,000000	0,000000		100,000000		
03:00-04:00	0,000000	0,000000	115,000000	130,000000	0,000000		100,000000		
04:00-05:00	0,000000	0,000000	115,000000	130,000000	0,000000		100,000000		
05:00-06:00	110,000000	110,000000	180,000000	180,000000	0,000000		100,000000		
06:00-07:00	70,000000	50,000000	206,000000	180,000000	50,000000		80,000000		
07:00-08:00	160,000000	90,000000	200,000000	200,000000	112,000000		100,000000		
08:00-09:00	160,000000	90,000000	220,000000	200,000000	160,000000		80,000000		
09:00-10:00	110,000000	90,000000	200,000000	200,000000	86,000000		80,000000		
10:00-11:00	110,000000	90,000000	200,000000	180,000000	50,000000		80,000000		
11:00-12:00	80,000000	50,000000	160,000000	160,000000	50,000000		80,000000		
12:00-13:00	70,000000	50,000000	200,000000	180,000000	0,000000		100,000000		
13:00-14:00	50,000000	50,000000	50,000000	171,000000	0,000000		100,000000		
14:00-15:00	50,000000	42,000000	50,000000	160,000000	0,000000		100,000000		
15:00-16:00	50,000000	50,000000	175,000000	160,000000	0,000000		20,000000		
16:00-17:00	50,000000	50,000000	200,000000	180,000000	0,000000		20,000000		
17:00-18:00	70,000000	50,000000	200,000000	50,000000	50,000000		20,000000		
18:00-19:00	87,000000	70,000000	200,000000	50,000000	50,000000		20,000000		
19:00-20:00	107,000000	90,000000	220,000000	50,000000	50,000000		170,000000		
20:00-21:00	107,000000	90,000000	220,000000	50,000000	50,000000		170,000000		
21:00-22:00	107,000000	90,000000	200,000000	50,000000	50,000000		170,000000		
22:00-23:00	70,000000	90,000000	200,000000	50,000000	50,000000		170,000000		
23:00-24:00	70,000000	50,000000	220,000000	50,000000	50,000000		130,000000		
Min	0,000000	0,000000	50,000000	50,000000	0,000000		20,000000		
Max	160,000000	110,000000	220,000000	200,000000	160,000000		170,000000		
Total	1 792,000000	1 452,000000	4 161,000000	3 151,000000	858,000000		2 290,000000		

MBA

NO2

Time Aggregation

HourDayWeekMonthYear

Display

TableChart

Time Series

Up Quantity

Export to Excel

Capacity Reserves

OverviewAggregationsTotals

Balancing Sub Service		MBA	
Frequency Restoration Reserve - Manual (FRR-M), Balancing Power		NO2	
Period <small>Interval is automatically shortened to max allowed length</small>		Time Aggregation	
09.09.2024 00 <div></div> 15.09.2024 24 <div></div>		<div>HourDayWeekMonthYear</div>	
		Display	
		<div>TableChart</div>	
		Time Series	
		<div>Up Quantity</div>	
		<div>Up Amount</div>	
		<div>Down Quantity</div>	
		<div>Down Amount</div>	
Date	09.09.2024	10.09.2024	11.09.2024
Day	Monday	Tuesday	Wednesday
00:00-01:00	104,000000	110,000000	200,000000
01:00-02:00	0,000000	0,000000	115,000000
02:00-03:00	0,000000	0,000000	115,000000
03:00-04:00	0,000000	0,000000	115,000000
04:00-05:00	0,000000	0,000000	115,000000
05:00-06:00	110,000000	110,000000	180,000000
06:00-07:00	70,000000	50,000000	206,000000
07:00-08:00	160,000000	90,000000	200,000000
08:00-09:00	160,000000	90,000000	220,000000
09:00-10:00	110,000000	90,000000	200,000000
10:00-11:00	110,000000	90,000000	200,000000
11:00-12:00	80,000000	50,000000	160,000000
12:00-13:00	70,000000	50,000000	200,000000
13:00-14:00	50,000000	50,000000	50,000000
14:00-15:00	50,000000	42,000000	50,000000
15:00-16:00	50,000000	50,000000	175,000000
16:00-17:00	50,000000	50,000000	200,000000
17:00-18:00	70,000000	50,000000	200,000000
18:00-19:00	87,000000	70,000000	200,000000
19:00-20:00	107,000000	90,000000	220,000000
20:00-21:00	107,000000	90,000000	220,000000
21:00-22:00	107,000000	90,000000	200,000000
22:00-23:00	70,000000	90,000000	200,000000
23:00-24:00	70,000000	50,000000	220,000000
Min	0,000000	0,000000	50,000000
Max	160,000000	110,000000	220,000000
Total	1 792,000000	1 452,000000	4 161,000000

INPUT DATASTRUCTURESFINANCESREPORTSMESSAGESINFORMATIONADMINISTRATION

Input Data > Capacity Reserves

Capacity Reserves

Units: MW kWDecimal Unit: 6Help

OverviewAggregationsTotals

Period09.09.2024-15.09.2024MBA

NO2

RefreshExport to ExcelSave SettingsRestore DefaultView Columns

Balancing Service	Up Amount [EUR]	Up Quantity [MW]	Down Amount [EUR]	Down Quantity [MW]	Symmetrical Quantity [MW]	Symmetrical Amount [EUR]
Frequency Restoration Reserve	-236 296,440000	12 852,250000	-980,000000	300,000000		
Balancing Sub Service↑	Up Amount [EUR]	Up Quantity [MW]	Down Amount [EUR]	Down Quantity [MW]	Symmetrical Quantity [MW]	Symmetrical Amount [EUR]
Frequency Restoration Reserve - Manual (FRR-...	-295 301,400000	13 704,000000	-980,000000	300,000000		
Frequency Restoration Reserve - Manual (FRR-...	59 004,960000	-851,750000	0,000000	0,000000		
Frequency Restoration Reserve - Manual (FRR-...	0,000000	0,000000	0,000000	0,000000		
Frequency Restoration Reserve - Manual (FRR-...	0,000000	0,000000	0,000000	0,000000		

Total pages: 1 (1 rows)

Questions?

Questions and Answers

Q: If we don't choose to separate the settlement invoice, will the capacity reserves still be under BSP role in Online Service or will it be shown under the BRP role?

A: The Capacity reserves will be visible under your BSP role in Online Service in both options.

Q: Is the NBS Handbook already updated regarding this change?

A: Yes, the Handbook version 4.9 supports this change.

Q: Do we need to verify the values only for the go live or continuously?

A: The verification is most critical in the beginning after the go-live, but of course we hope that the BSPs do a continuous verification of the values so that we avoid doing correction invoices.

Q: When is the go live?

A: The go-live date will be at the same time as the go-live date for mFRR EAM. The go-live date will be published as soon as we know it.



WE SETTLE, TOGETHER!

