

Datahub GUI SMT User Manual for Market Parties

7.6.2021



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Definitions and abbreviations

A complete list of definitions and abbreviations can be found from document “Electricity retail marked business processes in Datahub”. **The parties involved** in Datahub use can be described as follows

- **Market Party.** A company acting in one or more roles in the electricity retail market. Market parties are distribution system operators, suppliers, balance responsible parties, balance settlement unit and third parties. Market Party needs a service agreement with Datahub.
- **Distribution System Operator (DSO).** A distribution grid owner, who is responsible for the distribution grid or the high-voltage grid and who has licenced electricity market activity in the respective grid. DSO's within the balance settlement of the centralised information exchange are the ones who have electricity market activity in the distribution network stated in the Energy Market Act and whom have granted the grid license for the distribution network or closed distributed network. A Distribution Grid is the electricity grid, which nominal voltage is lower than 110 kV (nominal voltage is defined in the grid license).
- **Market Operator (MOP)** authorised operator user Datahub.
- **Metering Responsible Party or Meter Data Responsible (MDR).** A party, which is responsible for the collection of metering data from a certain metering point and for reporting it to Datahub. For accounting points, this party is always the distribution system operator (DSO). Metering grid area has to have always a metering responsible party that is responsible of the imbalance settlement of the metering grid area.
- **(Electricity) Supplier (DDQ).** Any person, organisation or company that sells electricity or buys it (in this context, small-scale or production unit's customer production).
- **Service Provider (Third Party, THP).** Service provider that needs the information from Datahub with the customer authorisation. Alternatively, the service provider operates in Datahub with a delegation by another market party.
- **System Operator.** A trader who is in control of the power grid and is engaged in licensed electricity grid operations on this network.
- **Transmission System Operator (TSO).** Responsible party of the main Grid, Fingrid Oyj. Unit of centralised information exchange in electricity retail market. Transmission system operator Fingrid Oyj's subsidiary Fingrid Datahub Oy, that operates the centralised information exchange in electricity retail market. Company can use also abbreviation Datahub.

List of some commonly used abbreviations with this document are as follows

- **CMD** Contract Master Data module of Datahub
- **CPO** CMS Product Owner
- **GUI** Graphical User Interface
- **ISR** Imbalance Settlement Responsible
- **MDM** Meter Data Management
- **MGA** Metering Grid Area
- **NBS** Nordic balance settlement model
- **SMT** Settlement

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About this document

This Datahub GUI **SMT(Settlement)** User Manual for Market Parties is an extension to the Datahub GUI User Manual for Market Parties. See Appendix D for Manuals for Market Parties.

This document is not intended to be read cover to cover, it is intended to serve as a reference guide whilst using the Datahub portal. Because most of the fields are self-explanatory, descriptions have been reserved for those fields that require a description.

The starting point for this Manual is that the/a market operator, next to the role of functional application support (performing for instance functional configuration management, supporting the market participants in organisation and user management, etc.), is enabled to manage meter data.

1 Concepts: Settlement

1.1 Imbalance Settlement

For the imbalance settlement process (DH-511) two process configurations are made:

- Formal imbalance settlement process (balance window);
- Informal imbalance settlement calculations outside the balance window (three years period *).

*)

Three years is defined by the schedule which starts the calculation. A shorter period or fixed reference date (due to data migration) is possible as well as part of the schedule definition.

In contrary to the formal process, the informal calculation does not include any validation and distribution steps, it only calculates similar imbalance time series and makes the calculation results available for querying. The calculated time series are stored with two different 'settlement type' classifications to distinguish the formal and informal data.

1.1.1 Imbalance Settlement (Balance Window) by MOP

The formal imbalance settlement process (DH-511) is triggered by either a pre-defined schedule or ad-hoc (immediate schedule) by an operator user. Only an authorised operator user (MOP) is allowed to create a schedule or start the process ad-hoc.

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The DH-511 process calculates and reports a balance window of 11 days based on the input parameters of the schedule starting the process (period start/end). The calculation is done based on information available in the Datahub:

- Master data of accounting points, production units and exchange points:
 - This master data is maintained by the CMD module and associated market processes. Relevant information for settlement calculations are synchronised to the MDM module (bitemporal) and can be used in the settlement calculations.
- Meter data of these metering points:
 - The MDM module receives and stores the meter data from the meter data responsible parties. This data is used in the settlement calculations.

Once the calculations are done and results stored, the data is distributed to the relevant parties.

1.1.1.1 Imbalance Settlement – Steps

The following steps are executed as part of the imbalance settlement process:

1. Trigger.

The formal imbalance settlement process is triggered for a certain period, one or more grid areas and a reference timestamp until when changes are taken into account (as-of timestamp). It is executed by a schedule. See '[Settlement Run: Start](#)' if it is manually triggered via the GUI.

The market operator is able to prevent the delivery to eSett of imbalance settlement time series for a certain metering grid area from a time interval. Data should not be sent to eSett when for example yesterday's results are better than today. This can be achieved by running the imbalance settlement calculations with a reference timestamp from a day ago, rather than the normal reference timestamp.

2. Initialisation.

The input parameters are validated and the imbalance settlement process is created.

3. Open/closed period validation.

The period for the imbalance settlement process is validated if it is open for calculation and consecutive to a previously closed period.

4. Calculation.

The time series required for imbalance settlement are calculated and stored in the calculated time series storage with status 'Pending' for retrieval later on.

5. Loss validation.

One of the results of the imbalance settlement calculation is the grid loss. It is validated whether the grid loss is within certain thresholds on a MGA by MGA basis. This can result in warnings, but does not stop the process.

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6. In case the process was started with the option “Require Manual Approval”, the imbalance settlement process waits for manual approval. An authorised operator user can approve or reject this step to continue/cancel the process. See [‘Settlement Runs: Search, View, Approve and Reject’](#) for more details.

7. Period lock.

As part of the imbalance settlement, the last (oldest) day in the period is to be locked for two purposes:

- Prevent reporting the same period again (by accident);
- Have a baseline for balance deviation calculation.

The lock period is executed for all MGAs calculated. If needed, a period can be unlocked using the GUI. See [‘Imbalance Settlement Run: List, View and Unlock’](#) for more details.

8. Distribution of time series (ISR).

Several distribution steps for the Imbalance Settlement Responsible (ISR). Datahub sends nine different time series types to the ISR in three different types of messages (see table below).

9. Distribution of time series (DSO).

Several distribution steps for the Distribution System Operator (DSO). Datahub sends eighteen different time series types to the DSOs in three different types of messages (see table below).

10. Distribution of time series (Supplier).

Several distribution steps for the supplier. Datahub sends eight different time series types to the suppliers in two different types of messages (see table below).

11. Status update.

In case a manual approval was required and the run was rejected, the status is updated to ‘Cancelled’. In case no manual approval was requested or the manual approval step was accepted, the calculated time series as part of this settlement run are released by updating their status to ‘Final’. As a result they are available for retrieval.

The following picture shows a graphical representation of the calculation process.

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Data exchange	ISR	DSO	Supplier	SMT Method	Business Type	Document type	MP Type
Supplier small scale production by production type	DH-511-2	DH-514-1	DH-515-1		BI05	E31	E18
Production unit production	DH-511-2	DH-514-2	DH-515-2		BI06	E66	E18
MGA exchange sum	DH-511-3	DH-514-3	N/A		BI18	E31	E20
MGA losses	DH-511-1	DH-514-1	DH-515-1	E02	BI07	E31	E17
MGA negative losses	DH-511-2	DH-514-1	DH-515-1		BI08	E31	E18
MGA imbalance (from eSett)	DH-513-1	DH-513-2 DH-513-3	DH-513-4 DH-513-5		BI09	F25	
MGA consumption profiled	N/A	DH-514-1	N/A	E01	BI10	E31	E17
MGA consumption non-profiled	N/A	DH-514-1	N/A	E02	BI11	E31	E17
MGA PU own consumption profiled	N/A	DH-514-1	N/A	E01	BI12	E31	E17
MGA PU own consumption non-profiled	N/A	DH-514-1	N/A	E02	BI13	E31	E17
MGA small scale production by production type	N/A	DH-514-1	N/A		BI14	E31	E18
MGA small scale production total	N/A	DH-514-1	N/A		BI15	E31	E18
MGA production unit by production type	N/A	DH-514-1	N/A		BI16	E31	E18
MGA production unit total	N/A	DH-514-1	N/A		BI17	E31	E18
MGA total exchange sum	N/A	DH-514-1	N/A		BI19	E31	E20
MGA exchange confirmation (from eSett)	DH-516-1	DH-516-2	N/A		BI20	E44	

In more details:

Supplier Consumption Profiled

Element	Name	Description
Time Series Type	IB_BS_CON_PD	Supplier Consumption Profiled - used for DH-511/DH-514/DH-515
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	supID	Supplier
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

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Supplier Consumption Non-Profiled

Element	Name	Description
Time Series Type	IB_BS_CON_NPD	Supplier Consumption Non-Profiled - used for DH-511/DH-514/DH-515
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	supID	Supplier
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

Supplier PU Own Consumption Profiled

Element	Name	Description
Time Series Type	IB_BS_OCON_PD	Supplier PU Own Consumption Profiled - used for DH-511/DH-514/DH-515
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	supID	Supplier
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

Supplier PU Own Consumption Non-Profiled

Element	Name	Description
Time Series Type	IB_BS_OCON_NPD	Supplier PU Own Consumption Non-Profiled - used for DH-511/DH-514/DH-515
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	supID	Supplier
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)

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Element	Name	Description
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

Supplier Small Scale Production By Production Type

Element	Name	Description
Time Series Type	IB_BS_SSP_PDN	Supplier Small Scale Production By Production Type - used for DH-511/DH-514/DH-515
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	supID	Supplier
	prodnUnitType	Production unit type
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

Supplier Small Scale Production Total

Element	Name	Description
Time Series Type	IB_BS_SSP_TOT	Supplier Small Scale Production Total - used for DH-511/DH-514/DH-515
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	supID	Supplier
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

Production Unit Production

Element	Name	Description
Time Series Type	IB_PU	Production Unit Production - used for DH-511/DH-514/DH-515
Keys	uom	Unit of measurement
	res	Resolution duration for this interval

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Element	Name	Description
	mga	Metering grid area
	dsolID	DSO of the metering grid area as registered on the master data (DSO agreement)
	supID	Supplier
	extSmpID	Metering point id
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

MGA Exchange Sum

Element	Name	Description
Time Series Type	IB_MGA_MGX	MGA Exchange Sum - used for DH-511/DH-514
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolID	DSO of the metering grid area as registered on the master data (DSO agreement)
	mgaNeighbor	Metering grid area neighbor
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

MGA Losses

Element	Name	Description
Time Series Type	IB_MGA_LOSS	MGA Losses - used for DH-511/DH-514/DH-515
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolID	DSO of the metering grid area as registered on the master data (DSO agreement)
	smtType	Settlement type
	supID	Loss supplier on the MGA as known at the time of calculation (i.e. not related to the calculated period)
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

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MGA Negative Losses

Element	Name	Description
Time Series Type	IB_MGA_NLOSS	MGA Negative Losses - used for DH-511/DH-514/DH-515
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	smtType	Settlement type
	supID	Loss supplier on the MGA as known at the time of calculation (i.e. not related to the calculated period)
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

MGA Imbalance From ISR

Element	Name	Description
Time Series Type	IB_MGA_IB_ISR	MGA Imbalance From ISR - used for DH-513
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	supID	Supplier
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	inval	Energy quantity in
	outval	Energy quantity out

MGA Consumption Profiled

Element	Name	Description
Time Series Type	IB_MGA_CON_PD	MGA Consumption Profiled - used for DH-514
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

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MGA Consumption Non-Profiled

Element	Name	Description
Time Series Type	IB_MGA_CON_NPD	MGA Consumption Non-Profiled - used for DH-514
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

MGA PU Own Consumption Profiled

Element	Name	Description
Time Series Type	IB_MGA_OCON_PD	MGA PU Own Consumption Profiled - used for DH-514
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

MGA PU Own Consumption Non-Profiled

Element	Name	Description
Time Series Type	IB_MGA_OCON_NPD	MGA PU Own Consumption Non-Profiled - used for DH-514
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

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MGA Small Scale Production By Production Type

Element	Name	Description
Time Series Type	IB_MGA_SSP_PDN	MGA Small Scale Production By Production Type - used for DH-514
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	prodnUnitType	Production unit type
	smtType	Settlement type
Time Series	readTS	Metering point type
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

MGA Small Scale Production Total

Element	Name	Description
Time Series Type	IB_MGA_SSP_TOT	MGA Small Scale Production Total - used for DH-514
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

MGA Production Unit By Production Type

Element	Name	Description
Time Series Type	IB_MGA_PU_PDN	MGA Production Unit By Production Type - used for DH-514
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	prodnUnitType	Production unit type
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality

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Element	Name	Description
	updateTS	Last update timestamp

MGA Production Unit Total

Element	Name	Description
Time Series Type	IB_MGA_PU_TOT	MGA Production Unit Total - used for DH-514
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

MGA Total Exchange Sum

Element	Name	Description
Time Series Type	IB_MGA_MGX_TOT	MGA Total Exchange Sum - used for DH-514
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	qual	Quantity quality
	updateTS	Last update timestamp

MGA Exchange Confirmation From ISR

Element	Name	Description
Time Series Type	IB_MGA_MGX_ISR	MGA Exchange Confirmation From ISR - used for DH-516
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	mga	Metering grid area
	dsolD	DSO of the metering grid area as registered on the master data (DSO agreement)
	mgaln	Metering grid area in
	mgaOut	Metering grid area out
	smtType	Settlement type

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Element	Name	Description
Time Series	readTS	Timestamp (start of period)
	val	Energy quantity
	delta	Delta quantity

When messages are notified to a market party, the market party can send an acknowledgement. If this acknowledgement is mandatory, the settlement process is considered 'complete' when all acknowledgements are received. If not, the settlement process does not expect such acknowledge and will consider the settlement process being complete without such acknowledgements.

The messages sent to the NBS system as part of imbalance settlement do expect an acknowledgement. The messages sent to all other market parties do not expect such acknowledgement. This can be monitored by using the distribution log, see '[Settlement Distribution Log: Search](#)' for more details.

1.1.2 Imbalance Settlement (Outside Balance Window) by MOP

As introduced in '[Imbalance Settlement](#)', the informal imbalance settlement calculation outside balance window (DH-511-OBW) relies on the same calculation process as the formal DH-511 calculation, without the validation around it. The main distinction is the period for which the calculation is executed.

The informal process is triggered by either a pre-defined schedule or ad-hoc (immediate schedule) by an operator user. Only an authorised operator user (MOP) is allowed to create a schedule or start the process ad-hoc.

This process makes use of an 'as-of' timestamp, which typically is defined as 'now'.

The result of the process is a new set of time series in the calculated time series storage. Nothing is actively send / distributed to market parties. It is up to the market parties to retrieve the calculated data if there is a need to for them using the DH-521 / DH-522 process.

1.1.2.1 Imbalance Settlement – Steps

The following steps are executed as part of the imbalance settlement process:

1. Trigger.

The informale imbalance settlement process is triggered for a certain period, one or more grid areas and a reference timestamp until when changes are taken into account (as-of timestamp). It is executed by a schedule. See '[Settlement Run: Start](#)' if it is manually triggered via the GUI.

2. Initialisation.

The input parameters are validated and the imbalance settlement process is created.

3. Calculation.

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The time series required for imbalance settlement are calculated and stored in the calculated time series storage with status 'Pending' for retrieval later on.

4. Status update.

The calculated time series as part of this settlement run can now be released by updating their status to 'Final'. As a result they are available for retrieval.

1.1.3 Market Party Data Exchanges DSO/DDQ

1.1.3.1 From Datahub to Market Parties

The time series calculated by and reported from Datahub to the NBS system are also sent to the market parties. Suppliers get their own subset of data (per supplier and MGA) and the loss supplier gets notified about the MGA losses.

The DSO also gets the supplier time series for their own MGAs. As an additional service from Datahub, the DSO gets the supplier related time series aggregated per MGA. Small scale production is aggregated in two levels: per NBS production type and MGA as well as on MGA level. The same applies to production unit production. For exchange points, the total exchange is made available on the MGA level.

Note that the aggregated data reported on a (virtual) production unit to the NBS system (using a validated data message) is sent to the market parties as 'normal' aggregated data message without such virtual metering point id, but with the corresponding business type.

The settlement data notified from the NBS System (DH-513-1 and DH-516-1) is forwarded to the market parties using their own respective messages (DH-513-2/DH-513-3/DH-513-4/DH-513-5 and DH-516-2).

1.1.3.2 Requested by Market Parties

The settlement data for the data exchanges with both the NBS system and market parties is stored in the Datahub and can be retrieved by the market parties on request:

- Suppliers can request their data per MGA and supplier (DH-521);
- DSOs can request their data per MGA and optionally supplier (DH-522).

Both parties can optionally identify which data exchange (time series) to select in the request, otherwise all relevant for the party data exchanges are returned.

1.2 Balance Deviation

The balance deviation process (DH-610) identifies changes to the supplier's balance on accounting points, made outside the balance window. These changes are to be settled between the involved parties, based on

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calculations run in Datahub. The results of the calculation is verified by the market operator and – once agreed – send to involved parties.

Changes to the supplier's balance made outside the balance window can be caused by the following processes/activities:

- DH-211: (Corrections to) meter data reported outside the balance window;
- DH-300: Contract processes with retrospective updates (affecting periods outside the balance window);
- Manual modifications to the balance agreement(s) by the market operator (on request/agreement of related parties).

1.2.1 General Approach

Balance deviations are calculated based on the registered bitemporal master data and meter data in MDM. As such, sufficient information is to be kept in MDM to support this process. This includes:

- Full history of time series data including registration time;
- Full history on balance agreements;
- Full history on supplier (sales) agreements and information to identify responsibility ending in case of moves (e.g. while the supplier remains the same);
- Details on Imbalance Settlement status;
- Details on any previous balance deviation run.

1.2.1.1 DH-211: (Corrections to) Meter Data Reported Outside the Balance Window

Corrections of meter data outside the balance window are accounted for the supplier when the correction is reported (time of reporting) while the supplier is still responsible for the accounting point. Typically, the responsibility for an accounting point starts when a sales agreement is created and ends six weeks after a sales agreement has ended due to an end of supply, switch of supplier or move. Note that a 'change of agreement' does not affect the responsibility of the supplier (e.g. when the terms of a fixed term contract is changed or when customers are changed).

If meter data corrections are reported after responsibility has ended, the corrections are not accounted for the supplier and as a result are not reported in balance deviation processes.

Also if meter data corrections are reported more than three years after delivery, the corrections are not taken into account. This means (part of) the period being reported is more than three years back in time compared to the moment of reporting. If a correction would span across this three years, only the relevant period is affected: the period older than three years.

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Corrections for periods where there is an accountable supplier (sales agreement) will affect corrections to energy volume for both:

- The supplier having the sales agreement;
- The supplier for loss.

Summed together the balance is always zero.

1.2.1.2 DH-300: Contract Processes with Retrospective Updates Affecting Periods the Balance Agreement

Some of the contract processes (DH-300) can have retrospective updates. These structure processes are managed in CMD and the effect of the process results in potential changes to:

- Sales agreement(s) (contract supplier);
- Balance agreement(s) (balance supplier).

Starting points:

- The sales and balance agreement validity is managed by the structure processes in CMD;
- The balance agreement can also be modified by the market operator in exceptional cases;
- The sales and balance agreements are synchronised with MDM.

Calculating balance deviation as a result of these contract process changes is based on both the sales and balance agreement.

1.2.1.3 Manual Modifications to the Balance Agreement(s)

The last category of changes that effect the balance are changes made by the market operator. These are changes to the balance agreement.

1.2.1.4 Balance Deviation Calculations DSO/DDQ

Just like the results of the imbalance settlement calculations, the results of the balance deviation calculations are also types of time series which are to be notified (distributed) to the market parties (suppliers and DSOs).

Once the calculations are done, the balance deviation process waits for manual approval. An authorised operator user can approve or reject this step to continue/cancel the process. Approving/rejecting the balance deviation can be done using the GUI as described in '[Balance Deviation Run](#)'.

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1.2.1.5 Calculation Period and Reference Date

The balance deviation calculation is typically executed twice a year for data period of up to 3,5 years.

When starting the balance deviation process, the user can identify:

- The data period (start and end date) to calculate for;
- A reference date until when changes are to be taken into account.

Example

The process could be started on 20-05-2021 for the period from 1-1-2018 to 1-5-2021 taking changes into account that have been submitted to the system up to a reference date of 18-05-2021 having an effect on this period.

Storing the reference date and period end date per accounting point

A subsequent balance deviation run needs to take into account which reference date was used in the previous run in order to only collect the changes after the reference date for the previously calculated period. Since a run can be done for individual grids or even individual accounting points, both the reference date as well as the period end date is to be stored at the accounting point level to take as starting point for a subsequent run.

The period start date is not stored at the accounting point level as it is assumed that the period start date will never go further back in time than a previous run (this will not be checked).

Maximum historical period

Updates before a certain timestamp are not taken into account by setting the reference date on all accounting points.

1.2.2 Balance Deviation Steps

The following steps are executed as part of the balance deviation process:

1. Trigger.

The balance deviation process is triggered for a certain period, one or more grid areas or one or more individual metering points and a reference timestamp until when changes are taken into account (as-of timestamp). It is manually triggered via the GUI. See '[Settlement Run: Start](#)' for more details.

2. Initialisation.

The input parameters are validated and the balance deviation process is created.

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3. Open/closed period validation.

The period for the balance deviation calculation is validated based on the open/closed periods of imbalance settlement and/or earlier balance deviations.

4. Calculation.

A balance deviation calculation takes both meter data and master data into account.

For meter data, the transaction time (when the meter data was reported and stored in the system) is important to consider in order to identify which updates are to be taken into account for balance deviation calculations.

In theory, multiple updates on the same period of meter data might have happened since the balance window was closed / the last balance deviation run and the balance deviation calculation run being executed, while only a limited amount of updates are actually taken into balance deviation.

The balance deviation is calculated and the calculated time series are stored in the calculated time series storage.

5. Manual approval.

Once the balance deviation calculations are done and stored in the calculated time series storage, the balance deviation process waits for manual approval. An authorised operator user can approve or reject this step to continue/cancel the process. See '[Settlement Runs: Search, View, Approve and Reject](#)' for more details.

6. Rejection.

The balance deviation is cancelled and the balance deviation calculation is cleaned-up. It assigns the cancelled status to the calculated time series.

7. Approval.

The balance deviation is approved and the accounting points are updated. It sets the balance deviation update timestamp and assigns the final status to the calculated time series.

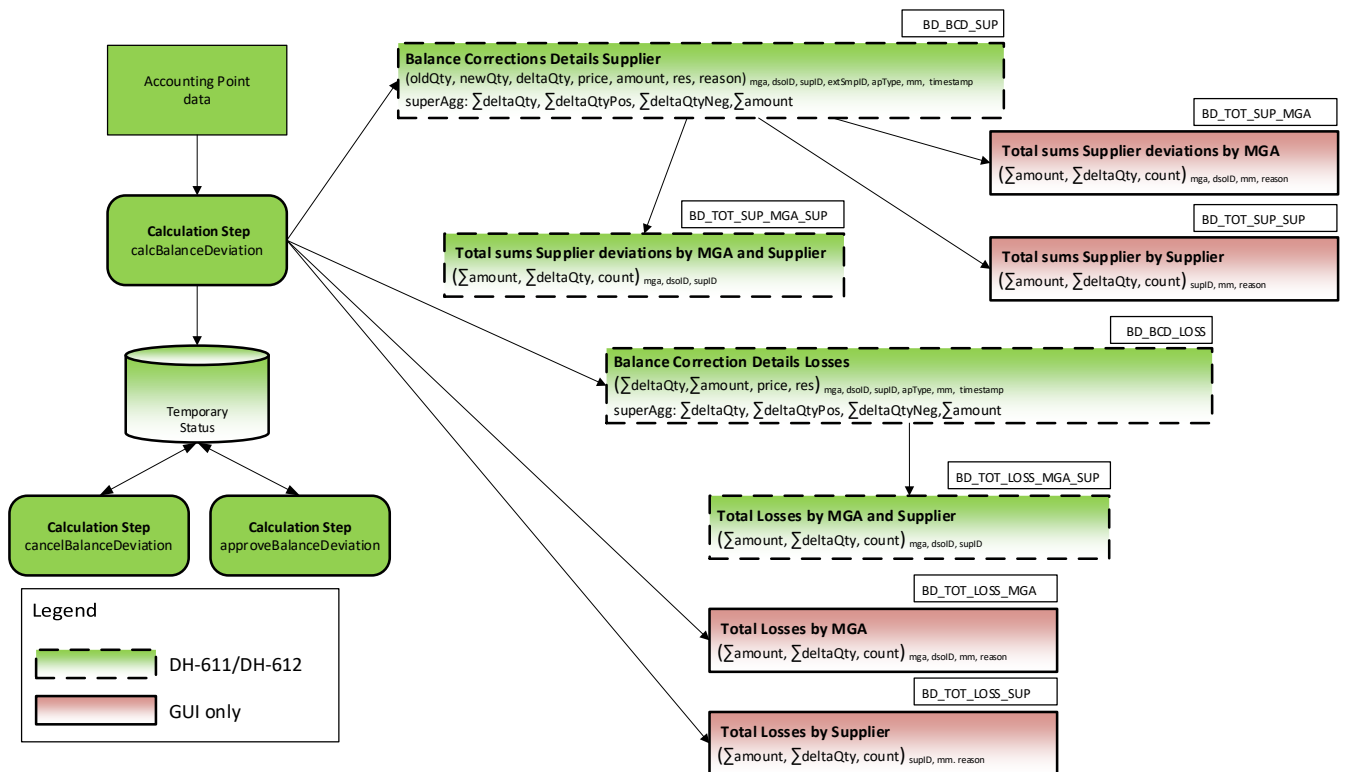
8. Distribution of time series.

The relevant time series are notified to the supplier, supplier for loss and DSO (see figure below).

Part of the balance deviation calculation result is defined in euros, based on the Nordpool spot prices. The following picture depicts the balance deviation calculation and the resulting time series types.

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Note that *all* calculated time series are visible in the GUI (see '[Settlement Time Series: Overview of Time Series Results](#)' for more details), but only a *part* of the calculated time series are sent using DH-611 / DH-612 messages. In more details:

Nordpool Spot Price

Element	Name	Description
Time Series Type	NORDPOOL_SPOT_PRICE	Nordpool Spot Price - used for DH-691
Keys	uom	Unit of measurement
	res	Resolution duration for this interval
	smtType	Settlement type
Time Series	readTS	Timestamp (start of period)
	price	Price

Balance Correction Details Supplier

The balance correction data calculated for the involved suppliers. The associated time series type is "BD_BCD_SUP". These time series are calculated to be published in the DH-611 / DH-612 messages.

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Element	Name	Description
Time Series Type	BD_BCD_SUP	Balance Correction Details Supplier - used for DH-611/DH-612
Keys	mga	Metering Grid Area
	dsolD	DSO of the Metering Grid Area as registered on the master data (DSO agreement)
	supID	Supplier
	extSmpID	Metering Point ID
	apType	Accounting Point Type
	meteringMethod	Metering Method
AggValue	deltaQtySum	Sum of delta quantities (used for display in GUI)
	deltaQtyPosSum	Sum of positive delta quantities (used for display in GUI)
	deltaQtyNegSum	Sum of negative delta quantities (used for display in GUI)
	amountSum	Sum of amounts (used for display in GUI)
Time Series	readTS	Timestamp (start of period)
	newQty	New quantity (latest measured)
	oldQty	Old quantity (previously settled)
	deltaQty	Delta between old and new quantity
	price	Price for this interval
	amount	Calculated amount seen from the supplier perspective
	reason	Reason for deviation (supplier correction, metered data correction, both)
	res	Resolution duration for this interval

Total Sums Supplier Deviations by MGA and Supplier

Next to the individual balance corrections, an aggregated sum is calculated to be published in the DH-611 / DH-612 messages as total sums.

Element	Name	Description
Time Series Type	BD_TOT_SUP_MGA_SUP	Total sums Supplier deviations by MGA and Supplier - used for DH-611/DH-612
Keys	mga	Metering Grid Area
	dsolD	DSO of the Metering Grid Area as registered on the master data (DSO agreement)
	supID	Supplier
AggValue	mpCount	Number of accounting points in aggregation
	deltaQty	Sum of delta quantities
	amount	Sum of supplier amounts
Time Series	readTS	Timestamp (start of period)
	deltaQty	Sum of delta quantities
	amount	Sum of supplier amounts

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Total Sums Supplier Deviations by MGA (only for GUI purposes)

To support the GUI into summary levels of balance deviations, a specific calculation is done to aggregate the supplier deviations on the MGA level, grouped by metering method and reason.

Element	Name	Description
Time Series Type	BD_TOT_SUP_MGA	Total sums Supplier deviations by MGA (only for GUI purposes)
Keys	mga	Metering Grid Area
	dsolD	DSO of the Metering Grid Area as registered on the master data (DSO agreement)
	meteringMethod	Metering Method
	reason	Reason for deviation (supplier correction, metered data correction, both)
AggValue	mpCount	Number of accounting points in aggregation
	deltaQty	Sum of delta quantities
	amount	Sum of supplier amounts
Time Series	readTS	Timestamp (start of period)
	deltaQty	Sum of delta quantities
	amount	Sum of supplier amounts

Total Sums Supplier Deviations by Supplier (only for GUI purposes)

To support the GUI into summary levels of balance deviations, a specific calculation is done to aggregate the supplier deviations on the supplier level, grouped by metering method and reason.

Element	Name	Description
Time Series Type	BD_TOT_SUP_SUP	Total sums Supplier deviations by Supplier (only for GUI purposes)
Keys	supID	Supplier
	meteringMethod	Metering Method
	reason	Reason for deviation (supplier correction, metered data correction, both)
AggValue	mpCount	Number of accounting points in aggregation
	loLosQty	Aggregated delta quantity (for all accounting points of the accounting point type)
	amount	Calculated amount seen from the supplier perspective
Time Series	readTS	Timestamp (start of period)
	deltaQty	Aggregated delta quantity (for all accounting points of the accounting point type)
	amount	Calculated amount seen from the supplier perspective

Balance Correction Details (Loss Supplier)

The balance deviation data is calculated for the loss suppliers. The associated time series type is "BD_BCD_LOSS". The loss supplier only gets aggregated data per combination of *accounting point type* and *metering method* for each timestamp. This data is published through the DH-611 / DH-612 messages.

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Element	Name	Description
Time Series Type	BD_BCD_LOSS	Balance Correction Details Loss Supplier - used for DH-611/DH-612
Keys	mga	Metering Grid Area
	dsolD	DSO of the Metering Grid Area as registered on the master data (DSO agreement)
	supID	Loss supplier on the MGA as known at the time of calculation (i.e. not related to the calculated period).
	meteringMethod	Metering Method
	apType	Accounting Point Type
AggValue	mpCount	Number of metering points in this aggregation
	deltaQtySum	Sum of delta quantities for this accounting point type (used for display in GUI)
	deltaQtyPosSum	Sum of positive delta quantities for this accounting point type (used for display in GUI)
	deltaQtyNegSum	Sum of negative delta quantities for this accounting point type (used for display in GUI)
	amountSum	Sum of amounts for this accounting point type (used for display in GUI)
Time Series	readTS	Timestamp (start of period)
	deltaQty	Aggregated delta quantity (for all accounting points of the accounting point type)
	price	Price for this interval
	amount	Calculated amount seen from the supplier perspective
	res	Resolution duration for this interval

Total Sums (Loss Supplier)

Next to the balance corrections by timestamp, an aggregated sum is calculated. The associated time series type is "BD_TOT_LOSS_MGA_SUP".

Element	Name	Description
Time Series Type	BD_TOT_LOSS_MGA_SUP	Total losses by MGA and Supplier - used for DH-611/DH-612
Keys	mga	Metering Grid Area
	dsolD	DSO of the Metering Grid Area as registered on the master data (DSO agreement)
	supID	Loss supplier on the MGA as known at the time of calculation (i.e. not related to the calculated period).
AggValue	mpCount	Number of accounting points in aggregation
	deltaQty	Aggregated delta quantity (for all accounting points of the accounting point type)
	amount	Calculated amount seen from the supplier perspective
Time Series	readTS	Timestamp (start of period)
	deltaQty	Aggregated delta quantity (for all accounting points of the accounting point type)
	amount	Calculated amount seen from the supplier perspective

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Total Losses by MGA (only for GUI purposes)

To support the GUI into summary levels of balance deviations, a specific calculation is done to aggregate the deviations for the loss supplier on the MGA level, grouped by metering method and reason.

Element	Name	Description
Time Series Type	BD_TOT_LOSS_MGA	Total Losses by MGA (only for GUI purposes)
Keys	mga	Metering Grid Area
	dsoID	DSO of the Metering Grid Area as registered on the master data (DSO agreement)
	meteringMethod	Metering Method
	reason	Reason for deviation (supplier correction, metered data correction, both)
AggValue	mpCount	Number of accounting points in aggregation
	deltaQty	Aggregated delta quantity (for all accounting points of the accounting point type)
	amount	Calculated amount seen from the supplier perspective
Time Series	readTS	Timestamp (start of period)
	deltaQty	Aggregated delta quantity (for all accounting points of the accounting point type)
	amount	Calculated amount seen from the supplier perspective

Total Losses by Supplier (only for GUI purposes)

To support the GUI into summary levels of balance deviations, a specific calculation is done to aggregate the loss supplier deviations on the supplier level, grouped by metering method and reason.

Element	Name	Description
Time Series Type	BD_TOT_LOSS_SUP	Total Losses by Supplier - GUI only
Keys	supID	Loss supplier
	meteringMethod	Metering Method
	reason	Reason for deviation (supplier correction, metered data correction, both)
AggValue	mpCount	Number of accounting points in aggregation
	deltaQty	Aggregated delta quantity (for all accounting points of the accounting point type)
	amount	Calculated amount seen from the supplier perspective
Time Series	readTS	Timestamp (start of period)
	deltaQty	Aggregated delta quantity (for all accounting points of the accounting point type)
	amount	Calculated amount seen from the supplier perspective

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1.3 Bitemporal Data

Both the imbalance settlement and the balance deviation take advantage of the bitemporal data model on master data and full history on time series data by executing the calculations with a fixed 'as-of' timestamp. This means that the calculations take a specific point in time as reference for the calculations. Any (simultaneously) ongoing master data processes and/or time series processing does not affect the result of the calculations.

1.4 Resolution Duration

The system is configured with a number of standard resolution durations. Additional resolution durations are added during design time configuration.

Calculated time series are in the current version of the Datahub *always* stored and retrieved with a resolution duration (time step) of 1 hour (60 minutes).

1.5 Units of Measure

The system is configured with a number of standard units of measure. Additional units of measure are added during design time configuration.

Active energy in the system is calculated and stored in kWh and a retrieval is currently *always* in kWh. The settlement processes only consider active energy. Reactive energy is not used in the settlement processes.

1.6 Time Zones

All dates and timestamps in the system are stored in UTC format. As such a transformation to local time is done in the GUI.

Data submitted in other time zones such as WET, CET, EET and FET is automatically converted to UTC, where processes allow this.

The time zone in the GUI can be set in the '**Update Personal Info**' webform. When the User time zone and the Tenant time zone are different, all editable date and time fields will still be in the Tenant time zone, while non editable date and time fields are in the User time zone.

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1.7 Daylight Savings Time

Time shifting is taken into account. At changes in daylight savings, the daily list of values is 23 or 25 values instead of the normal 24 hourly values.

1.8 Time Series Types

The system is configured with a number of standard time series types. Additional time series types are added during design time configuration.

1.9 User Preferences

The following user preferences can be set and will affect the displayed time series data:

- Decimal separator (the decimal separator is based on the country code);
- Time zone;
- Default number of decimals

with **'Update Personal Info'** webform

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2 Settlement Runs: Search and View

2.1 Settlement Runs: Search by DSO and DDQ

The GUI flow to search and view settlement runs is as following:

- Search a settlement run of a specific type (a date range can be provided if needed);
- Select the settlement run of interest;
- Drill down to the calculation results related to the calculation step: This shows a list of time series types which are calculated from the process. Each time series type identifies the number of time series calculated;
- Based on the list of time series types, a specific time series type can be selected which provides the time series;
- The actual data can be viewed both graphically and in table format.

For the following processes a settlement run is created and can be found using the GUI:

- Imbalance Settlement (DH-511);
- Imbalance Settlement Outside Balance Window (DH-511-OBW);
- Imbalance Settlement Data from ISR (DH-513);
- MGA Exchange Confirmation from ISR (DH-516);
- Imbalance Data Request from Supplier (DH-521);
- Imbalance Data Request from DSO (DH-522);
- Balance Deviation (DH-610);
- Nordpool Prices (DH-691).

The settlement type is one of the search criteria:

- Imbalance Calculation Process - DH-511 (IMBALANCE);
- Imbalance Outside Balance Window Calculation Process - DH-511-OBS (IMBALANCE_OBW);
- Imbalance Reported by ISR - DH-513 (IMBALANCE_IB);
- MGA Exchange Confirmation Reported by ISR - DH-516 (IMBALANCE_MGX);
- Request for Imbalance Data Calculated as Part of the IMBALANCE Process - DH-521 / DH-522 - (IMBALANCE_REQ);
- Request for Imbalance Data Calculated as Part of the IMBALANCE_OBW Process - DH-521 / DH-522 - (IMBALANCE_OBW_REQ);
- Balance Deviation Calculation Process - DH-610 (BALANCEDEV);
- Nordpool Prices - DH-691 (NORDPOOL).

You are able to search and view settlement runs from the following webforms.

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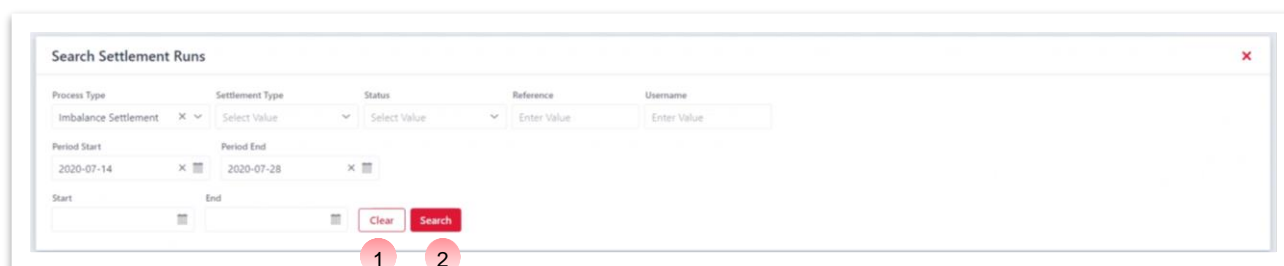
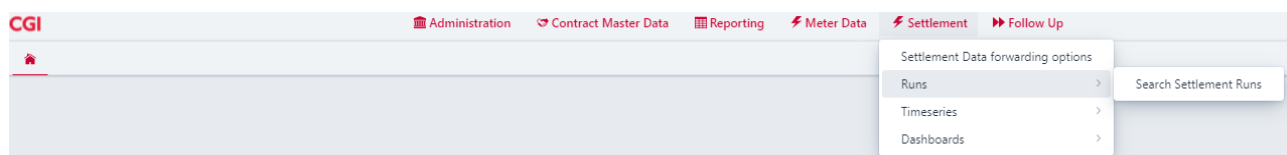
Street address	Postal address	Phone	Fax	Business Identity Code
Läkkisepäntie 21 FI-00620 HELSINKI	P.O.Box 530 FI-00101 HELSINKI	+358 30 395 5000	+358 30 395 5196	FI27455435, VAT reg forename.surname@fingrid.fi www.fingrid.fi

Navigation path to this webform:



Hover over menu item **Settlement**

Hover over menu item **Runs**

Select **Search Settlement Runs**



Annotation bullets

	Item	Component type	Note
1		Button	When you click this button any staged selection filters will be undone.
2		Button	When you click this button staged filters will be validated and, if passed, trigger a search request after which the search filter results are displayed.

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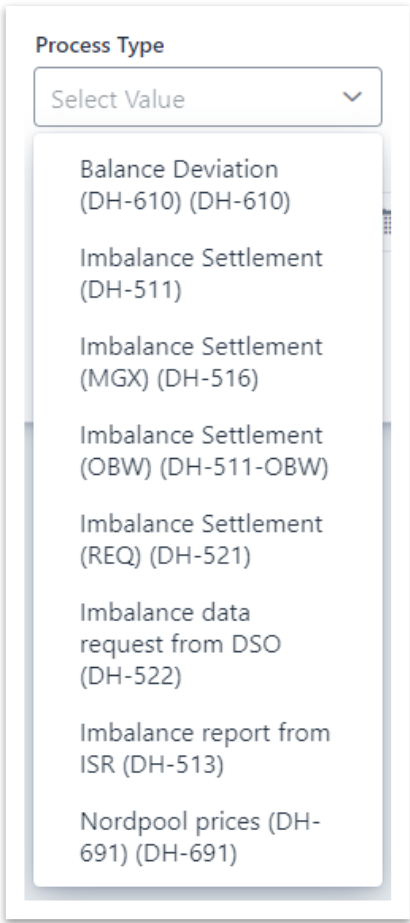
Fax

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Form fields

Field name	Input type	Obligation	Notes
Process Type	Dropdown	Optional	 <p>Process Type</p> <p>Select Value</p> <ul style="list-style-type: none"> Balance Deviation (DH-610) (DH-610) Imbalance Settlement (DH-511) Imbalance Settlement (MGX) (DH-516) Imbalance Settlement (OBW) (DH-511-OBW) Imbalance Settlement (REQ) (DH-521) Imbalance data request from DSO (DH-522) Imbalance report from ISR (DH-513) Nordpool prices (DH-691) (DH-691)

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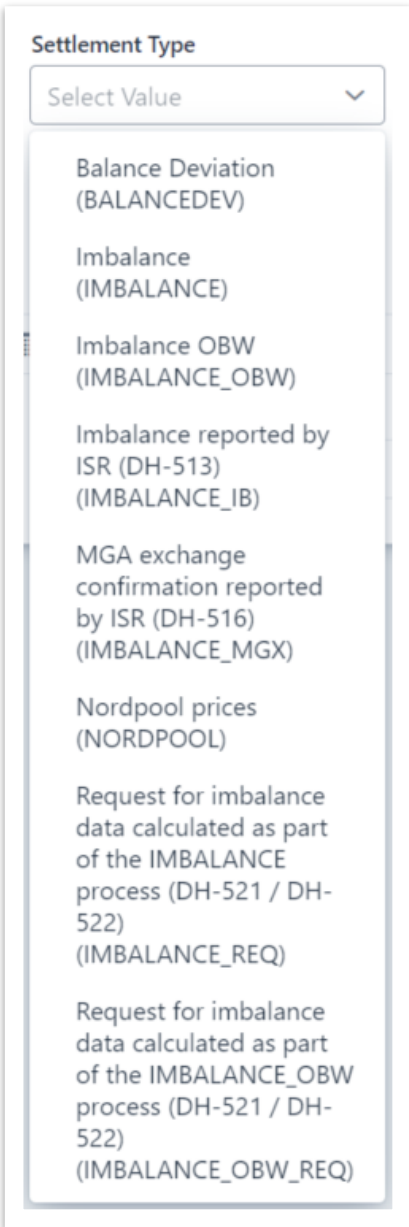
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Field name	Input type	Obligation	Notes
Settlement Type	Dropdown	Optional	 <p>Settlement Type</p> <p>Select Value</p> <ul style="list-style-type: none"> Balance Deviation (BALANCEDEV) Imbalance (IMBALANCE) Imbalance OBW (IMBALANCE_OBW) Imbalance reported by ISR (DH-513) (IMBALANCE_IB) MGA exchange confirmation reported by ISR (DH-516) (IMBALANCE_MGX) Nordpool prices (NORDPOOL) Request for imbalance data calculated as part of the IMBALANCE process (DH-521 / DH-522) (IMBALANCE_REQ) Request for imbalance data calculated as part of the IMBALANCE_OBW process (DH-521 / DH-522) (IMBALANCE_OBW_REQ)

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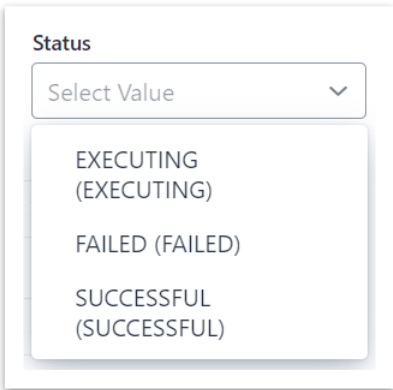
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Field name	Input type	Obligation	Notes
Status	Dropdown	Optional	
Reference	Text	Optional	
Username	Text	Optional	
Period Start	Date	Optional	By default today – 14 days.
Period End	Date	Optional	By default today.
Start	Date	Optional	Related to the start time.
End	Date	Optional	Related to the start time.

2.1.1 Settlement Runs: Overview of Search Results

Based on the filters, the results are shown as below.

Search Settlement Runs ✕

Process Type: Imbalance Settlement Settlement Type: Select Value Status: Select Value Reference: Enter Value Username: Enter Value

Period Start: 2020-10-07 Period End: 2020-10-21

Start: End: [Clear](#) [Search](#)

Results ✕

Process Type	Settlement Type	Start Time	Period Start	Period End	Username	Reference	Status
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-21 10:21	2020-10-10 00:00	2020-10-21 00:00	FGR-fgradmin		SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-21 10:19	2020-10-10 00:00	2020-10-21 00:00	FGR-fgradmin		SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-20 20:32	2020-10-10 00:00	2020-10-20 00:00	FGR-fgradmin		SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-20 20:29	2020-10-09 00:00	2020-10-20 00:00	FGR-fgradmin		SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-20 20:17	2020-10-10 00:00	2020-10-20 00:00	FGR-fgradmin		SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-20 20:14	2020-10-09 00:00	2020-10-20 00:00	FGR-fgradmin		SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-20 19:58	2020-10-10 00:00	2020-10-20 00:00	FGR-fgradmin		SUCCESSFUL

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Annotation bullets

	Item	Component type	Note
1		Button	When you click this button the ' View Settlement Run ' webform for the designated settlement run details will be displayed.

Form fields

Field name	Input type	Obligation	Notes
Process Type	Text	Disabled	
Settlement Type	Text	Disabled	
Start Time	Date Time	Disabled	
Period Start	Date Time	Disabled	
Period End	Date Time	Disabled	
Username	Text	Disabled	
Reference	Text	Disabled	
Status	Text	Disabled	

2.1.2 Settlement Runs: Export and Toggle

Using the '**3 dots**' icon in the grid / table, you can export all data currently displayed in the table to a CSV-file (Comma Separated Value-file) and show / hide columns. Copying data from the GUI is done by exporting to Excel.

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Search Settlement Runs

Process Type: Imbalance Settlement | Settlement Type: Select Value | Status: Select Value | Reference: Enter Value | Username: Enter Value

Period Start: | Period End: | Start: | End: | Clear | Search

Results

Process Type	Settlement Type	Start Time	Period Start	Period End	Username	Status
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-21 10:21	2020-10-10 00:00	2020-10-21 00:00	FGR-fgradmin	SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-21 10:19	2020-10-10 00:00	2020-10-21 00:00	FGR-fgradmin	SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-20 20:32	2020-10-10 00:00	2020-10-20 00:00	FGR-fgradmin	SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-20 20:29	2020-10-09 00:00	2020-10-20 00:00	FGR-fgradmin	SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-20 20:17	2020-10-10 00:00	2020-10-20 00:00	FGR-fgradmin	SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-20 20:14	2020-10-09 00:00	2020-10-20 00:00	FGR-fgradmin	SUCCESSFUL
Imbalance Settlement	Imbalance (IMBALANCE)	2020-10-20 19:58	2020-10-10 00:00	2020-10-20 00:00	FGR-fgradmin	SUCCESSFUL

Dropdown menu options: Status, Process Type, Username, Reference, Period Start, Start Time, Settlement Type, Period End. Buttons: Download export.csv, Column options.

See '[Appendix C: Export data](#)' for more details

2.2 Settlement Run: View by DSO and DDQ

The 'View Settlement Run' webform displays the settlement run details:

- On the left the properties of the settlement run;
- On the right the parameters of the settlement run;
- At the bottom the run steps of the process.

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View Settlement Runs ✕

Settlement Run ID
2207B6BE3219D71E94F3C581EA3DDCB41CAEEF923FCC59A7C0FBFAFF7839F9EAC

External Run ID
311

Process Type
Imbalance Settlement (DH-511)

Settlement Type
Imbalance (IMBALANCE)

Reference

Period Start
2020-10-10 00:00

Period End
2020-10-21 00:00

As Of Timestamp
2020-10-21 12:02

Started
2020-10-21 12:02

Duration
00:00:02

Started By
FGR-fgradmin

Overall Status
SUCCESSFUL (SUCCESSFUL)

Parameter Name	Parameter Value
TimeSeriesType	IB_MGA_LOSS
Severity	WARNING
mgas	6412021603270430
KeyValue	1
MinValue	2
MaxValue	3
Function	rangeCheck
Key	mga

2
Distribution Log

3
Timeseries

4
Generate Control Report

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Run Steps					
Step Sequence	Step Type	Step Status	Started Timestamp	Duration	
1	Validation Step (ENTVALSTP)	SUCCESS	2020-10-21 12:02	00:00:02	
2	Calculation Step (KXSCALSTP)	SUCCESS	2020-10-21 12:02	00:00:01	
3	Waiting for approval step (PRCRCMSTP)	NOT_APPLICABLE	1924-01-02 00:00		
4	Lock Step (PRCLCKSTP)	SUCCESS	2020-10-21 12:02	00:00:01	
5	Distribution Step (PRCDISTSTP)	SUCCESS	2020-10-21 12:02	00:00:05	
6	Distribution Step (PRCDISTSTP)	SUCCESS	2020-10-21 12:03	00:00:02	
7	Distribution Step (PRCDISTSTP)	SUCCESS	2020-10-21 12:03	00:00:02	
8	Update approval step (KXSUPSSTP)	SUCCESS	2020-10-21 12:03	00:00:01	
9	Process Trigger Report Step (PRCTRPSTP)	SUCCESS	2020-10-21 12:03	00:00:01	
10	Update approval step (KXSUPSSTP)	NOT_APPLICABLE	1924-01-02 00:00		

Annotation bullets

Item	Component type	Note
1	Button	When you click this button the 'View SMT Details' webform for the designated settlement step details will be displayed.
2	Button	When you click this button the 'Search SMT Distribution Log' webform for the designated distribution log details will be displayed. Only visible for the market operator.
3	Button	When you click this button the 'View Time Series Results' webform will be displayed for the designated time series will be displayed.
4	Button	When you click this button the report generation request is submitted and is started by the scheduler (see 'Source Data for Imbalance Settlement Run' for more details). After the report has been executed, the report can be found via 'Search Report Runs'

Form fields

Field name	Input type	Obligation	Notes
Settlement Run ID	Text	Disabled	
External Run ID	Text	Disabled	
Process Type	Text	Disabled	

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Field name	Input type	Obligation	Notes		
Settlement Type	Text	Disabled			
Reference	Text	Disabled			
Period Start	Date Time	Disabled			
Period End	Date Time	Disabled			
As Of Timestamp	Date Time	Disabled			
Started	Date Time	Disabled			
Duration	Text	Disabled	HH:mm:ss.		
Started By	Text	Disabled			
Overall Status	Text	Disabled			
Parameters	Grid	Field name	Input type	Obligation	Notes
		Parameter Name	Text	Disabled	
		Parameter Value	Text	Disabled	
Run Steps	Grid	Field name	Input type	Obligation	Notes
		Step Sequence	Text	Disabled	
		Step Type	Text	Disabled	
		Step Status	Text	Disabled	
		Started Timestamp	Date Time	Disabled	
		Duration	Text	Disabled	HH:mm:ss.

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2.2.1 Settlement Step Details: View

Sample of distribution step information.

View SMT Details ✕

Step Type
Distribution Step (PRCDISTSTP) ▼

Step Status
SUCCESS

Started Timestamp
2020-10-20 📅 05:35 🕒

Duration
00:00:01

Result Code
OK

Message Count
4

Resend 1

Annotation bullets

	Item	Component type	Note
1	Resend	Button	When you click this button the distribution step is resend. By adding a run step in the process this resend is traceable.

Form fields

Field name	Input type	Obligation	Notes
Step Type	Text	Disabled	
Step Status	Text	Disabled	
Started Timestamp	Date Time	Disabled	
Duration	Text	Disabled	HH:mm:ss.
Result Code	Text	Disabled	
Message Count	Text	Disabled	

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Sample of a failed step.

Form fields

Field name	Input type	Obligation	Notes
Step Type	Text	Disabled	
Step Status	Text	Disabled	
Started Timestamp	Date Time	Disabled	
Duration	Text	Disabled	HH:mm:ss.
Time Series Type	Text	Disabled	
Grid Areas	Text	Disabled	
Error Code	Text	Disabled	See ' Appendix E: Error Codes ' for more details.
Error Level	Text	Disabled	
Error Details	Text	Disabled	

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2.2.2 Settlement Distribution Log: Search

You are able to search and view distribution logs from the following webforms.

Annotation bullets

	Item	Component type	Note
1		Button	When you click this button any staged selection filters will be undone.
2		Button	When you click this button staged filters will be validated and, if passed, trigger a search request after which the search filter results are displayed.

Form fields

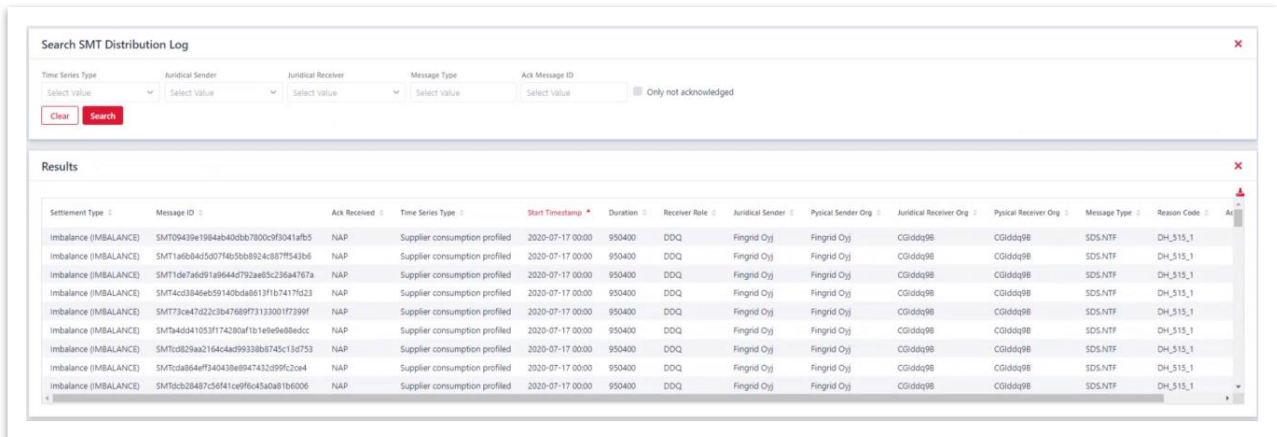
Field name	Input type	Obligation	Notes
Time Series Type	Dropdown	Optional	
Juridical Sender	Dropdown	Optional	List with all available organisations (except inactive ones).
Juridical Receiver	Dropdown	Optional	List with all available organisations (except inactive ones).
Message Type	Text	Optional	
Ack Message ID	Text	Optional	
Only Not Acknowledged	Checkbox	Required	

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2.2.2.1 Settlement Distribution Log: Overview of Search Results

Based on the filters, the results are shown as below.



Form fields

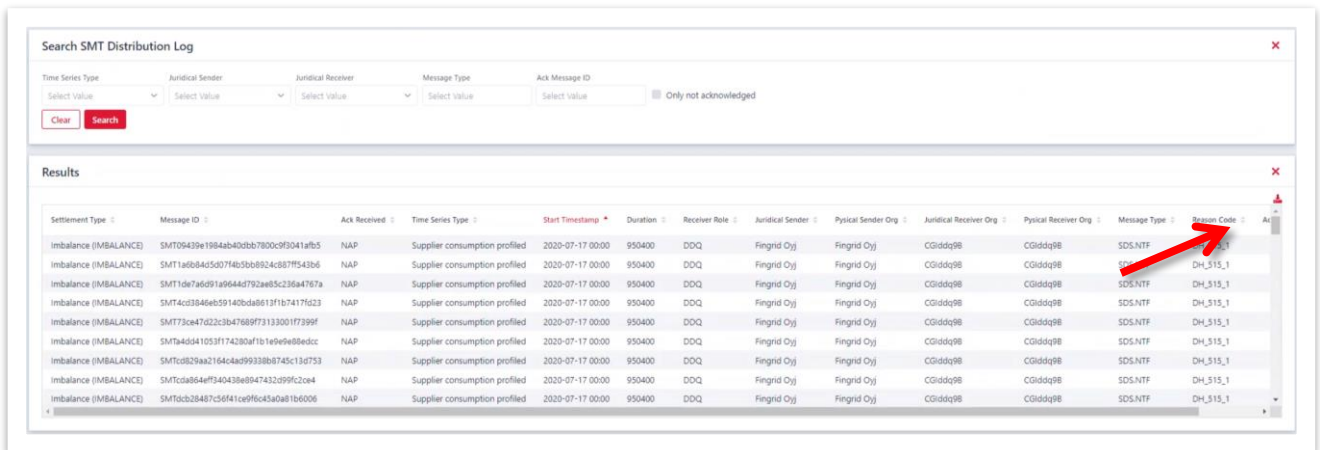
Field name	Input type	Obligation	Notes
Settlement Type	Text	Disabled.	
Message ID	Text	Disabled	
Ack Received	Text	Disabled	
Time Series Type	Text	Disabled	
Start Timestamp	Date Time	Disabled	
End Timestamp	Date Time	Disabled	
Receiver Role	Text	Disabled	Market Role <ul style="list-style-type: none"> • CPO CMS Product Owner • DHB Datahub • MOP Market Operator
Juridical Sender	Text	Disabled	
Physical Sender	Text	Disabled	
Juridical Receiver	Text	Disabled	
Physical Receiver	Text	Disabled	
Message Type	Text	Disabled	
Reason Code	Text	Disabled	
Ack Message ID	Text	Disabled	

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2.2.2.2 Settlement Distribution Log: Export and Toggle

Using the '3 dots' icon in the grid / table, you can export all data currently displayed in the table to a CSV-file (Comma Separated Value-file) and show / hide columns. Copying data from the GUI is done by exporting to Excel.



See '[Appendix C: Export data](#)' for more details.

2.2.3 Settlement Time Series: Overview of Time Series Results

The following is applicable for imbalance settlement (balance window):

- All calculated time series are visible in the GUI and all calculated time series are sent using DH-511 / DH-514 / DH-515 messages.


The following is applicable for balance deviation:

- All calculated time series are visible in the GUI, but only a part of the calculated time series are sent using DH-611 / DH-612 messages.


See '[Concepts: Settlement](#)' for more details.

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TimeSeries Results				
Timeseries Type ▲	Nr Of Series ▾	Start Timestamp ▾	End Timestamp ▾	
 MGA PU own consumption non-profiled (IB_MGA_OCON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA PU own consumption profiled (IB_MGA_OCON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA consumption non-profiled (IB_MGA_CON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA consumption profiled (IB_MGA_CON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA exchange sum (IB_MGA_MGX)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA losses (IB_MGA_LOSS)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA negative losses (IB_MGA_NLOSS)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA production unit by production type (IB_MGA_PU_PDN)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA production unit total (IB_MGA_PU_TOT)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA small scale production by production type (IB_MGA_SSP_PDN)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA small scale production total (IB_MGA_SSP_TOT)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 MGA total exchange sum (IB_MGA_MGX_TOT)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 Production unit production (IB_PU)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 Supplier PU own consumption non-profiled (IB_BS_OCON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 Supplier PU own consumption profiled (IB_BS_OCON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 Supplier consumption non-profiled (IB_BS_CON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 Supplier consumption profiled (IB_BS_CON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
 Supplier small scale production by production type (IB_BS_SSP_PDN)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	

Annotation bullets

Item	Component type	Note
1 	Button	When you click this button the time series for the designated time series type will be displayed in the ' View Settlement Time Series ' webform.

Form fields

Field name	Input type	Obligation	Notes
Time Series Type	Text	Disabled	
Nr of Series	Text	Disabled	
Start Timestamp	Date Time	Disabled	
End Timestamp	Date Time	Disabled	

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2.2.3.1 Settlement Time Series: View

The 'View Time Series' webform displays the details as shown below.



TimeSeries Results ✕

Timeseries Type ^{▲1}	Nr Of Series	Start Timestamp	End Timestamp	⋮
➤ MGA PU own consumption non-profiled (IB_MGA_OCON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA PU own consumption profiled (IB_MGA_OCON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA consumption non-profiled (IB_MGA_CON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA consumption profiled (IB_MGA_CON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA exchange sum (IB_MGA_MGX)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA losses (IB_MGA_LOSS)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA negative losses (IB_MGA_NLOSS)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA production unit by production type (IB_MGA_PU_PDN)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA production unit total (IB_MGA_PU_TOT)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA small scale production by production type (IB_MGA_SSP_PDN)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA small scale production total (IB_MGA_SSP_TOT)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ MGA total exchange sum (IB_MGA_MGX_TOT)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ Production unit production (IB_PU)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ Supplier PU own consumption non-profiled (IB_BS_OCON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ Supplier PU own consumption profiled (IB_BS_OCON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ Supplier consumption non-profiled (IB_BS_CON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ Supplier consumption profiled (IB_BS_CON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
➤ Supplier small scale production by production type (IB_BS_SSP_PDN)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	

TimeSeries View ✕

Time Series Type	GridAreas	UnitOfMeasure	Resolution	SettlementType	Mga Neighbor	⋮
➤ ⚖ MGA exchange sum (IB_MGA_MGX)	6406021603390394	KWH	PT1H	IMBALANCE_OBW	6406021603390413	
➤ ⚖ MGA exchange sum (IB_MGA_MGX)	6406021603390413	KWH	PT1H	IMBALANCE_OBW	6406021603390394	

Annotation bullets

	Item	Component type	Note
1		Button	When you click this button the time series values for the designated time series will be displayed in the ' View Settlement Time Series Details ' webform. The displayed time series are the calculation results from the viewing settlement run.
2		Button	When you click the 'Balance scale' icon the following pop-up is displayed:

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Läkkisepäntie 21 FI-00620 HELSINKI	P.O.Box 530 FI-00101 HELSINKI	+358 30 395 5000	+358 30 395 5196	FI27455435, VAT reg forename.surname@fingrid.fi www.fingrid.fi

Item	Component type	Note
		<div style="border: 1px solid #ccc; padding: 10px; width: fit-content; margin: 0 auto;"> <p>Add time series to bucket</p> <p>Display Name</p> <input type="text" value="IB_BS_CON_NPD - 94"/> <p>Alias (optional)</p> <input type="text" value="Supplier Test"/> <p style="text-align: right;"> <input type="button" value="Close"/> <input type="button" value="Save"/> </p> </div> <p>After clicking the 'Save' button the meter data is added to the comparison bucket list. See 'Settlement Time Series: Compare' for reference.</p>

Form fields

Field name	Input type	Obligation	Notes
Time Series View	Grid		The displayed columns depends on the time series type (see 'Concepts: Settlement' for more details).

2.2.3.2 Settlement Time Series: Export and Toggle

Using the '3 dots' icon in the grid / table, you can export all data currently displayed in the table to a CSV-file (Comma Separated Value-file) and show / hide columns. Copying data from the GUI is done by exporting to Excel.

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TimeSeries Results ✕

Timeseries Type ▲ ¹	Nr Of Series ▾	Start Timestamp ▾	End Timestamp ▾	⋮
🚩 MGA PU own consumption non-profiled (IB_MGA_OCON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	⋮
🚩 MGA PU own consumption profiled (IB_MGA_OCON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 MGA consumption non-profiled (IB_MGA_CON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 MGA consumption profiled (IB_MGA_CON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 MGA exchange sum (IB_MGA_MGX)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 MGA losses (IB_MGA_LOSS)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 MGA negative losses (IB_MGA_NLOSS)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 MGA production unit by production type (IB_MGA_PU_PDN)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 MGA production unit total (IB_MGA_PU_TOT)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 MGA small scale production by production type (IB_MGA_SSP_PDN)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 MGA small scale production total (IB_MGA_SSP_TOT)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 MGA total exchange sum (IB_MGA_MGX_TOT)	2	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 Production unit production (IB_PU)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 Supplier PU own consumption non-profiled (IB_BS_OCON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 Supplier PU own consumption profiled (IB_BS_OCON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 Supplier consumption non-profiled (IB_BS_CON_NPD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 Supplier consumption profiled (IB_BS_CON_PD)	1	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	
🚩 Supplier small scale production by production type (IB_BS_SSP_PDN)	6	2020-10-14T21:00:00Z	2020-10-21T21:00:00Z	

TimeSeries View ✕

Time Series Type ▾	GridAreas ▾	UnitOfMeasure ▾	Resolution ▾	SettlementType ▾	Mga Neighbor ▾	⋮
🚩 📏 MGA exchange sum (IB_MGA_MGX)	6406021603390394	KWH	PT1H	IMBALANCE_OBW	6406021603390413	⋮
🚩 📏 MGA exchange sum (IB_MGA_MGX)	6406021603390413	KWH	PT1H	IMBALANCE_OBW	6406021603390894	

See '[Appendix C: Export data](#)' for more details.

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3 Settlement Runs: Search, View, Approve and Reject

Once the imbalance settlement calculations including a required manual approval and the balance deviation calculations are done, the calculation process waits for manual approval. An authorised operator user can approve or reject this step to continue / cancel the process. Approving / rejecting such a settlement run can be done using the GUI.

3.1 Settlement Runs: Search by DSO and DDQ

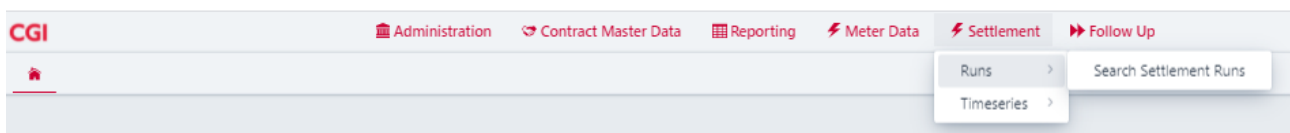
You are able to search and view settlement runs from the following webforms. See '[Settlement Run: Search](#)' for more details.

Navigation path to this webform:

Hover over menu item **Settlement**

Hover over menu item **Runs**

Select **Search Settlement Runs**



Search Settlement Runs ✕

Process Type	Settlement Type	Status	Reference	Username
Balance Deviation ✕	Select Value	Select Value	Enter Value	Enter Value
Period Start	Period End			
Start	End	Clear	Search	

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3.1.1 Settlement Runs: Overview of Search Results

Based on the filters, the results are shown as below.

Process Type	Settlement Type	Start Time	Period Start	Period End	Username	Reference	Status
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 16:28	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin		EXECUTING
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 16:09	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin		EXECUTING
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 12:34	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 12:20	2019-08-04 00:00	2019-08-15 00:00	FGR-fgradmin		FAILED
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 13:08	2020-07-25 00:00	2020-07-30 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 10:51	2020-07-25 00:00	2020-07-30 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 10:49	2020-07-25 00:00	2020-08-05 00:00	FGR-fgradmin		FAILED

Please note the two settlement runs with status EXECUTING.

3.1.2 Settlement Runs: Export and Toggle

Using the '3 dots' icon in the grid / table, you can export all data currently displayed in the table to a CSV-file (Comma Separated Value-file) and show / hide columns. Copying data from the GUI is done by exporting to Excel.

Process Type	Settlement Type	Start Time	Period Start	Period End	Username	Reference	Status
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 16:28	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin		EXECUTING
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 16:09	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin		EXECUTING
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 12:34	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 12:20	2019-08-04 00:00	2019-08-15 00:00	FGR-fgradmin		FAILED
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 13:08	2020-07-25 00:00	2020-07-30 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 10:51	2020-07-25 00:00	2020-07-30 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 10:49	2020-07-25 00:00	2020-08-05 00:00	FGR-fgradmin		FAILED

See '[Appendix C: Export data](#)' for more details.

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3.2 Settlement Run: View by DSO and DDQ

The 'Run Steps' part of the 'View Settlement Run' webform looks like:

Step Type	Step Status	Started Timestamp	Duration
Validation Step (ENTVALSTP)	SUCCESS	2020-08-14 16:09	00:00:01
Calculation Step (KXSCALSTP)	SUCCESS	2020-08-14 16:09	00:00:01
Waiting for approval step (PRCRCMSTP)	EXECUTING	2020-08-14 16:09	
Update approval step (KXSUPSSTP)	NOT_EXECUTED	1924-01-02 00:00	
Update approval step (KXSUPSSTP)	NOT_EXECUTED	1924-01-02 00:00	
Distribution Step (PRCDISTSTP)	NOT_EXECUTED	1924-01-02 00:00	
Distribution Step (PRCDISTSTP)	NOT_EXECUTED	1924-01-02 00:00	

Please note the Waiting for Approval Step.

3.2.1 Settlement Run Details: View

After selecting a Waiting for Approval Step the following webform is displayed:

View SMT Details ✕

Step Type
Waiting for approval step (PRCRCMSTP)

Step Status
EXECUTING

Started Timestamp
2020-08-14 16:09

Duration

Annotation bullets

Item	Component type	Note	
1	Approve	Button	When you click this button the balance deviation run will be approved.
2	Reject	Button	When you click this button the balance deviation run will be rejected.

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Form fields

Field name	Input type	Obligation	Notes
Step Type	Text	Disabled	
Step Status	Text	Disabled	
Started Timestamp	Date Time	Disabled	
Duration	Text	Disabled	HH:mm:ss.

3.3 Settlement Run: Approve

The 'Search Settlement Run' webform after approval:

Process Type	Settlement Type	Start Time	Period Start	Period End	Username	Reference	Status
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 16:28	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 16:09	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 12:34	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 12:20	2019-08-04 00:00	2019-08-15 00:00	FGR-fgradmin		FAILED
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 13:08	2020-07-25 00:00	2020-07-30 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 10:51	2020-07-25 00:00	2020-07-30 00:00	FGR-fgradmin		SUCCESSFUL
Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 10:49	2020-07-25 00:00	2020-08-05 00:00	FGR-fgradmin		FAILED

After approval, the 'Run Steps' part of the 'View Settlement Run' webform looks like:

Step Type	Step Status	Started Timestamp	Duration
Validation Step (ENTVALSTP)	SUCCESS	2020-08-14 16:09	00:00:01
Calculation Step (KXSCALSTP)	SUCCESS	2020-08-14 16:09	00:00:01
Waiting for approval step (PRCRCMSTP)	SUCCESS	2020-08-14 16:09	00:30:03
Update approval step (KXSUPSSTP)	NOT_APPLICABLE	1924-01-02 00:00	
Update approval step (KXSUPSSTP)	NOT_APPLICABLE	1924-01-02 00:00	
Distribution Step (PRCDISTSTP)	SUCCESS	2020-08-14 16:39	00:00:02
Distribution Step (PRCDISTSTP)	SUCCESS	2020-08-14 16:39	00:00:01

Please note that both the Waiting For Approval Step and the Distribution Steps are successfully.

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3.4 Settlement Run: Reject

The 'Search Settlement Run' webform after rejection:

Results							
	Process Type	Settlement Type	Start Time	Period Start	Period End	Username	Status
🚩	Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 16:28	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin	SUCCESSFUL
🚩	Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 16:09	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin	SUCCESSFUL
🚩	Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 12:34	2020-05-30 00:00	2020-06-10 00:00	FGR-fgradmin	SUCCESSFUL
🚩	Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-14 12:20	2019-08-04 00:00	2019-08-15 00:00	FGR-fgradmin	FAILED
🚩	Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 13:08	2020-07-25 00:00	2020-07-30 00:00	FGR-fgradmin	SUCCESSFUL
🚩	Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 10:51	2020-07-25 00:00	2020-07-30 00:00	FGR-fgradmin	SUCCESSFUL
🚩	Balance Deviation	Balance Deviation (BALANCEDEV)	2020-08-06 10:49	2020-07-25 00:00	2020-08-05 00:00	FGR-fgradmin	FAILED

After rejection, the 'Run Steps' part of the 'View Settlement Run' webform looks like:

Run Steps				
	Step Type	Step Status	Started Timestamp	Duration
🚩	Validation Step (ENTVALSTP)	SUCCESS	2020-08-14 16:28	00:00:01
🚩	Calculation Step (KXSCALSTP)	SUCCESS	2020-08-14 16:28	00:00:01
🚩	Waiting for approval step (PRCRMSTP)	SUCCESS	2020-08-14 16:28	00:11:39
🚩	Update approval step (KXSUPSSTP)	NOT_APPLICABLE	1924-01-02 00:00	
🚩	Update approval step (KXSUPSSTP)	NOT_APPLICABLE	1924-01-02 00:00	
🚩	Distribution Step (PRCDISTSTP)	NOT_APPLICABLE	1924-01-02 00:00	
🚩	Distribution Step (PRCDISTSTP)	NOT_APPLICABLE	1924-01-02 00:00	

Please note that the Waiting For Approval Step is successfully the distribution steps are not applicable.

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4 Settlement Time Series: Search and View by DSO and DDQ

Searching for time series can be done across settlement runs using the GUI. These time series are the calculation results from several settlement runs.

4.1 Settlement Time Series: Search

You are able to search and view time series from the following webforms.

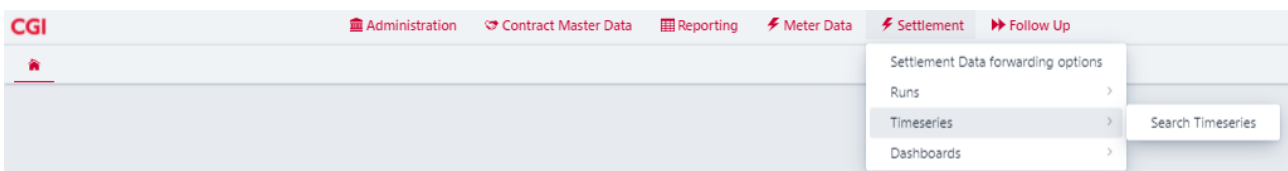
Navigation path to this webform:

Hover over menu item **Settlement**

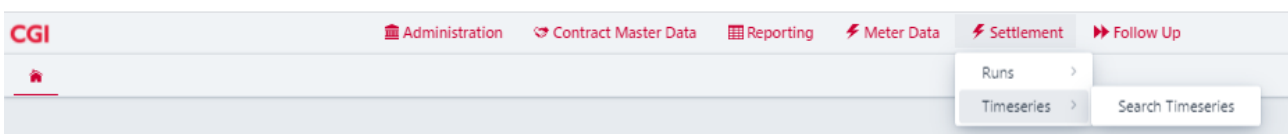
Hover over menu item **Time Series**

Select **Search Time Series**

By DSO:



By DDQ:



Search Settlement Timeseries ✕



Timeseries Type	Settlement Type	Start Time TS search	End Time TS search	MeteringGridArea	TS Status
MGA exchange sum (IB_) ✕	Imbalance ✕	2020-09-28 ✕	2020-10-28 ✕	Testgrid 2 (64060216038) ✕	Select Value

1 2

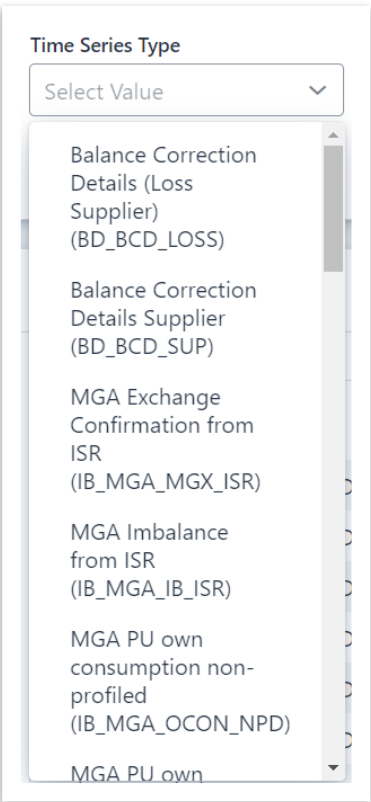
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Annotation bullets

	Item	Component type	Note
1		Button	When you click this button any staged selection filters will be undone.
2		Button	When you click this button staged filters will be validated and, if passed, trigger a search request after which the search filter results are displayed.

Form fields

Field name	Input type	Obligation	Notes
Time Series Type	Dropdown	Required	

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Field name	Input type	Obligation	Notes
Settlement Type	Dropdown	Required	 <p>Settlement Type *</p> <p>Select Value</p> <ul style="list-style-type: none"> Balance Deviation Imbalance Imbalance OBW Imbalance reported by ISR (DH-513) MGA exchange confirmation reported by ISR (DH-516) Nordpool prices Request for imbalance data calculated as part of the IMBALANCE process (DH-521 / DH-522) Request for imbalance data calculated as part of the IMBALANCE_OBW process (DH-521 / DH-522)
Start Time TS Search	Date	Required	By default today – 30 days.
End Time TS Search	Date	Required	By default today.

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Field name	Input type	Obligation	Notes
Metering Grid Area	Dropdown	Required	
TS Status	Dropdown	Optional	

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4.1.1 Settlement Time Series: Overview of Search Results

Based on the filters, the results are shown as below.

Annotation bullets

	Item	Component type	Note
1		Button	When you click this button the time series values for the designated time series will be displayed in the 'View Settlement Time Series Details' webform. The displayed time series are the calculation results from several settlement runs.

Form fields

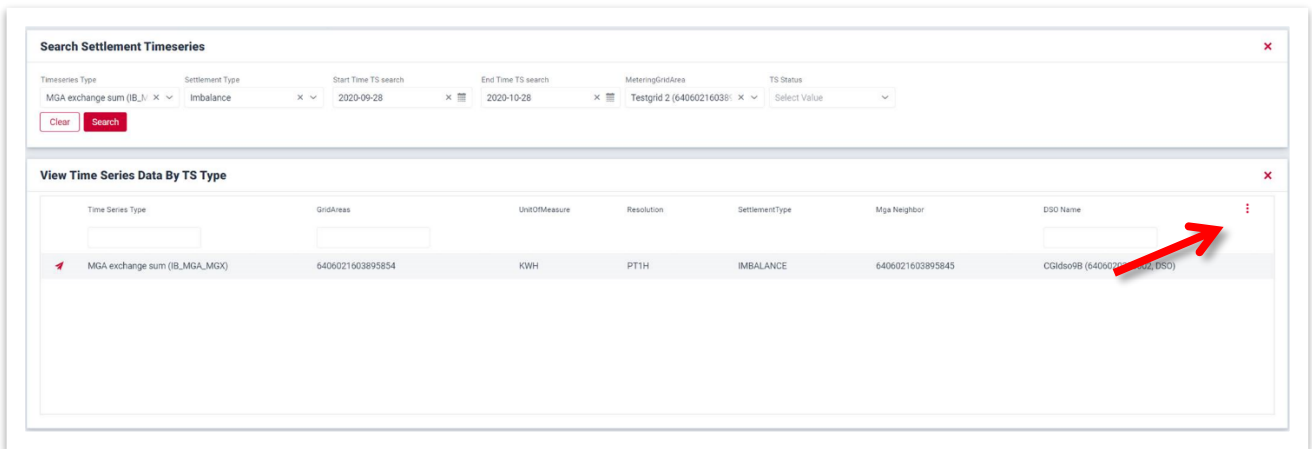
Field name	Input type	Obligation	Notes
View Time Series Data By TS Type	Grid		The displayed columns depends on the time series type (see 'Concepts: Settlement' for more details). Filtering can be done in the header of the columns.

4.1.2 Settlement Time Series: Export and Toggle

Using the **'3 dots'** icon in the grid / table, you can export all data currently displayed in the table to a CSV-file (Comma Separated Value-file) and show / hide columns. Copying data from the GUI is done by exporting to Excel.

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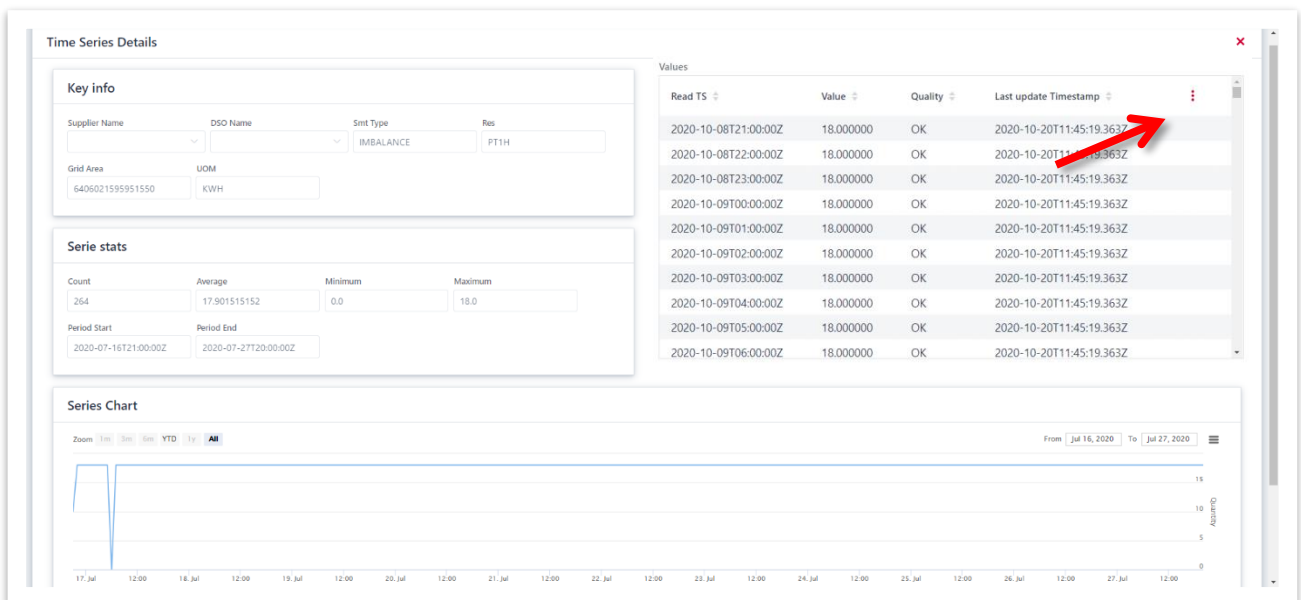


See '[Appendix C: Export data](#)' for more details.

4.2 Settlement Time Series Details: View

The '**View Time Series Details**' webform displays the details as shown below.

The webform displays time series data for the entire retention period. When for example the user enters a 10 years period and the retention period is 6 years, the webform displays time series data for 6 years.



The displayed time series are the calculation results from either several settlement runs (this chapter) or the viewing settlement run (see '[Settlement Time Series: View](#)').

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				www.fingrid.fi

Form fields

Field name	Input type	Obligation	Notes		
Key Info					
The displayed fields depends on the time series type (see ' Concepts: Settlement ' for more details).					
Series Stats					
Count	Number	Disabled	Number of time series, based on values (see "val" in ' Concepts: Settlement ' for more details).		
Average	Number	Disabled	Based on values (see "val" in ' Concepts: Settlement ' for more details).		
Minimum	Number	Disabled	Based on values (see "val" in ' Concepts: Settlement ' for more details).		
Maximum	Number	Disabled	Based on values (see "val" in ' Concepts: Settlement ' for more details).		
Period Start	Date Time	Disabled			
Period End	Date Time	Disabled			
Values					
Time Series	Grid	The displayed columns depends on the time series type (see ' Concepts: Settlement ' for more details).			
		For example:			
		Field name	Input type	Obligation	Notes
		Read TS	Date Time	Disabled	Timestamp.
		Value	Number	Disabled	
Quality	Text	Disabled	Displays the lowest quality. For example when the lowest quality is missing, 'MISSING' is displayed.		
Last Update Timestamp	Date Time	Disabled	Timestamp latest update.		
Series Chart					
Time Series	Graph	The displayed charts depends on the time series type (see ' Concepts: Settlement ' for more details).			
		The chart will be scaled based on the time series data. The chart can be zoomed by using the zoom factors in the top left of the chart. The chart can be exported in several formats by clicking on the menu icon in the top right of the chart. And gridlines can be shown or hidden by using the bold dot in the top right of the chart.			

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Field name	Input type	Obligation	Notes
			<p>The chart allows also zooming over the time-axis to easily allow the user to dive into the details of the data. On top of that the user is able to filter on the following items:</p> <ul style="list-style-type: none"> • From Date; • End Date. <p>A legend and hovering with tooltips are available. The displayed tooltip information depends on the time series type (see 'Concepts: Settlement' for more details). For example:</p> <ul style="list-style-type: none"> • Read TS; • Value; • Quality; • Last Update Timestamp.

4.3 Settlement Time Series Details: Export and Toggle

Using the '**3 dots**' icon in the grid / table, you can export all data currently displayed in the table to a CSV-file (Comma Separated Value-file) and show / hide columns.

When clicking on the '**3 dots**' icon it looks like:

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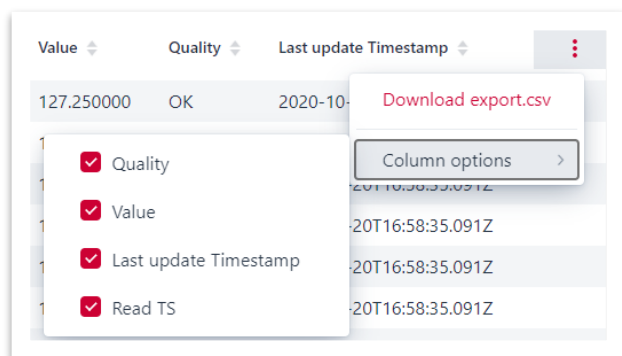
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Copying data from the GUI is done by exporting to Excel. See '[Appendix C: Export data](#)' for more details.

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5 Settlement Time Series: Compare

The market participants are able to compare calculated time series in a numerical and a graphical representation. Before the user is able to compare, the user needs to add the time series to the comparison bucket list. This is done via the '[View Settlement Time Series](#)' webform.

The screenshot shows two webform sections. The top section, 'TimeSeries Results', contains a table with the following data:

Timeseries Type ▲ ¹	Nr Of Series ⇅	Start Timestamp ⇅	End Timestamp ⇅	
MGA consumption non-profiled (IB_MGA_CON_NPD)	1	2020-10-14T21:00:00Z	2020-10-25T22:00:00Z	
MGA losses (IB_MGA_LOSS)	1	2020-10-14T21:00:00Z	2020-10-25T22:00:00Z	
MGA negative losses (IB_MGA_NLOSS)	1	2020-10-14T21:00:00Z	2020-10-25T22:00:00Z	
Supplier consumption non-profiled (IB_BS_CON_NPD)	2	2020-10-14T21:00:00Z	2020-10-25T22:00:00Z	

The bottom section, 'Time Series View', contains a table with the following data:

Time Series Type ⇅	GridAreas ⇅	UnitOfMeasure ⇅	Resolution ⇅	SettlementType ⇅	
Supplier consumption non-profiled (IB_BS_CON_NPD)	6410021603726998	KWH	PT1H	IMBALANCE	
Supplier consumption non-profiled (IB_BS_CON_NPD)	6410021603726998	KWH	PT1H	IMBALANCE	

When you click the '**Balance scale**' icon the following pop-up is displayed:

Add time series to bucket

Display Name

Alias (optional)

By default the time series type and an unique identifier are used to identify and distinguish the compared calculated time series from each other. It is also possible to add an alias for the compared calculated time series. After clicking the '**Save**' button the calculated time series are added to the comparison bucket list and a confirmation message is shown. The user is informed if the calculated time series are already part of the comparison bucket list.

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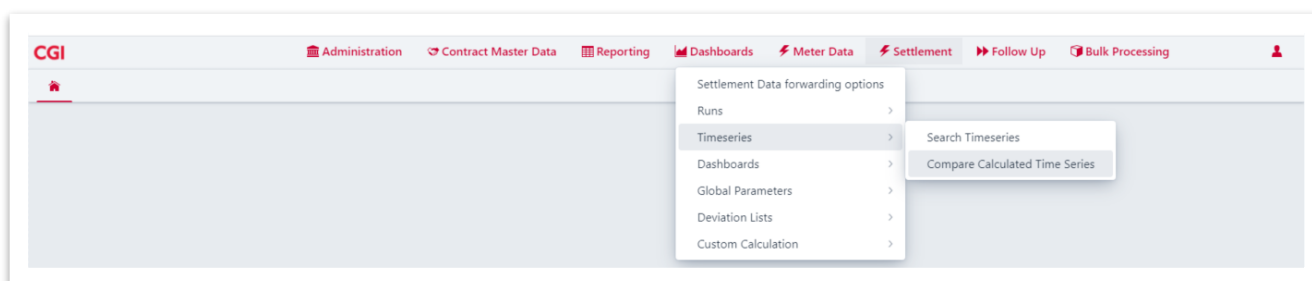
5.1 Settlement Time Series: Compare

Navigation path to this webform:

Hover over menu item **Settlement**

Hover over menu item **Time Series**

Select **Compare Calculated Time Series**



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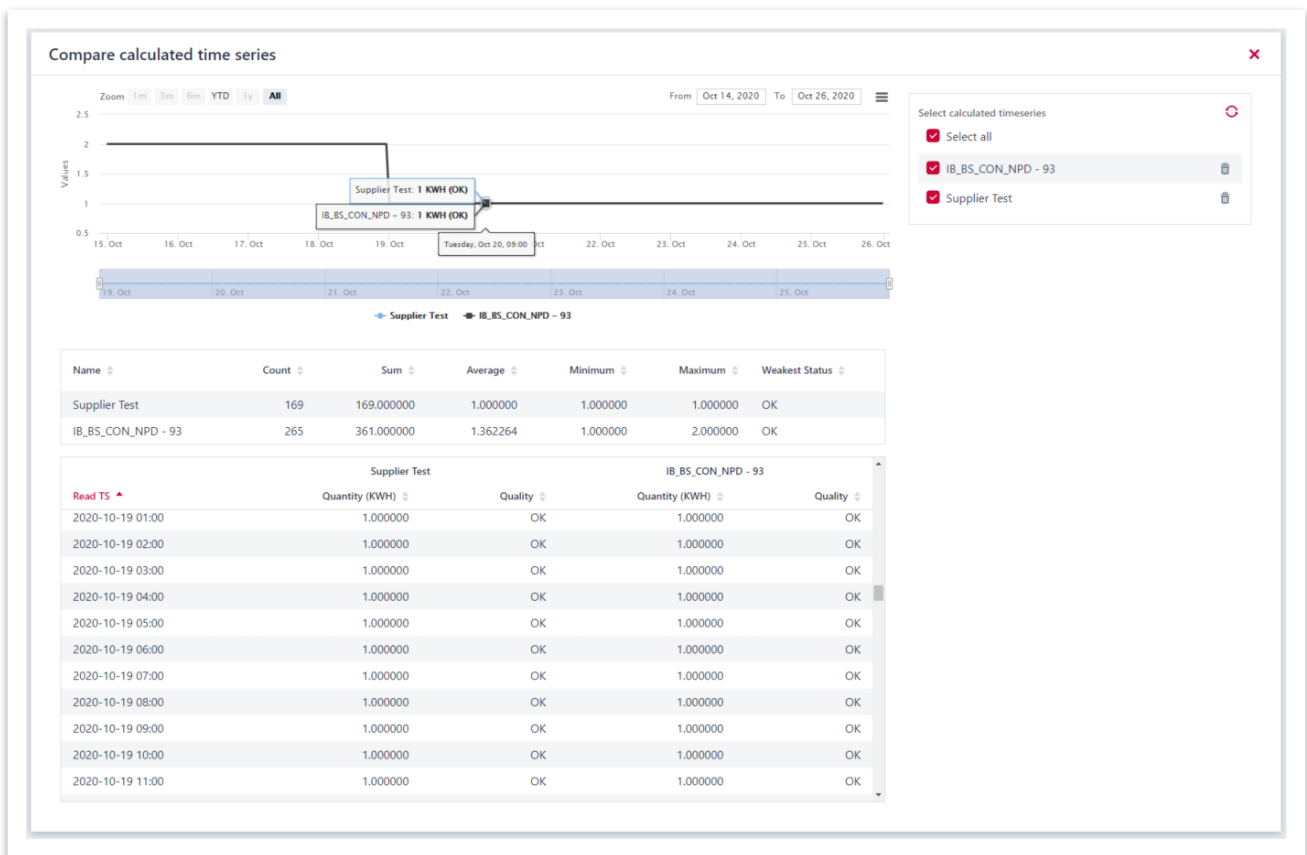
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Annotation bullets

	Item	Component type	Notes
1		Button	When you click the below 'Refresh' button, the line chart(s) and the grid / table will be updated as a result of an updated comparison bucket list (i.e. added in a second screen).
2		Button	When you click the 'Trash Can' button, the corresponding calculated time series will be removed from the comparison bucket list.
3	Select all	Checkbox	When you check the 'Select All' checkbox, all items from the comparison bucket list will be selected. When you uncheck it, all items will be deselected.

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Form fields

Field name	Input type	Obligation	Notes																										
Compared Calculated Time Series	Graph		<p>The displayed charts depends on the time series type (see 'Concepts: Settlement' for more details).</p> <p>The chart will be scaled based on the time series data. The chart can be zoomed by using the zoom factors in the top left of the chart. The chart can be exported in several formats by clicking on the menu icon in the top right of the chart. And gridlines can be shown or hidden by using the bold dot in the top right of the chart.</p> <p>The chart allows also zooming over the time-axis to easily allow the user to dive into the details of the data. On top of that the user is able to filter on the following items:</p> <ul style="list-style-type: none"> • From Date; • End Date. <p>Colors in combination with a legend and hovering with tooltips are available to identify and distinguish time series from each other. The displayed tooltip information depends on the time series type (see 'Concepts: Settlement' for more details). For example:</p> <ul style="list-style-type: none"> • Concatenation of Time Series Type and Unique Identifier or Alias; • Energy Quantity; • Unit Type; • Quantity Quality; • Read TS. <p>It is also possible to show and hide the data of one or more separately selected time series using the legend.</p>																										
			<table border="1"> <thead> <tr> <th>Field name</th> <th>Input type</th> <th>Obligation</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Name</td> <td>Text</td> <td>Disabled</td> <td>Concatenation of time series type and unique identifier or entered alias.</td> </tr> <tr> <td>Count</td> <td>Number</td> <td>Disabled</td> <td>Number of time series, based on values (see "val" in 'Concepts: Settlement' for more details).</td> </tr> <tr> <td>Sum</td> <td>Number</td> <td>Disabled</td> <td>Summation of time series, based on values (see "val" in 'Concepts: Settlement' for more details).</td> </tr> <tr> <td>Average</td> <td>Number</td> <td>Disabled</td> <td>Based on values (see "val" in 'Concepts: Settlement' for more details).</td> </tr> <tr> <td>Minimum</td> <td>Number</td> <td>Disabled</td> <td>Based on values (see "val" in 'Concepts: Settlement' for more details).</td> </tr> <tr> <td>Maximum</td> <td>Number</td> <td>Disabled</td> <td>Based on values (see "val" in 'Concepts: Settlement' for more details).</td> </tr> </tbody> </table>	Field name	Input type	Obligation	Notes	Name	Text	Disabled	Concatenation of time series type and unique identifier or entered alias.	Count	Number	Disabled	Number of time series, based on values (see "val" in ' Concepts: Settlement ' for more details).	Sum	Number	Disabled	Summation of time series, based on values (see "val" in ' Concepts: Settlement ' for more details).	Average	Number	Disabled	Based on values (see "val" in ' Concepts: Settlement ' for more details).	Minimum	Number	Disabled	Based on values (see "val" in ' Concepts: Settlement ' for more details).	Maximum	Number
Field name	Input type	Obligation	Notes																										
Name	Text	Disabled	Concatenation of time series type and unique identifier or entered alias.																										
Count	Number	Disabled	Number of time series, based on values (see "val" in ' Concepts: Settlement ' for more details).																										
Sum	Number	Disabled	Summation of time series, based on values (see "val" in ' Concepts: Settlement ' for more details).																										
Average	Number	Disabled	Based on values (see "val" in ' Concepts: Settlement ' for more details).																										
Minimum	Number	Disabled	Based on values (see "val" in ' Concepts: Settlement ' for more details).																										
Maximum	Number	Disabled	Based on values (see "val" in ' Concepts: Settlement ' for more details).																										
Compared Calculated Summaries	Grid																												

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Field name	Input type	Obligation	Notes		
		Weakest Status	Text	Disabled	Lowest quality, based on values (see "val" in 'Concepts: Settlement' for more details).
Compared Calculated Time Series	Grid	The displayed columns depends on the time series type (see 'Concepts: Settlement' for more details).			
		For example:			
		Field name	Input type	Obligation	Notes
		Name	Text	Disabled	Concatenation of time series type and unique identifier or entered alias.
		Read TS	Date Time	Disabled	Timestamp.
Quantity	Number	Disabled	The column header states the unit type between brackets.		
Quality	Text	Disabled			
Select Calculated Time Series	Grid	Field name	Input type	Obligation	Notes
		Name	Multi Select	Optional	List with items from the comparison bucket list. Concatenation of time series type and unique identifier or entered alias.

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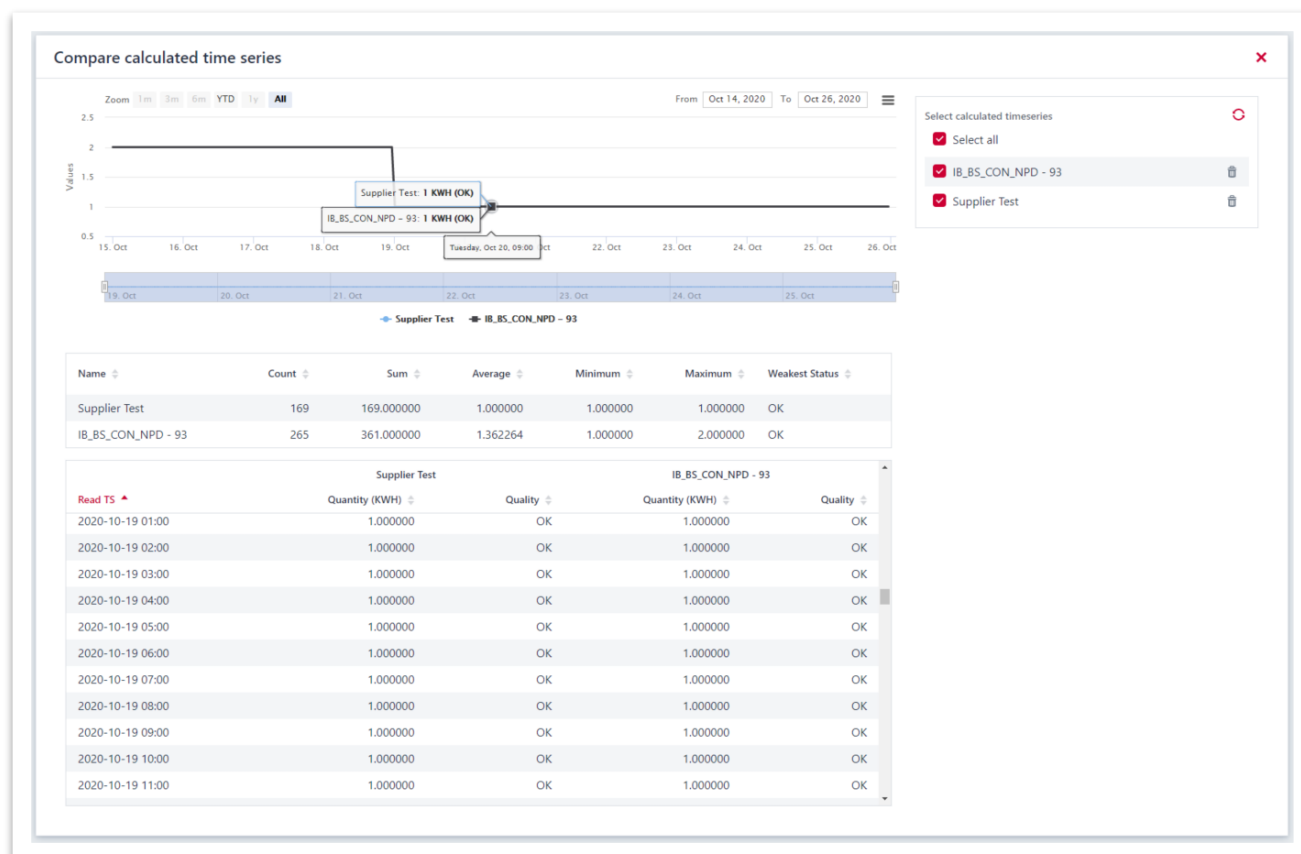
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5.2 Compared Settlement Time Series: Export and Toggle

Using the '3 dots' icon in the grid / table, you can export all data currently displayed in the table to a CSV-file (Comma Separated Value-file) and show / hide columns. Copying data from the GUI is done by exporting to Excel.



See '[Appendix C: Export data](#)' for more details.

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6 Standard Reporting

6.1 Scheduled (Large) Preconfigured Reports

(Large) preconfigured reports are scheduled via the GUI to be executed. The results can be downloaded in the proper output format and language. After the report has been executed, the report can be found via 'Search Report Runs' (see '[Appendix C: Manuals for Market Parties](#)' for reference).

6.1.1 Reports

6.1.1.1 Metering Grid Area Losses (report 53) for DSO

This report is implemented with PowerBI and makes use of the following information:

- Losses (positive and negative) as output from the DH-511 process;
- Imbalance as output from the DH-513 process;
- Grid Loss thresholds (from the global parameters).

The report contains the following views:

- Overview – list of MGAs (rows) and last 11 days (columns) in local time with graphical indicator regarding the status;
- Imbalance errors – indicate where the imbalance reported from eSett is not zero;
- Loss errors – provides two sub views:
 - Negative losses;
 - Losses beyond threshold.
- Loss totals – provides the volume on losses.

The report allows to 'zoom in' by filtering data for the selected MGA – Day combination (a cell in the view), as well as by setting a zoom level on the period (1-11 days in local time) or a specific quality status (see legenda below).

Report input Reporting > Reports > Metering Grid Area Losses

No input needed, report is immediately executed using information/views mentioned above.

Applied data authorisation

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Market Role	Remark
MOP	MOP can see all grids.
DSO	DSO can only see own grids.

Report output

As stated above this report consists of 4 views, of which the standard output can be customised by applying the filters mentioned above. The following legenda applies to these views:

Weight:	
● no errors	weight = 0
● threshold issues	weight = xxxxxxxxxxxx1-xxxxxxxx9999
● imbalance issues	weight = xxxxxxx1xxxx-xxxx9999xxxx
✘ negative loss	weight = xxx1xxxxxxxx-9999xxxxxxxx
Quality:	
Revised	0
OK	0
Estimated	2
Uncertain	10
Missing	20
None	30
Units:	
Loss is in kWh	
Imbalance in MWh	

Note that a white/empty circle, i.e. ○, means that there is no data available.

Each view is generally divided into 3 sections, as follows:

- 1 Left – contains the filters that have been applied to the data being displayed;
- 2 Middle – displays the aggregated data that is based on the detailed data below;
- 3 Right – displays the detailed data resulting from the applied filters.

All views are further detailed in their separate sub sections following below.

MGA Losses: Overview

This view lists the Metering Grid Areas (as rows) and last 11 days (as columns) in local time with a graphical indicator regarding the status.

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List of losses

Either last received date DH-513 or Last calculation 'as of Time

2020-10-...

Overview Imbalance

Loss Errors Loss Totals

Metering Grid Area: All

Period: -11 to -1

- 2020-10-10 (-11)
- 2020-10-11 (-10)
- 2020-10-12 (-9)
- 2020-10-13 (-8)
- 2020-10-14 (-7)
- 2020-10-15 (-6)
- 2020-10-16 (-5)
- 2020-10-17 (-4)
- 2020-10-18 (-3)
- 2020-10-19 (-2)
- 2020-10-20 (-1)

Metering Grid Area	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	# Weight
6412021603171937	●	●	●	●	●	●	●	●	●	●	○	2160000000
6412021603172089	●	●	●	●	●	●	●	●	●	●	○	2160000000
6412021603177037	●	●	●	●	●	●	●	●	●	●	○	1920000000
6412021603179443	●	●	●	●	●	●	●	●	●	●	○	1920000000
6412021603183588	●	●	●	●	●	●	●	●	●	●	○	1920000000
6412021603184521	●	●	●	●	●	●	●	●	●	●	○	1920000000
6406021603162689	●	●	●	●	●	●	●	●	●	●	○	12000000240
6406021603170209	●	●	●	●	●	●	●	●	●	●	○	12000000000
6406021603170217	●	●	●	●	●	●	●	●	●	●	○	12000000000
6406021603170467	●	●	●	●	●	●	●	●	●	●	○	12000000000
6406021603171166	●	●	●	●	●	●	●	●	●	●	○	12000000000
6406021603171183	●	●	●	●	●	●	●	●	●	●	○	12000000000
6406021603171366	●	●	●	●	●	●	●	●	●	●	○	12000000000
6406021603171379	●	●	●	●	●	●	●	●	●	●	○	12000000000
6412021603162924	●	●	●	●	●	●	●	●	●	●	○	12000000000
6412021603162929	●	●	●	●	●	●	●	●	●	●	○	12000000000
6412021603163064	●	●	●	●	●	●	●	●	●	●	○	12000000000
6412021603163072	●	●	●	●	●	●	●	●	●	●	○	12000000000
6412021603163207	●	●	●	●	●	●	●	●	●	●	○	12000000000
6412021603163213	●	●	●	●	●	●	●	●	●	●	○	12000000000
6412021603167106	○	○	○	○	○	○	○	○	○	○	○	7200000000
6412021603167331	○	○	○	○	○	○	○	○	○	○	○	7200000000
6406020100000000	○	○	○	○	○	○	○	○	○	○	○	12000000
6406021603161334	○	○	○	○	○	○	○	○	○	○	○	0
6406021603161341	○	○	○	○	○	○	○	○	○	○	○	0
6406021603161611	○	○	○	○	○	○	○	○	○	○	○	0
6406021603161616	○	○	○	○	○	○	○	○	○	○	○	0
6406021603161896	○	○	○	○	○	○	○	○	○	○	○	0
6406021603161902	○	○	○	○	○	○	○	○	○	○	○	0
6406021603162220	○	○	○	○	○	○	○	○	○	○	○	0
6406021603162226	○	○	○	○	○	○	○	○	○	○	○	0
6412021603167420	○	○	○	○	○	○	○	○	○	○	○	0
6412021603170985	○	○	○	○	○	○	○	○	○	○	○	0

Negative Loss

Metering Grid Area	Day	Date	Time	Time (UTC)	Loss (kWh)	Quality	Calculation
6406021603162689	-11	2020-10-10	12:00	09:00	34	Uncertain	20-10-202
6406021603162689	-11	2020-10-10	13:00	10:00	34	Uncertain	20-10-202
6406021603162689	-11	2020-10-10	14:00	11:00	34	Uncertain	20-10-202
6406021603162689	-11	2020-10-10	15:00	12:00	34	Uncertain	20-10-202
6406021603162689	-11	2020-10-10	16:00	13:00	34	Uncertain	20-10-202
6406021603162689	-11	2020-10-10	17:00	14:00	34	Uncertain	20-10-202
6406021603162689	-11	2020-10-10	18:00	15:00	34	Uncertain	20-10-202
6406021603162689	-11	2020-10-10	19:00	16:00	34	Uncertain	20-10-202

Imbalance Errors

Metering Grid Area	Day	Date	Time	Time (UTC)	Imbalance (MWh)	Received Time
6406020100000000	-5	2020-10-16	00:00	21:00	-1	19-10-2020 6:23
6406020100000000	-5	2020-10-16	01:00	22:00	-1	19-10-2020 6:23
6406020100000000	-5	2020-10-16	02:00	23:00	-1	19-10-2020 6:23
6406020100000000	-5	2020-10-16	03:00	00:00	-1	19-10-2020 6:23
6406020100000000	-5	2020-10-16	04:00	01:00	-1	19-10-2020 6:23
6406020100000000	-5	2020-10-16	05:00	02:00	4	19-10-2020 6:23
6406020100000000	-5	2020-10-16	06:00	03:00	-1	19-10-2020 6:23
6406020100000000	-5	2020-10-16	07:00	04:00	-1	19-10-2020 6:23
6406020100000000	-5	2020-10-16	08:00	05:00	-1	19-10-2020 6:23

Threshold errors

Metering Grid Area	Day	Date	Time	Time (UTC)	Loss (kWh)	Range	Quality
6406021603162689	-11	2020-10-10	00:00	21:00	6	10 - 200	Uncertain
6406021603162689	-11	2020-10-10	01:00	22:00	6	10 - 200	Uncertain
6406021603162689	-11	2020-10-10	02:00	23:00	6	10 - 200	Uncertain
6406021603162689	-11	2020-10-10	03:00	00:00	6	10 - 200	Uncertain
6406021603162689	-11	2020-10-10	04:00	01:00	6	10 - 200	Uncertain
6406021603162689	-11	2020-10-10	05:00	02:00	6	10 - 200	Uncertain
6406021603162689	-11	2020-10-10	06:00	03:00	6	10 - 200	Uncertain
6406021603162689	-11	2020-10-10	07:00	04:00	6	10 - 200	Uncertain

Report columns (aggregated)

Column	Type	Obligation	Remark
Metering Grid Area	Text(16)	Mandatory	The code of the MGA involved.
-11	Symbol	Optional	The weight status determined for the 11th day in the past.
...	Symbol	Optional	The weight status determined for the Nth day in the past (<i>number of columns depends on selected period using the slider filter</i>).
-1	Symbol	Optional	The weight status determined for the 1st day in the past.
# Weight	Number(10)	Mandatory	The weight factor calculated for the MGA involved.

MGA Losses: Imbalance

This view indicates where the imbalance reported from eSett is not zero for a Metering Grid Area.

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				www.fingrid.fi

Imbalance Errors

Metering Grid Area: 6406020100000000 | -5 -4 -3 -2 -1 | # Weight: 1200000

Last received date DH-513
2020-10-21 06:29:27

Overview

Imbalance

Loss Errors

Loss Totals

Metering Grid Area	Day	Period Start	UTC	Imb (M)
6406020100000000	-5	16-10-2020 0:00:00	15-10-2020 21:00:00	
6406020100000000	-5	16-10-2020 1:00:00	15-10-2020 22:00:00	
6406020100000000	-5	16-10-2020 2:00:00	15-10-2020 23:00:00	
6406020100000000	-5	16-10-2020 3:00:00	16-10-2020 0:00:00	
6406020100000000	-5	16-10-2020 4:00:00	16-10-2020 1:00:00	
6406020100000000	-5	16-10-2020 5:00:00	16-10-2020 2:00:00	
6406020100000000	-5	16-10-2020 6:00:00	16-10-2020 3:00:00	
6406020100000000	-5	16-10-2020 7:00:00	16-10-2020 4:00:00	
6406020100000000	-5	16-10-2020 8:00:00	16-10-2020 5:00:00	
6406020100000000	-5	16-10-2020 9:00:00	16-10-2020 6:00:00	
6406020100000000	-5	16-10-2020 10:00:00	16-10-2020 7:00:00	
6406020100000000	-5	16-10-2020 11:00:00	16-10-2020 8:00:00	
6406020100000000	-5	16-10-2020 12:00:00	16-10-2020 9:00:00	
6406020100000000	-5	16-10-2020 13:00:00	16-10-2020 10:00:00	
6406020100000000	-5	16-10-2020 14:00:00	16-10-2020 11:00:00	
6406020100000000	-5	16-10-2020 15:00:00	16-10-2020 12:00:00	
6406020100000000	-5	16-10-2020 16:00:00	16-10-2020 13:00:00	
6406020100000000	-5	16-10-2020 17:00:00	16-10-2020 14:00:00	
6406020100000000	-5	16-10-2020 18:00:00	16-10-2020 15:00:00	
6406020100000000	-5	16-10-2020 19:00:00	16-10-2020 16:00:00	
6406020100000000	-5	16-10-2020 20:00:00	16-10-2020 17:00:00	
6406020100000000	-5	16-10-2020 21:00:00	16-10-2020 18:00:00	
6406020100000000	-5	16-10-2020 22:00:00	16-10-2020 19:00:00	
6406020100000000	-5	16-10-2020 23:00:00	16-10-2020 20:00:00	
6406020100000000	-4	17-10-2020 0:00:00	16-10-2020 21:00:00	
6406020100000000	-4	17-10-2020 1:00:00	16-10-2020 22:00:00	
6406020100000000	-4	17-10-2020 2:00:00	16-10-2020 23:00:00	
6406020100000000	-4	17-10-2020 3:00:00	17-10-2020 0:00:00	
6406020100000000	-4	17-10-2020 4:00:00	17-10-2020 1:00:00	
6406020100000000	-4	17-10-2020 5:00:00	17-10-2020 2:00:00	
6406020100000000	-4	17-10-2020 6:00:00	17-10-2020 3:00:00	
6406020100000000	-4	17-10-2020 7:00:00	17-10-2020 4:00:00	
6406020100000000	-4	17-10-2020 8:00:00	17-10-2020 5:00:00	
6406020100000000	-4	17-10-2020 9:00:00	17-10-2020 6:00:00	
6406020100000000	-4	17-10-2020 10:00:00	17-10-2020 7:00:00	
6406020100000000	-4	17-10-2020 11:00:00	17-10-2020 8:00:00	
6406020100000000	-4	17-10-2020 12:00:00	17-10-2020 9:00:00	

Report columns (aggregated)

Column	Type	Obligation	Remark
Metering Grid Area	Text(16)	Mandatory	The code of the MGA involved.
-11	Symbol	Optional	The weight status determined for the 11th day in the past.
...	Symbol	Optional	The weight status determined for the Nth day in the past (number of columns depends on selected period using the slider filter).
-1	Symbol	Optional	The weight status determined for the 1st day in the past.
# Weight	Number(10)	Mandatory	The weight factor calculated for the MGA involved.

MGA Losses: Loss Errors

This view provides two sub views: one that contains *Negative losses* and one that contains *Losses beyond threshold*, both per Metering Grid Area.

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Loss Errors

Last calculation as of Time

2020-10-21
12:02:51

Overview

Imbalance

Loss Errors

Loss Totals

Period

- (Blank)
- 2020-10-09 (-11)
- 2020-10-10 (-10)
- 2020-10-11 (-9)
- 2020-10-12 (-8)
- 2020-10-13 (-7)
- 2020-10-14 (-6)
- 2020-10-15 (-5)
- 2020-10-16 (-4)
- 2020-10-17 (-3)
- 2020-10-18 (-2)
- 2020-10-19 (-1)

Negative Loss

Metering Grid Area	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	# Weight
6406021603161334	○	○	○	○	○	○	○	○	○	○	○	0
6406021603161341	○	○	○	○	○	○	○	○	○	○	○	0
6406021603161611	○	○	○	○	○	○	○	○	○	○	○	0
6406021603161616	○	○	○	○	○	○	○	○	○	○	○	0
6406021603161896	○	○	○	○	○	○	○	○	○	○	○	0
6406021603161902	○	○	○	○	○	○	○	○	○	○	○	0
6406021603162220	○	○	○	○	○	○	○	○	○	○	○	0
6406021603162226	○	○	○	○	○	○	○	○	○	○	○	0
6406021603162689	○	○	○	○	○	○	○	○	○	○	○	1200000000
6406021603162702	○	○	○	○	○	○	○	○	○	○	○	1200000000
6406021603170209	○	○	○	○	○	○	○	○	○	○	○	1200000000
6406021603170217	○	○	○	○	○	○	○	○	○	○	○	1200000000
6406021603170385	○	○	○	○	○	○	○	○	○	○	○	2400000000

Threshold issues

Metering Grid Area	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	# Weight
6406021603162689	○	○	○	○	○	○	○	○	○	○	10

Negative Loss

Metering Grid Area	Day	Date	Time	UTC	Loss (kWh)	Quality
6406021603162689	-11	2020-10-10	12:00	09:00	34	Uncertain
6406021603162689	-11	2020-10-10	13:00	10:00	34	Uncertain
6406021603162689	-11	2020-10-10	14:00	11:00	34	Uncertain
6406021603162689	-11	2020-10-10	15:00	12:00	34	Uncertain
6406021603162689	-11	2020-10-10	16:00	13:00	34	Uncertain
6406021603162689	-11	2020-10-10	17:00	14:00	34	Uncertain
6406021603162689	-11	2020-10-10	18:00	15:00	34	Uncertain
6406021603162689	-11	2020-10-10	19:00	16:00	34	Uncertain
6406021603162689	-11	2020-10-10	20:00	17:00	34	Uncertain
6406021603162689	-11	2020-10-10	21:00	18:00	34	Uncertain
6406021603162689	-11	2020-10-10	22:00	19:00	34	Uncertain
6406021603162689	-11	2020-10-10	23:00	20:00	34	Uncertain
6406021603162689	-10	2020-10-11	00:00	21:00	34	Ok
6406021603162689	-10	2020-10-11	01:00	22:00	34	Ok
6406021603162689	-10	2020-10-11	02:00	23:00	34	Ok

Threshold errors

Metering Grid Area	Day	Date	Time	UTC	Loss (kWh)	Range	Quality
6406021603162689	-11	2020-10-10	00:00	21:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	01:00	22:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	02:00	23:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	03:00	00:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	04:00	01:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	05:00	02:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	06:00	03:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	07:00	04:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	08:00	05:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	09:00	06:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	10:00	07:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	11:00	08:00	6	10 - 200	U
6406021603162689	-11	2020-10-10	12:00	09:00	0	10 - 200	U
6406021603162689	-11	2020-10-10	13:00	10:00	0	10 - 200	U
6406021603162689	-11	2020-10-10	14:00	11:00	0	10 - 200	U
6406021603162689	-11	2020-10-10	15:00	12:00	0	10 - 200	U
6406021603162689	-11	2020-10-10	16:00	13:00	0	10 - 200	U
6406021603162689	-11	2020-10-10	17:00	14:00	0	10 - 200	U

Report columns (aggregated)

Column	Type	Obligation	Remark
Metering Grid Area	Text(16)	Mandatory	The code of the MGA involved.
-11	Symbol	Optional	The weight status determined for the 11th day in the past.
...	Symbol	Optional	The weight status determined for the Nth day in the past (<i>number of columns depends on selected period using the slider filter</i>).
-1	Symbol	Optional	The weight status determined for the 1st day in the past.
# Weight	Number(10)	Mandatory	The weight factor calculated for the MGA involved.

MGA Losses: Loss Totals

This view provides the total volume on losses per Metering Grid Area.

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				www.fingrid.fi

7 Specific Reporting

This chapter describes specific SMT related reports.

7.1 Scheduled (Large) Preconfigured Reports

(Large) preconfigured reports are scheduled via the GUI to be executed. The results can be downloaded in the proper output format and language. After the report has been executed, the report can be found via 'Search Report Runs'.

7.1.1 Reports

7.1.1.1 Time Series Data for Selected Imbalance Time Series (report 60) for DSO/DDQ

This report provides the time series for selected imbalance settlement runs within a selected time interval given by the user.

Report input Reporting > Reports > Time Series Data for Selected Imbalance Time Series

The screenshot shows a web application interface for configuring a report. The breadcrumb trail is 'Reporting > Reports > Time Series Data for Selected Imbalance Time Series'. The form contains the following fields and options:

- Organisation:** A dropdown menu with 'Fingrid Oyj (6430076050014, MOP)' selected.
- Metering Grid Area Code:** An empty dropdown menu.
- Business Type:** An empty dropdown menu.
- Start Date TimeSeries:** A date input field with a calendar icon.
- End Date TimeSeries:** A date input field with a calendar icon.
- Data Corrected Outside Balance Window:** A checkbox that is currently unchecked.
- Scheduled Time:** Two input fields: the first contains '2020-10-12' and the second contains '16:30'.
- ASAP:** A checkbox that is currently unchecked.
- Buttons:** 'Submit' (in red) and 'Cancel' (in white with red border).

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Applied data authorisation

Market Role	Remark
MOP	MOP can see all data.
DSO	DSO can only see data for own Organisation.
DDQ	Supplier can only see data for own Organisation.

Available actions

	Action	Type	Note
1	Cancel	Button	When the user clicks this button any staged changes will be discarded and the webform is closed.
2	Submit	Button	When the user clicks this button the webform data is validated and, if successful, the report generation request is submitted.

Form fields

Field name	Input	Obligation	Notes
Organisation	Dropdown	Optional	Selection list, prefilled with requesting Organisation.
Metering Grid Area Code	Dropdown	Required	Selection list with available Metering Grid Areas. Format: "Name (Code)".
Business Type	Dropdown	Required	Selection list with available Business Types. Also known as Balance Settlement Type, i.e. values from the corresponding code list in the Market Specification (e.g. BI01). Format: "Name (Code)".
Start Date Time Series	Date Field	Required	Start of time interval for which meter data is taken into account.
End Date Time Series	Date Field	Required	End of time interval for which meter data is taken into account.
Data Corrected Outside Balance Window	Checkbox	Optional	Domain with values Yes/No: <ul style="list-style-type: none"> if Yes (<i>checked</i>): requesting data corrected outside the balance window (i.e. requesting <u>un</u>official data); if No (<i>unchecked</i>): requesting data <u>not</u> corrected outside the balance window (i.e. requesting official data).
Scheduled Time	Date Field Time Field	Optional	Date and time on which the report is scheduled for execution.
ASAP	Checkbox	Optional	Domain with values Yes/No: <ul style="list-style-type: none"> if Yes (<i>checked</i>): scheduled time is ignored, i.e. report execution asap; if No (<i>unchecked</i>): scheduled time is required.

Report output Reporting > Reports > Search Report Runs (e.g. Report Name is '*60*' or '*imbalance*')

Example of the row structure in the CSV file (*spaces have been added for readability*)

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BUSINESS_TYPE, CALC_START_TS, CALC_END_TS, OBW, RES, UOM, METERING_GRID_AREA, DSO_ID, SUPPLIER_ID, READ_TS, TS_VAL
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D00:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D01:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D02:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D03:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D04:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D05:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D06:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D07:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D08:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D09:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D10:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D11:00:00.000000000, 18
BI01, 2020-09-29D21:00:00.000000000, 2020-10-13D21:00:00.000000000, 0, PT1H, KWH, 6412021602601886, 6412020100006, 6412010100009, 2020-10-01D12:00:00.000000000, 18

File name

The output of the Report Results is delivered as a CSV file (that must be downloaded as a compressed/zipped file), of which the name complies with the following syntax:

- "D60_TS_FOR_DATA_IMBALANCE_SELECTED_TS_[Format]_[epoch].[Format]", e.g.
 - [compressed] "D60_TS_FOR_DATA_IMBALANCE_SELECTED_TS_csv_1602609009710.zip";
 - [uncompressed] "D60_TS_FOR_DATA_IMBALANCE_SELECTED_TS_csv_1602609009710.csv".

Report fields

This table lists the fields that *may* be included with the report output in general.

Field *)	Type	Obligation	Remark
BUSINESS_TYPE (BT)	Text(4)	Required	Also known as Balance Settlement Type, i.e. values from the corresponding code list in the Market Specification (e.g. BI01).
CALC_START_TS (CST)	Text(29)	Required	Start of calculation interval for which meter data is taken into account, format "yyyy-mm-ddDhh:mi:ss.mmmmmmmmm".
CALC_END_TS (CET)	Text(29)	Required	End of calculation interval for which meter data is taken into account, format "yyyy-mm-ddDhh:mi:ss.mmmmmmmmm".

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Field *)	Type	Obligation	Remark
OBW (OBW)	Text(1)	Required	Outside Balance Window, domain with boolean values: <ul style="list-style-type: none"> if "1" (yes): returned data corrected outside the balance window (i.e. <u>un</u>official data); if "0" (no): returned data <u>not</u> corrected outside the balance window (i.e. official data).
PRODUCTION_UN IT_TYPE (PUT)	Text(4)	Conditional	Values from the corresponding code list in the Market Specification (e.g. B20).
METERING_POIN T_ID (MPI)	Text(18)	Conditional	The (unique) identifier of the external Metering Point involved.
RES (RES)	Text(4)	Required	Resolution, values in {PT1H}.
UOM (UOM)	Text(3)	Required	Unit of measurement, values in {KWH, MWH}.
METERING_GRID _AREA (MGA)	Text(16)	Required	The area code of the main MGA involved. Format: digits only.
MGA_IN (MGI)	Text(16)	Conditional	The area code of the infeed MGA involved. Only applies if an Exchange Point is involved. Format: digits only.
MGA_OUT (MGO)	Text(16)	Conditional	The area code of the outfeed MGA involved. Only applies if an Exchange Point is involved. Format: digits only.
MGA_NEIGHBOR (MGN)	Text(16)	Conditional	The area code of the neighbouring MGA involved. Only applies if an Exchange Point is involved. Format: digits only.
DSO_ID (DSO)	Text(13)	Required	The organisation identifier of the DSO involved. Format: digits only.
SUPPLIER_ID (SUP)	Text(13)	Conditional	The organisation identifier of the Supplier involved. Format: digits only.
READ_TS (RTS)	Text(29)	Required	Timestamp of meter reading that has been taken into account, format "yyyy-mm-ddDhh:mi:ss.mmmmmmmmm".
TS_VAL (TSV)	Text(10)	Conditional	Value of meter reading that has been taken into account. Format: digits only.
TS_INVAL (TSI)	Text(10)	Conditional	Value of infeed meter reading that has been taken into account. Only applies if an Exchange Point is involved. Format: digits only.
TS_OUTVAL (TSO)	Text(10)	Conditional	Value of outfeed meter reading that has been taken into account. Only applies if an Exchange Point is involved. Format: digits only.
TS_DELTA (TSD)	Text(10)	Conditional	Value of delta meter reading that has been taken into account. Format: digits only.

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Field *)	Type	Obligation	Remark
TS_QUAL (TSQ)	Text(3)	Conditional	Quality of meter reading that has been taken into account. Values in {OK, NONE, MISSING, UNCERTAIN, EST, REVISED}. <i>Only applicable for calculated time series that originate from Datahub.</i>

*) Acronyms between brackets are used in matrix below.

Report matrix Balance Settlement Types vs Report Fields

This table lists the fields that *are* included with the report output per business type. (See BT descriptions in Appendix F Balance Settlement Types and Field acronyms in the table above)

BT	CST	CET	OBW	PUT	MPI	RES	UOM	MGA	MGI	MGO	MGN	DSO	SUP	RTS	TSV	TSI	TSO	TSD	TSQ
B01	X	X	X	-	-	X	X	X	-	-	-	X	X	X		-	-	-	X
B02	X	X	X	-	-	X	X	X	-	-	-	X	X	X	X	-	-	-	X
B03	X	X	X	-	-	X	X	X	-	-	-	X	X	X	X	-	-	-	X
B04	X	X	X	-	-	X	X	X	-	-	-	X	X	X	X	-	-	-	X
B05	X	X	X	X	-	X	X	X	-	-	-	X	X	X	X	-	-	-	X
B06	X	X	X	-	X	X	X	X	-	-	-	X	X	X	X	-	-	-	X
B07	X	X	X	-	-	X	X	X	-	-	-	X	X	X	X	-	-	-	X
B08	X	X	X	-	-	X	X	X	-	-	-	X	X	X	X	-	-	-	X
B09	X	X	X	-	-	X	X	X	-	-	-	X	X	X	-	X	X	-	-
B10	X	X	X	-	-	X	X	X	-	-	-	X	-	X	X	-	-	-	X
B11	X	X	X	-	-	X	X	X	-	-	-	X	-	X	X	-	-	-	X
B12	X	X	X	-	-	X	X	X	-	-	-	X	-	X	X	-	-	-	X
B13	X	X	X	-	-	X	X	X	-	-	-	X	-	X	X	-	-	-	X
B14	X	X	X	X	-	X	X	X	-	-	-	X	-	X	X	-	-	-	X
B15	X	X	X	-	-	X	X	X	-	-	-	X	-	X	X	-	-	-	X
B16	X	X	X	X	-	X	X	X	-	-	-	X	-	X	X	-	-	-	X
B17	X	X	X	-	-	X	X	X	-	-	-	X	-	X	X	-	-	-	X
B18	X	X	X	-	-	X	X	X	-	-	X	X	-	X	X	-	-	-	X
B19	X	X	X	-	-	X	X	X	-	-	-	X	-	X	X	-	-	-	X
B20	X	X	X	-	-	X	X	X	X	X	-	X	-	X	X	-	-	X	-

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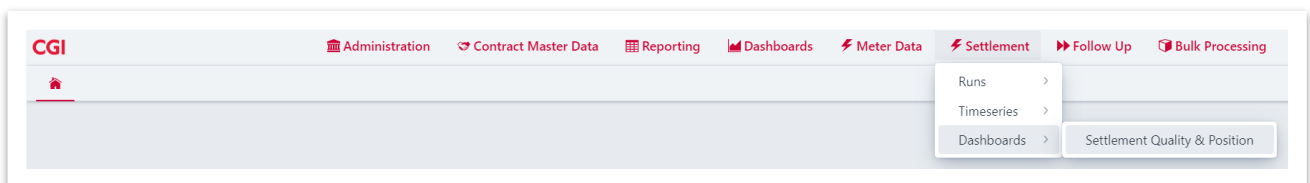
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8 Dashboards for DSO

8.1 Settlement Quality & Position Dashboard

The Settlement Quality & Position Dashboard enables the market participants to monitor the completeness of the meter data, i.e. the number of accounting points *with* and the number of account points *without* meter data. When new meter data is reported by market participants, the meter data statistics are recalculated and as a result the dashboard is updated.

Navigation path to this webform:
 Hover over menu item **Settlement**
 Hover over menu item **Dashboards**
 Select **Settlement Quality & Position**



- Initially the data (i.e. counts) is shown using bar charts for *all* grid areas over the last 14 calendar days.



- Zooming in to 1 day by clicking on a bar chart, as a result 24 values are shown:
 - The bar charts show data for *all* grid areas;
 - Below the bar charts a table with data for each separate grid area is shown;
 - The selected date is filled.

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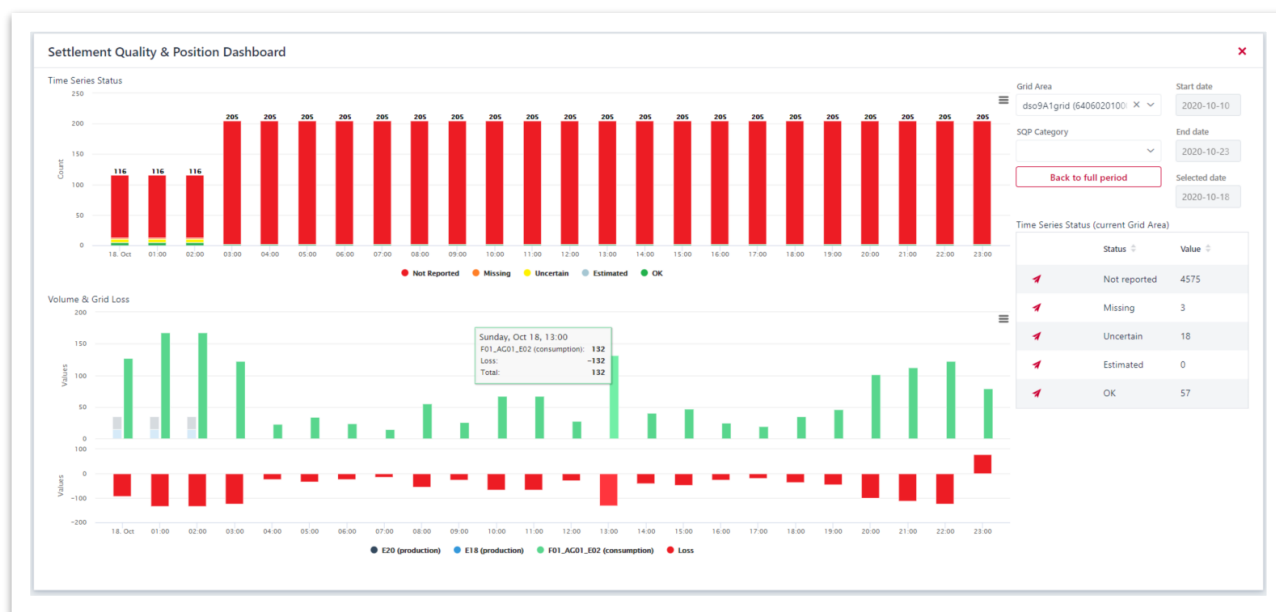
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3. Zooming in to 1 day and grid area by selecting a grid area in the table or in the dropdown:
 - a. The bar charts show volumes (production and consumption using 2 bar charts with colors) and grid loss (red);
 - b. All volumes are per hour.



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4. Drill down to metering point level:

- a. Filtering can be done in the header of the columns.

Check Readings - Grid Area 6406020100000000 - Status UNCERTAIN

Start	End	Metering point ID	MP Type	Neighbour GA	Direction	Product type
<input type="text" value="Filter"/>	<input type="text" value="Filter"/>	<input type="text" value="Filter"/>	<input type="text" value="Filter"/>	<input type="text" value="Filter"/>	<input type="text" value="Filter"/>	<input type="text" value="Filter"/>
2020-10-18 00:00	2020-10-18 03:00	640602010394465446	E20	6406020200000000 [In]	RCVD	8716867000030
2020-10-18 00:00	2020-10-18 03:00	640602010724681249	E18		RCVD	8716867000030
2020-10-18 00:00	2020-10-18 03:00	640602010678398064	E20	6406020200000000 [In]	RCVD	8716867000030
2020-10-18 00:00	2020-10-18 03:00	640602010780106564	E18		RCVD	8716867000030
2020-10-18 00:00	2020-10-18 03:00	640602010679742392	E20	6406020200000000 [In]	RCVD	8716867000030
2020-10-18 00:00	2020-10-18 03:00	640602010597814164	E18		RCVD	8716867000030
2020-10-18 03:00	2020-10-19 00:00	640602010290503334	E18		RCVD	8716867000030
2020-10-18 03:00	2020-10-19 00:00	640602010476661667	E20	6406020200000000 [In]	RCVD	8716867000030
2020-10-18 03:00	2020-10-19 00:00	640602010023040709	E18		RCVD	8716867000030
2020-10-18 03:00	2020-10-19 00:00	640602010904314530	E20	6406020200000000 [In]	RCVD	8716867000030
2020-10-18 03:00	2020-10-19 00:00	640602010712069486	E18		RCVD	8716867000030
2020-10-18 03:00	2020-10-19 00:00	640602010550546002	E20	6406020200000000 [In]	RCVD	8716867000030

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5. Zooming back to full period for 1 grid area:
 - a. Both volumes and counts are in days.



6. Filtering on category looks like:



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Appendix A: System Functions / Party

1 Settlement Run / Balance Deviation Run

SF#	System Function	Channel	MOP	DDQ	DSO	THP
SMR.LST	Search Settlement Runs	GUI	X	X	X	-
SMR.RTR	View Settlement Run	GUI	X	X	X	-
SMR.RTR.DTL	Retrieve Settlement Run Details	GUI	X	X	X	-
STS.LST	Search Settlement	GUI	X	X	X	-
STS.RTR	View Time Series	GUI	X	X	X	-
STS.GTS	Get Time Series Data	GUI	X	X	X	-

2 Settlement Time Series

SF#	System Function	Channel	MOP	DDQ	DSO	THP
STS.LST	Search Settlement	GUI	X	X	X	-
STS.TTS	Retrieve Time Series By Time Series Type	GUI	X	X	X	-

3 Settlement Time Series Comparison

SF#	System Function	Channel	MOP	DDQ	DSO	THP
STS.CMP	Compare Calculated Time Series	GUI	X	X	X	X

4 Dashboarding

SF#	System Function	Channel	MOP	DDQ	DSO	THP
SMT.DSH.SQP	SQP Dashboard	GUI	X	-	X	-

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Appendix B: BTD

The **Business Transaction Dossier (BTB)** has multiple purposes in Datahub

1. Acts as a state engine to monitor progress of the market function;
2. Tracking of the exchanged Messages;
3. Is used as a source for a diversity of reports.

The BTB contains the registration of the aspects of a Market Process that relate to the Datahub. It keeps track of all the performed and expected Steps of the market transaction. The status of the overall Transaction and the status of the individual Steps is registered and updated over time.

A Business Transaction Dossier is created under the following conditions:

1. There is a Market Process related;
2. There is a mutation on the core Master Data.

If a market transaction fails for any (functional) reason a BTB is still created. Although this BTB is not related to a new state of a Data Element it can be used for reporting.

The BTB has a reference to the originating Business Message in the Audit log. The BTB Steps represent messages that refer to inbound or outbound Business Messages in the Audit log. A BTB Step is always related to a Market Participant which is the physical/juridical sender or the physical/juridical receiver of the Business Message.

List BTBs (List Business Transaction Details)

List BTBs will display all associated BTBs. This screen is accessed by clicking the 'List BTBs' of the associated item.

Transaction Type	Business Process	Entity Type	Created Date Time	Effectuation Date	Accepted	Status
ORG.RTR		ORGANISATION	2020-09-21 04:28	2020-09-21	true	Finished
ORG.RTR		ORGANISATION	2020-09-24 23:30	2020-09-24	true	Finished
ORG.RTR		ORGANISATION	2020-09-22 23:20	2020-09-22	true	Finished
ORG.DEL		ORGANISATION	2020-09-25 11:58	2020-09-25	false	Finished
ORG.RTR		ORGANISATION	2020-09-24 23:31	2020-09-24	true	Finished
ORG.RTR		ORGANISATION	2020-09-21 23:48	2020-09-21	true	Finished

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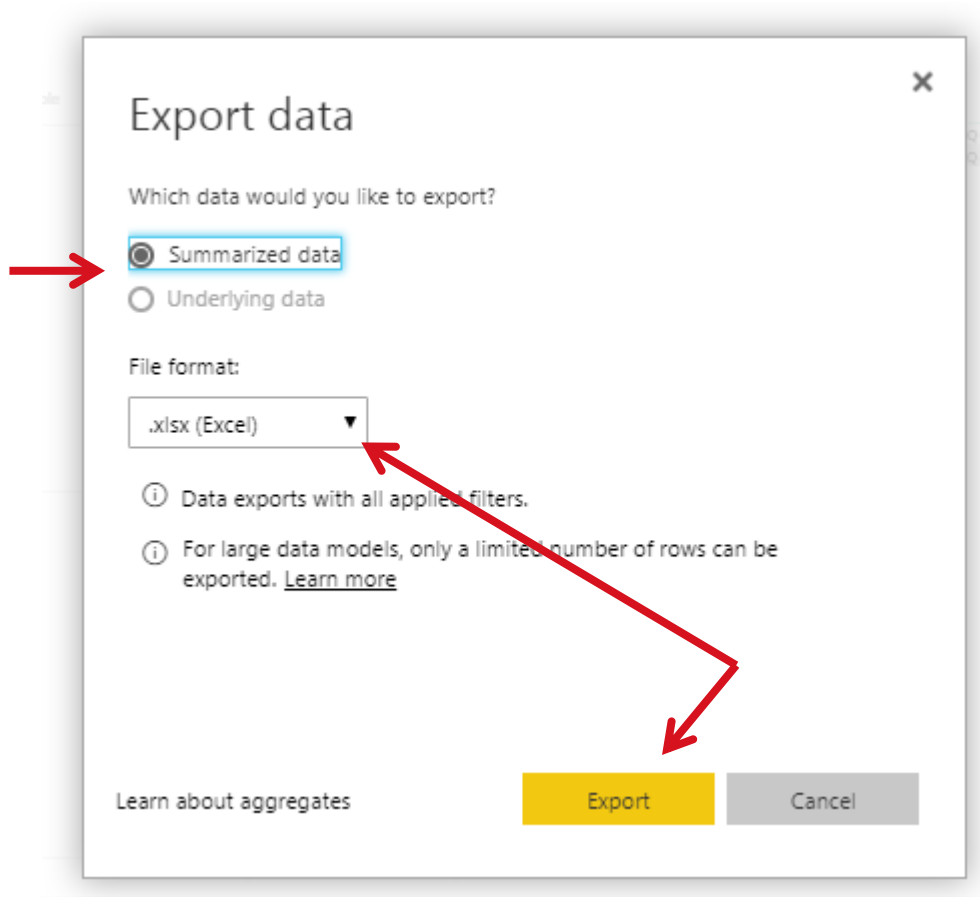
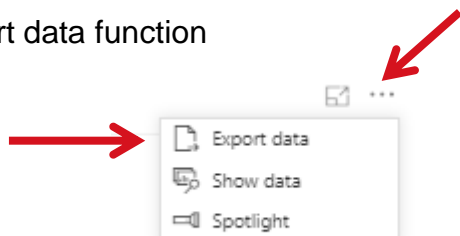
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Appendix C: Export Data

Export data function



- You can choose to export the summarized or the underlying data
- Available formats are .XLSX and .CSV

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Appendix D: Datahub Manuals for Market Parties

There are the following extension Manuals in addition to the [Datahub GUI User Manual for Market Parties](#):

- Datahub Portal User Manual for Market Parties,
- Datahub MDM User Manual for Market Parties (Meter Data Management) and
- Datahub SMT User Manual for Market Parties (Settlement)

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Appendix E: Error Codes

Error Code	Description	Remark
Initialisation Settlement Validations		
EC-SMT-GEN-001	A settlement process must exist to process the settlement time series.	The combination of internal transaction type, industry, process role and business process identify the settlement process to handle the message. If this combination is not available it should be rejected.
Settlement Time Series Processing Validations		
EC-SMT-STS-001	The submitted time series type ('TimeSeriesType' process parameter(s)) shall match with the list of default time series types (defined in a domain list for the process).	Reject unknown time series types.
EC-SMT-STS-002	The keys as defined in the time series type must be available in the Time Series Header (TSH).	
EC-SMT-STS-003	The values as defined in the time series type must be available in the Observations (OBS).	
EC-SMT-STS-004	The observations must comply with the specified period and resolution.	There are no gaps allowed. All positions should be available related to the period.
Notify Settlement Time Series		
EC-SMT-STS-005	The requested period is not open.	The period cannot be calculated if it is not open for calculation.
EC-SMT-STS-006	Invalid parameters provided.	Parameters are violating business rules for the process.
EC-SMT-STS-007	The requested period is not closed.	The period cannot be calculated if it is not closed.
EC-SMT-STS-008	The requested period is not consecutive to the previous closed period.	
EC-SMT-STS-RANGE	The range check on calculated time series detects out of bands values.	The range check verifies that the calculated time series are within (including) the minimum and the maximum value. See ' Loss Ranges ' for reference.
Request Settlement Time Series Validations		
EC-SMT-RTS-001	The requested time series types ('TimeSeriesType' process parameter(s)) shall match with the list of default time series types (defined in a domain list for the process).	Reject unknown time series types.
EC-SMT-RTS-002	The requested settlement type ('SettlementType' process parameter) shall match with the expected (list of) settlement types (defined in a domain list for the process).	Reject unknown settlement types

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Appendix F: Balance Settlement Types

Balance Settlement Type for Supplier {BST}

Defines the available values for the type of Balance Settlement (*used in Reporting*).

Code(4)	Description(50)
BI01	Supplier consumption profiled
BI02	Supplier consumption non-profiled
BI03	Supplier PU own consumption profiled
BI04	Supplier PU own consumption non-profiled
BI05	Supplier small scale production by production type
BI06	Production unit production
BI07	MGA losses
BI08	MGA negative losses
BI09	MGA imbalance (from eSett)
BI10	MGA consumption profiled
BI11	MGA consumption non-profiled
BI12	MGA PU own consumption profiled
BI13	MGA PU own consumption non-profiled
BI14	MGA small scale production by production type
BI15	MGA small scale production total
BI16	MGA production unit by production type
BI17	MGA production unit total
BI18	MGA exchange sum
BI19	MGA exchange sum total
BI20	MGA exchange confirmation (from eSett)
BI21	Supplier small scale production total

Balance Settlement Type for Supplier {BST_DDQ}

Defines the available values for the type of Balance Settlement that can be selected by a Supplier (*used in Reporting*), i.e. subset of domain {BST} above.

Code(4)	Description(50)
BI01	Supplier consumption profiled
BI02	Supplier consumption non-profiled
BI03	Supplier PU own consumption profiled
BI04	Supplier PU own consumption non-profiled
BI05	Supplier small scale production by production type
BI06	Production unit production
BI07	MGA losses
BI08	MGA negative losses
BI09	MGA imbalance (from eSett)

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Appendix G: Datahub Portal User, Using Buttons

There are three types of buttons:

1. Form buttons – used to perform a specific action on the webform. For example: Submit, Delete and Cancel.
2. Navigation buttons – used to navigate back to previous webform or forward to the next task.
3. Transactional buttons – starting a specific transaction on a data element.

The following table presents the form and navigation buttons you may need to use on the webforms:

Field	Icon/text	Notes
Search	Search	Searches and displays the results based on the filters you provided and given the dataset you are allowed to see.
Clear	Clear	Clears the filters on the search fields.
Update	Update	Takes you to the update webform of the associated item.
List BTDs	List BTDs	Takes you to the list BTD webform, displaying the BTD's of the associated item.
Submit	Submit	Submits the staged changes. Backend validation may trigger in submit and will require you to make changes until it passes the validation.
Cancel	Cancel	Discards the staged changes and returns you to the previous webform.
Delete	Delete	Deletes the current item. You will be prompted with a confirmation. On selecting 'Yes', the item will be deactivated. On selecting 'No', the action is cancelled. The system in principle never deletes anything from the database but puts either an stop-date or a final status to the data.
Close		Closes the current webform.
Dropdown		Shows the options of the Dropdown menu.
Open		Used in data tables. Opens ' View <item>' webform for following data table item.
Actions	 View BTD: Will open a new webform that displays the details of the BTD  Show Steps: Will display the BTD steps in the webform	

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