FINGRID
Datahub

Datahub 2.0 high level descriptions

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Change log

Date	Version	Changes
23.07.2021	1.0	First official version

Fingrid Datahub Oy

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

1 Introduction

The contents of the Datahub 2.0 document are a top-level description of the new features and changes currently known to the datahub. The changes include future legal needs as well as some individual improvements to the datahub's functionality that have already been considered in advance.

The following chapters describe the changes and new features by process.

2 15 minutes metering

The Finnish electricity retail market will move from an hourly measurement to a 15-minute measurement from January 1st 2023. The transition is performed flexibly so that the reporting of hourly measurement data is possible during the transition period. The transition period is defined in legislation (Government Degree on supply and metering transitional provision).

Due to the transition period, DSO's must manage the time step (hour or 15 minutes) of the metering point (accounting point, production unit or exchange point) on a metering point basis. The time step used at the accounting point will be reported with a new DH-125 event. The time step for production units and exchange points is updated via the datahub user interface. The update applies also for the reactive energy of the metering point.

The time step can be updated retrospectively, but only for the time the balance window is open (11 days). However, the retrospective update cannot be done if values have already been reported to the accounting point in the previous time step for the time after the update takes effect. If there has been an error DSO may request the datahub operator to perform a retrospective update for the time of the open balance window by service request.

The time-step will be added as a mandatory information also for the existing DH-121 Create accounting point event. It will also be mandatory for creating exchange points and production units in the party user interface.

In DH-122 Accounting point data update event the time-step is mandatory. The time-step is not however updated with this event. Event is rejected if the time-step information differs from the information in datahub.

DH-211 Metering data report event will have additional validation that the reported metering time-step must match the time-step of the metering point

In DH-22x Metering data request and DH-523 Consumption and production data registered in losses – events a parameter will be added to define the metering time-step to be returned. The parameter can have the following three values:

- The value of the parameter is not reported (empty): the information is returned with the time-step that was used when saving the data into datahub
    - If the time-step changes within the retrieved period, a separate transaction will be reported for each period the time-step is valid.
- Hourly metering (PT1H): All timeseries information will be returned as hourly information
    - Datahub will aggregate the 15 minutes metering data into hourly level if needed.
- 15 minutes metering (PT15M): All timeseries will be returned as 15 minutes information.
    - Datahub will divide hourly information to 15 minutes metering data by dividing it with four.

15 minutes metering will be taken into account in the balance settlement and balance deviation calculations. The market parties should be aware of the fact that in the balance deviation calculations the Nord Pool price can deviate with the time-step of the metering point. At this moment there is no indication that Nord Pool would be moving into 15 minutes accuracy at least during 2023. Detailed information of the handling in this will be clarified later.

15 minutes metering is taken into account in the data interface. The attribute of metering time-step is added to DH-1000 Retrieve accounting point data. the same parameter described earlier in DH-22X, can be applied in the DH-1002 Retrieve metering data. The data interface does not divide hourly values to 15 minutes values.

The reports available in the Datahub party user interface are also customized to support a 15-minute time step where necessary.

3 15 minutes settlement

The Nordic countries will move from an hourly settlement to a 15-minute balance settlement (quarterly balance settlement) from May 22nd 2023. It should be noted that the transition will take place during the CET, when the official balance settlement will be made. Thus, the exact moment of change is 22.5.2023 01:00 Finnish time.

In datahub, the transition is implemented by two separate calculation processes. This means that the balance settlement messages will not have a mix of both hourly and 15-minute data during the transition window (duration during the balance settlement window, i.e. 11 days). In other words, the calculation results of the hourly balance settlement and the 15-minute balance settlement are reported separately in separate messages. As a result, the number of balance settlement related messages will be doubled during the transition window. The 15-minute balance settlement also contains four times the amount of data compared to the hourly balance settlement.

DH-52x Balance Settlement Data Retrieval events can be used to retrieve balance settlement data over the time of the change (start date on the hourly balance settlement side and end date on the quarterly balance settlement side). In this case, datahub returns the balance settlement time series information in separate transactions within the messages.

In the 15-minute balance settlement, the measurement data reported as hourly data is divided by four in the calculations. The split is performed before the actual aggregation. Dividing by four affects the number of decimals handled by datahub (e.g., 1 kWh / 4 = 0.25 kWh). Therefore, a validation is added to the DH-211 Metering Data Report event for the number of decimals to be reported (for example, a maximum of 4 decimals corresponding to Wh precision). The number of decimals allowed will be specified later. The parties should also note that in DH-500 events, data will be reported in more decimals (2 decimals increase).

With a 15-minute balance settlement, the accounting point connection and disconnection processes can also be performed with an accuracy of 15 minutes, if the time step of the accounting point is set to 15 minutes.

The reports available in the Datahub party user interface are also customized to support a 15-minute time step where necessary.

4 Accounting point energy netting

Accounting point energy netting refers to the netting of measurement data from related consumption and (small-scale) production accounting points within a time step (hour or 15 minutes). In this case, the difference between consumption and production (more precisely, its absolute value) is recorded for either consumption or production, whichever is greater. Reactive energy is not netted. The table below shows an example of netting for the first four hours of the day (in the case of hourly measurement).

TABLE 1: EXAMPLE OF NETTING CALCULATION

Time stamp	Metered consumption	Metered production	Netted consumption	Netted production
00:00	2	3	0	1
01:00	4	2	2	0
02:00	3	5	0	2
03:00	2	6	0	4

The netting calculation is based on the related accounting point information in datahub. The calculation is performed whenever the related accounting point exists. The execution of the calculation does not depend on other information, such as the state of the accounting point or agreements. For the related accounting point information, the changes in the accounting point update events are described in the following subsections.

The time step of the netting results depends on the time step used in the balance settlement. For the time being, the balance settlement is performed on the hourly level. In May 2023, the balance settlement will change to 15-minute time step.

1. When the hourly balance settlement is valid, the netting is calculated according to the time step of the accounting point. In this case, if an hourly measurement is valid at the accounting point, the netted results are on an hourly basis. Correspondingly, the net values of the accounting point measured over a 15-minute period are calculated and transmitted with 15 minutes. The DSO of the accounting point of consumption and production must ensure that the time steps of both accounting points correspond to each other. The time step is updated with the DH-125 event (see Chapter 4.2.1).

    a. Datahub always calculates the netting values according to the time step of the accounting point to be netted. Thus, if the time step of the consumption accounting point is, for example, an hour and the time step of the production accounting point is 15 minutes, datahub calculates the netted values of the consumption accounting point by the hour and the netted values of the production accounting point by 15 minutes.

2. When the balance settlement changes to 15 minutes, datahub will calculate the netted values always on 15 minutes bases, regardless of the accuracy of metered data or time-step.

Market parties shall use the netted values of the accounting point in the customer's invoicing. However, the exception is where the accounting points belong to an Energy Community (see Chapter 5). As part of the accounting point data, a separate information will be maintained in the datahub as to which time series of the accounting point (measured energy, net energy or community energy) is the so-called “Invoice relevant” information. Datahub also uses this information for balance settlement calculations (i.e., only the “Invoice relevant” time series at the accounting point is used).

Datahub always performs a netting calculation in connection with the DSO’s metering data message DH-211. At the end of the calculation, Datahub transmits the calculated netted data to all parties entitled to the information (distribution network operators, suppliers and 3rd parties) via a DH-231 event. Market parties can also retrieve netting data separately using DH-24x events. The netting calculation is also performed if the DH-211 message does not contain measurement data for both accounting points. In this case, the status of the calculated data is partially missing, unless the required measurement data has previously been reported to the data hub.

”Invoice relevant” information will be added to events DH-231, DH-24x and DH-211 (addition to E66-message).

4.1 Changes to existing processes

4.1.1 DH-121 New accounting point

In order to begin the netting calculations, the related accounting point information is always reported with its own event DH-126. When creating an accounting point, the notification of the related accounting is not allowed.

If the energy community has decided to calculate the surplus with surplus method SMB (described in Chapter 5.3.3), the distribution system operator must ensure that a production accounting point is also connected to all accounting points belonging to the energy community. If the accounting point does not have actual related small scale production accounting point, the DSO will create a virtual small-scale production accounting point as a related accounting point. Accounting point subtype “Virtual” is only allowed for accounting points of type “Production”.

4.1.2 DH-122 Accounting point data update

The accounting point data update process does not allow a change to the related accounting point information. This information is maintained by its own processes described below.

Datahub validates in the accounting point data update that Accounting point subtype “Virtual” is only allowed for accounting points of type “Production”.

4.2 New processes to maintain information of the related accounting point

The netting calculation is based on the related accounting point information in datahub. The netting calculation is performed whenever the related accounting point information is valid. Updates to accounting point information can be reported for up to 10 years in the past. Updating accounting point information is not allowed in the future. However, netting calculations cannot be initiated retrospectively and therefore the maintenance of related accounting point information is allowed at the earliest for the following day of the notification date. For this reason, the events have been separated from the normal accounting point maintenance processes.

Related accounting point maintenance and update accounting point resolution takes use of the existing E58-message.

4.2.1 DH-125 Update accounting point resolution

The time step of the accounting point is updated with the DH-125 event. This new event will use the existing E58 message.

If the updated accounting point is a member of an Energy Community on the requested start of occurrence, then the corresponding attributes of both the updated member and related member are also updated to reflect the changed metering time step.

The event updates the accounting point information and notifies the current supplier and potential current third party of the accounting point information update.

Metering Time Step with 15 minutes resolution cannot be reported before the official switch date of 15 minutes measurement.

4.2.2 DH-126 Create Accounting Point Relation

When reporting the DH-126, the start of occurrence of the relation and the accounting point identifications are reported. Start of occurrence of the relation creation is either the following day of the notification at the earliest or maximum 90 days in the future at the latest.

The event updates the related accounting point information to both of the accounting points in the message and notifies the current supplier and potential current third party of the accounting point information update.

When adding the related accounting point information, the accounting point is taken into the netting calculations.

4.2.3 DH-127 End Accounting Point Relation

When reporting the DH-127, the relation between reported accounting points is removed. Start of occurrence of the end relation is either the following day of the notification at the earliest or maximum 90 days in the future at the latest.

The event removes the related accounting point information from both of the accounting points in the message and notifies the current supplier and potential current third party of the accounting point information update.

When removing the related accounting point information, the accounting point is removed from the netting calculations.

5 Energy communities

On December 22nd 2020, the Government approved an amendment to the Government Decree on the settlement and measurement of electricity supplies. Provisions on the local energy community and the group of active customers and their tasks will be added to the regulation. According to the regulation that has entered into force, the datahub must be able to handle processes related to local energy communities and the group of active customers from the beginning of 2023. Energy

community information in datahub can be maintained by the DSO in whose metering grid area the energy community exists.

5.1 Changes to existing processes

5.1.1 DH-121 – New accounting point

The information of the energy community and the name of the energy community are added to message E58. However, the DSO cannot provide energy community data when creating the accounting point, the data will be maintained by new DH-140 processes.

If the Energy Community has decided that the method of allocating the surplus is such that the remaining part after the granulation of production is credited to the accounting points of the Energy Community (Surplus method SMB in chapter 5.3.3), virtual small-scale production accounting points for the Community consumption must be created for this purpose. For these small-scale production accounting points, the accounting point subtype is “Virtual”. Datahub validates that this subtype can only be given for small production accounting points.

5.1.2 DH-122 – Accounting point data update

The information of the Energy community at the accounting point cannot be maintained by the DH-122 Accounting point data update event. The information of the energy community and the name of the energy community are added to message E58.

If the accounting point that belongs to an Energy Community is to be removed from use, it needs to be removed from the Energy Community first. The timelines for updating the energy community needs to be taken into account.

5.1.3 DH-13x – Accounting point and customer information retrievals

The information of the Energy community name and identification are added to the search results of the accounting point and customer retrievals if the accounting point belongs to an Energy Community.

5.1.4 DH-311 – Notification of new agreement (group of active customers)

A group of active customers can include both consumer customers and company customers. If this group of active customers wants to notify the agreement to the group's small production accounting point by entering all customers of the group into the sales and grid agreement, datahub must allow the customer types to differ by agreement. After the change, the customer types of the customers of the agreement may differ, but all rules related to the agreement are treated as it would be for a consumer customer. In other words, it is not possible to notify a sales agreement with special termination terms for the group of active customers, for they are only allowed for a company customer.

This change does not change the content of the message for reporting sales agreement.

5.2 New DH-140 processes for maintaining energy community information

The information of the Group of active customers are maintained with the same processes as the Energy Communities.

5.2.1 DH-141 Create Energy Community

The DSO creates a new Energy Community either via the b2b interface or via the datahub party user interface. According to the regulation, the Energy Community is notified to the DSO 14 days before the start of the Energy Community. The DSO must report the data to datahub no later than 7 days before the start of the calculations and at the most 90 days in the future.

The energy community is identified in datahub by the party's own identification. The identification is formed as the party's own identification for the customers, the DSO's GLN identification + the identifier given by the DSO. The community identification must be unique. In addition to the identification, the DSO informs the datahub of the name of the Energy Community.

In addition to the identification and name, the DSO reports the identifications of the accounting points belonging to the Community and the percentage of how much of the produced energy by the Energy Community is deducted from the consumption of the accounting point. The percentages must be 100% in total. Percentages may be reported by two decimals. An accounting point can only belong to one community at a time. All accounting points in the Energy Community shall belong to the same metering grid area of the reporting DSO. According to the degree, the accounting points must be all behind the same connection. The Datahub does not have this information about the connection, so the DSO is responsible for the accuracy of this information. An accounting point with a status of Removed or Removed from use cannot be added to the Energy Community.

The local Energy Community or Group of active customers decides whether surplus energy is allocated to each accounting point within the Energy Community on the basis of its share (surplus method SMB) or to the accounting point defined as a whole for the Energy Community (surplus method SMA). This information is provided when the community is created. If the allocation of the surplus is made on an accounting point basis, a virtual small-scale production accounting point to which the surplus is allocated must be connected to the consumption accounting point. These virtual small-scale production accounting points must have same kind of agreements as a normal small-scale production accounting point. The DSO must create this virtual small-scale production accounting point before setting up community data. If, on the other hand, this surplus is allocated to only one production accounting point in the Community, that accounting point must be reported to the Energy Community data. The Energy Community always needs to have one surplus production accounting point.

The notification of a new energy community must also be made if the surplus method changes. In this case, the community information in the old surplus method is ended and the new one is reported with the new surplus method.

Datahub notifies the current supplier and potential current third party of the accounting point information update when the accounting point is added to Energy Community. The notification includes the identification and the name of the Energy Community.

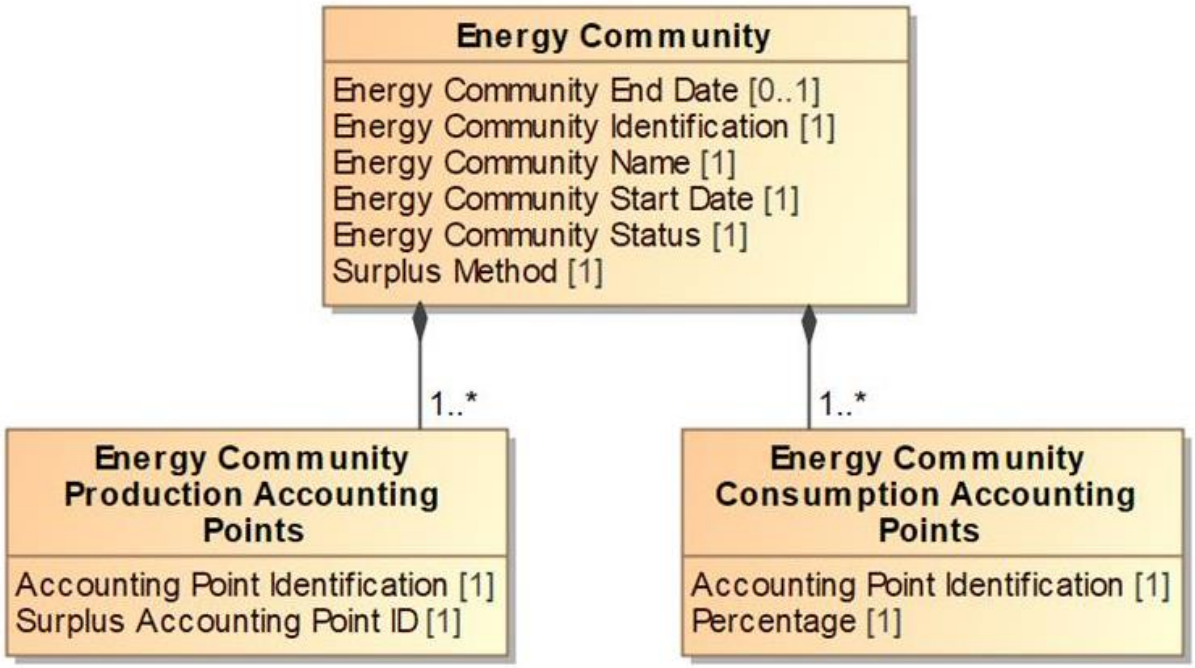

FIGURE 1: DATA MODEL FOR ENERGY COMMUNITY

5.2.2 DH-142 Update Energy Community

The DSO must report the update to Energy Community data to datahub no later than 7 days before the start of the change and at the most 90 days in the future.

The surplus method cannot be changed by the update event. If the surplus method needs to be changed, the community information with the old surplus method needs to be ended and a new Energy Community information with the new surplus method needs to be created. The timelines of the creation of Energy Community needs to be taken into account.

The accounting point information of the accounting points belonging to the Community can be changed with the update event. In the update the dividends need to be a total of 100 %.

Datahub notifies the current supplier and the possible current third party of the update of the accounting point information (DH-122-2/DH-122-3) when the accounting point is added or removed from the Energy Community.

5.2.3 DH-143 End Energy Community

When the Energy Community ends its activities, the DSO must also report this to datahub. The same timelines apply to ending as for creating an Energy Community, i.e. the termination must be notified at least 7 days before the end of the Community. The ending of Energy Community event removes the energy community data from the accounting point information at the given date.

Datahub notifies the current supplier and the possible current third party of the update of the accounting point information (DH-122-2/DH-122-3) when the Energy Community information is removed from the accounting point data.

5.3 New processes DH-250 ja DH-260 for calculated data

5.3.1 Calculations

The community calculation calculates the so called community energy for the consumption and production accounting points. Community energy means consumption or production that has been deduced or added a share of the community's production (dependent whether it is a consumption or production accounting point). There are two surplus methods that can be defined for the Energy Community: SMA or SMB.

The information that affects the community calculations:

- the surplus method defined for the community (SMA/SMB)
- the dividend of the community production defined for the consumption accounting point (percentage)
- the status of the consumption accounting point
- the netting of the accounting point (based on the related accounting point information)

The community calculations are run within the metering time step as the netting calculations (accuracy of hour or 15 minutes). The following principles are applied to the calculations:

- Energy netting is always calculated before community calculations
    - The production of the related accounting point is deduced fully from the consumption of the netted accounting point.

- The possible surplus of the accounting point after the netting is moved to the total production to be divided.
- Note that this also applies in situations where the netted production accounting point is defined to be the surplus production accounting point.

- The total production of the Energy community is calculated from all of the production accounting points of the Energy Community excluding the production that is already deduced from the related accounting point in netting (see previous point)
- The percentage of the whole community production (dividend) defined for the accounting point is deduced from the consumption of the (connected) accounting point belonging to the Energy Community
- If the accounting point is disconnected, then the share of the production belonging to this accounting point is assigned to the community surplus energy
- The results are calculated with the accuracy of the metering time step or after the 15 minutes settlement go-live in 15 minutes accuracy as in netting (see Chapter 4).

5.3.2 Surplus method SMA

In the surplus method SMA, all surplus energy is assigned for the (single) production accounting point defined for the energy community.

In addition to the principles above, the following rules apply:

- All surplus energy is assigned to the surplus production accounting point defined for the energy Community
  - Possible difference between the dividend and the consumption of the accounting point (production > consumption) is assigned to surplus energy
- The production (netted or measured) of the production accounting point belonging to the Energy Community, that is not defined as the surplus accounting point, is assigned to be part of the total production of the community that will be shared with the members of the community

Community energy is calculated to different accounting points as follows:

	Not netted	Netted
Connected consumption accounting point	Measured consumption – dividend	Netted consumption – dividend
Disconnected consumption accounting point	Measured consumption (if ≠ 0)*	Netted consumption (if ≠ 0)*
Production accounting point (other than surplus accounting point)	0	0
Surplus production accounting point	Surplus energy	Surplus energy

FIGURE 2: SURPLUS METHOD SMA CALCULATION BY ACCOUNTING POINT TYPE

In the table the netted consumption/production means the netting performed for the related accounting points (between two accounting points)

*The consumption for the disconnected accounting points should be zero, but in exceptional cases there might be values.

5.3.3 Surplus method SMB

In surplus method SMB the total production of the Energy Community is divided to all consumption accounting points that belong to this community by the dividends defined to each accounting points. Possible surplus per accounting point is assigned to the related “virtual” production accounting point. In this method the surplus for the community comes only from the possible disconnected accounting points.

The rules below for the production accounting points are valid also for the “virtual” production accounting points. In other words, normal production accounting points and virtual production accounting points are handled by the same rules in the calculations.

In the calculations for surplus method SMB the following rules apply:

- Total Community production will be divided to all consumption accounting points in the Energy Community according to their dividend percentages

- The production that exceeds the consumption (metered or netted) will be assigned to the related production accounting point
- If there is no actual production accounting point, the DSO creates a virtual production accounting point in advance (see chapter 5.1.1 and 5.2.1)

- The share of the disconnected accounting point is assigned to the predefined surplus accounting point of the Energy Community

Community energy is calculated to different accounting points as follows:

	Not netted	Netted and the related accounting point is connected	Netted and the related accounting point is disconnected
Connected consumption accounting point	Measured consumption - dividend	Netted consumption – dividend	Not applicable
Disconnected consumption accounting point	Measured consumption (if ≠ 0)*	Netted consumption (if ≠ 0)*	Not applicable
Production accounting point (other than surplus accounting point)	Dividend	Dividend of the related accounting point – net consumption of the related accounting point	0
Surplus production accounting point	The dividends of the disconnected accounting points (=surplus)	Dividend of the related accounting point – net consumption of the related accounting point + The dividends of the disconnected accounting points (=surplus)	The dividends of the disconnected accounting points (=surplus)**

FIGURE 3: SURPLUS METHOD SMB CALCULATION BY ACCOUNTING POINT TYPE

In the table the netted consumption/production means the netting performed for the related accounting points (between two accounting points)

*The consumption for the disconnected accounting points should be zero, but in exceptional cases there might be values.

** Includes also the dividend of the surplus accounting points related accounting point.

5.4 Notification and retrieval of the calculated community energy

Correspondingly to the netted information, datahub calculates the community energy when the DSO reports the metering data (DH-211). Datahub forwards the calculated community energy after the calculation to all market parties that are entitled to it (DSO's, Suppliers and Third parties) with DH-251 event. The calculations are performed even then if not all the metering data for the community members is reported. In this case the status of these is partly missing, unless the metering data has been reported earlier to datahub.

"Invoice relevant" information will be reported also in DH-251 and DH-26X events and it will be added to DH-211 messages as well (addition to E-66 message). The market parties can also retrieve the community energy with the DH-26x events.

6 Cancellation of agreement end process

6.1 Changes to existing processes

In datahub, the notice of termination of the agreement in certain situations forms a so-called composite process. For example, if the DSO terminates the grid agreement, this will always result in an open transaction for the Supplier, so that the Supplier also knows how to terminate its own sales agreement. In the future, a corresponding composite process will also arise from the cancellation of termination. When the other party initiates the cancellation of the termination, this creates an open transaction for the other party to cancel the termination of its own agreement.

The cancellation of the agreement end will not be notified currently if the termination has been initiated by another party who is now sending the cancellation. If, for example, the Supplier has terminated its own agreement on the basis of a notification from the DSO and is now notifying the cancellation, this will not currently be notified to the DSO from the datahub. In the future, the datahub will check whether the grid agreement corresponding to the sales agreement has all the same customers and, if so, a notification of this cancellation of the ending of the sales agreement will be sent to the DSO. The notifications to the supplier of the related accounting point as well as to Third parties have also been clarified.

The changes will not affect the content of the messages in the cancellation of agreement end.

6.2 New processes

No new processes.

7 Effects on the Customer portal

In addition to the actual measured meterdata, datahub's end customer portal will also show the customer the calculated values used in the customer's invoicing. The customer portal shows both the netted values and the values according to community calculations.

8 Other Functionalities

8.1 File interface for meter data reporting

In a normal production situation, the interface for reporting meter data to datahub is the datahub b2b interface and the DH-211 event it supports. However, there can be situations where individual market parties cannot use this interface. For example, if the market party in question has issues with the datahub integration for a longer period. In these exceptional circumstances a file interface for loading meter data to datahub can be used if necessary.

Functionally the file interface corresponds to the DH-211 event in terms of validation, data storing and notifications to other parties.

When using the file interface the market parties will load the meter data in CSV file format to a SFTP server. From the server a datahub operator will move the files to datahub and start the file processing.

The detailed specifications of the CSV file format will be published at a later time.

9 Changes for metering data- and balance settlement processes

During the implementation phase of datahub, three needs for clarification/correction related to the DH-200 and DH-500 processes were identified. These could not be implemented in the datahub version 1.0. The changes are as follows:

- The DSO’s report metering data only for one direction in exchange points. Datahub reminds the DSO with DH-212 messages if there has not been reported metering data for either of the directions. This will be changed so that datahub will not send reminders to the DSO of the exchange points (regardless of the direction).

- The reporting of the metering data for the accounting point with status “Under construction” will be prohibited for DH-211 event. Currently it is possible.
- With the event DH-513 eSett notifies the balance deviations to datahub. Datahub reports this to the market parties. Currently, datahub reports the deviation of the metering grid area only for the imbalance open supplier. After the change datahub will take the supplier change into account and reports the information for the suppliers that have been the imbalance open suppliers for the period to be reported.

10 Implementation of the changes

The major changes in this document will be implemented by system parameters and configurations. For example, for when taking the 15-minutes time-step in the accounting point maintenance and metering data processes and the 15-minutes balance settlement, netting and the energy community processes into use. More detailed information of the implementation of the datahub version 2.0 will be published later.

Message type descriptions

A.1 Message type descriptions

This chapter presents the general message types, which are used to implement datahub events. XML element names are indicative, and they are likely to change when XML schemas are defined. In the tables, T refers to the level of data in the XML structure. Column P defines the cardinality of the data.

A.1.1 Header

Information field	T	P	Format	Example	XML element	Comment	Note
Header information	1	1..1			Header		
Message identification	2	1..1	A36	123e4567-e89b-12d3-a456-426656756520	Identification		
Message type	2	1..1	A3	E58	DocumentType		
Message creation time	2	1..1	Time stamp	2015-06-12T21:00:00+00:00	Creation		
Technical sender of message	2	1..1			PhysicalSenderEnergyParty		
Sender identification	3	1..1	A13	6458237348480	Identification	schemeAgencyIdentifier=9	
Juridical sender of message	2	1..1			JuridicalSenderEnergyParty		
Sender identification	3	1..1	A13	6458237348480	Identification	schemeAgencyIdentifier=9	
Juridical recipient of message	2	1..1			JuridicalRecipientEnergyParty		

Recipient identification	3	1..1	A13	6458237348480	Identification	schemeAgencyIdentifier=9	
Technical recipient of message	2	1..1			PhysicalRecipientEnergyParty		
Recipient identification	3	1..1	A13	6458237348480	Identification	schemeAgencyIdentifier=9	
Sender's routing data	2	0..1	A90		SenderRoutingInformation		
Original message identification	2	0..1	A36	223e4567-e89b-12d3-a456-426656756520	OriginalBusinessDocumentReference		
Message number	2	0..1	I64	0	MessageNumber	Order number of the message, if the data is split to multiple messages. Message might not be in order when retrieving.	Starts from one (1)
Total number of messages	2	0..1	I64	35	MessagesTotal	Total amount of messages.	
Registration time	2	0..1	Time stamp	2015-06-12T21:00:00+00:00	RegistrationTimestamp		

A.1.2 Process

Information field	T	P	Format	Example	XML element	Comment	Note
Process	1	1..1			ProcessEnergyContext		
Process identification	2	1..1	A10	DH-111-1	EnergyBusinessProcess	Uses Datahub event identification	

						s (e.g. DH-111-1)	
Role	2	1..1	A3	DDM, DDQ, DDZ, ESC, MDR, MIA, Z08	EnergyBusinessProcessRole		
Industry	2	1..1	A3	23=Electricity	EnergyIndustryClassification		

A.1.3 Payload

A.1.3.1 F02 Accounting point identification request

Message name: RequestMPList

Information field	T	P	Format	Example	XML element	Comment	Note
Payload	1	1..1			Transaction		
Address specifier	2	0..1	A150	Third column from the left looking from the bridge	AddressFreeForm		
Street name	2	1..1	A90	Syyriankatu	StreetName		
Building number	2	0..1	A10	21	BuildingNumber		
Stairwell identification	2	0..1	A10	A	FloorIdentification		
Apartment	2	0..1	A10	13	RoomIdentification		
Postal code	2	0..1	A10	00510	Postcode		

Post office	2	0..1	A50	HELSINKI	CityName		
Meter number	2	0..1	A50	12345	MeterIdentification		
Accounting point type	2	0..1	A4	AG01=Consumption AG02=Production	MeteringPointType	listAgencyIdentifier=NFI	
Accounting point sub-type	2	0..1	A4	AQ01=Normal AQ02=Building accounting point AQ03=Production unit's own consumption	MeteringPointSubType	listAgencyIdentifier=NFI	
Related accounting point identification	2	0..1	A90	645823734848458216	RelatedMeteringPoint	schemeAgencyIdentifier=9	

A.1.3.2 F20 Accounting point list

Message name: ResponseMPList

Information field	T	P	Format	Example	XML element	Comment	Note
Payload	1	1..1			Transaction		
Basic accounting point data	2	1..n			MeteringPointList		
Accounting point identification	3	1..1	A90	645823734848458216	Identification	schemeAgencyIdentifier=9	
Accounting point status	3	1..1	A4	AE01=Connected AE02=Disconnected	PhysicalStatusType	listAgencyIdentifier=NFI	

				AE03=Under construction AE04=Removed from use AE05=Deleted			
Remotely connectable	3	1..1	A1	0=Not remotely connectable 1=Remotely connectable	RemoteConnectable		
Accounting point type	3	1..1	A4	AG01=Consumption AG02=Production	MeteringPointType	listAgencyIdentifier=NFI	
Accounting point sub-type	3	1..1	A4	AQ01=Normal AQ02=Property accounting point AQ03=Production unit's own consumption	MeteringPointSubType	listAgencyIdentifier=NFI	
Time division	3	1..1	A1	1=One rate metering 2=Two rate metering night/day 3=Two rate metering winter day/other	MeteringTimeDivision		
Meter number	3	0..1	A50	12345	MeterIdentification		
Related accounting point identification	3	0..1	A90	645823734848458216	RelatedMeteringPoint	schemeAgencyIdentifier=9	
Community Identification	3	0..1	A50	6430076050014123456	CommunityIdentification		

Community Name	3	0..1	A200	EnergyTogether	CommunityName		
Area information	3	1..1			MeteringGridAreaUsedDomainLocation		
Metering grid area name	4	1..1	A50		Name		
Metering grid area identification	4	1..1	A50	44Y1001A1001A46L	Identification	schemeAgencyIdentifier=305	
Metering grid area type	4	1..1	A3	Z01=Regional Z03=Industrial Z04=Distribution Z05=Non-concessional Z06=Production Z07=Transmission (main/central grid)	Type		
Accounting point address	3	1..8			MeteringPointAddress		
Address type	4	1..1	A4	AF01=Main address AF02=Additional address	Type	listAgencyIdentifier=NFI	
Street name	4	1..1	A90	Syyriankatu	StreetName		
Building number	4	0..1	A10	21	BuildingNumber		
Stairwell identification	4	0..1	A10	A	FloorIdentification		
Apartment	4	0..1	A10	13	RoomIdentification		

Postal code	4	1..1	A10	00510	Postcode		
Post office	4	1..1	A50	HELSINKI	CityName		
Country	4	1..1	A2	AX,FI,NO,RU,SE	CountryCode	schemeAgencyIdentifier=5	ISO 3166 alpha-2
Address specifier	4	0..1	A150	Third column from the left looking from the bridge	AddressFreeForm		
Language	4	1..1	A2	fi, sv	Language	schemeAgencyIdentifier=5	
Coordinates	3	0..1			MPPositionMeteringPointGeographicalCoordinate		
Latitude	4	1..1	A10	61°10,27'N	Latitude		
Longitude	4	1..1	A10	24°33,67'E	Longitude		

A.1.3.3 E58 Structural data, accounting point

Message name: MasterDataMPEvent

Information field	T	P	Format	Example	XML element	Comment	Note
Payload	1	1..1			Transaction		
Start of occurrence	2	1..1	Time stamp	2015-06-12T21:00:00+00:00	StartOfOccurrence		
Original message identification	2	0..1	A36	123e4567-e89b-12d3-a456-426656756520	OriginalBusinessDocumentReference		
Original message sender	2	0..1	A13	6458237348480	OriginalBusinessDocumentSender	schemeAgencyIdentifier=9	

Update reason	2	0..1	A4	BM02=Estimated annual consumption update	UpdateReason	listAgencyIdentifier=NFI	Only used by DSO when updating EAC
Description	2	0..1	A150	Free-form description	Description		
Basic accounting point data	2	1..1			MeteringPointUsedDomainLocation		
Accounting point identification	3	1..1	A90	645823734848458216	Identification	schemeAgencyIdentifier=9	
Accounting point status	3	0..1	A4	AE01=Connected AE02=Disconnected AE03=Under construction AE04=Removed from use AE05=Deleted	PhysicalStatusType	listAgencyIdentifier=NFI	
Accounting point type	3	0..1	A4	AG01=Consumption AG02=Production	MeteringPointType	listAgencyIdentifier=NFI	
Accounting point sub-type	3	0..1	A4	AQ01=Normal AQ02=Building accounting point AQ03=Production unit's own consumption	MeteringPointSubType	listAgencyIdentifier=NFI	
Remotely connectable	3	0..1	A1	0=Not remotely connectable 1=Remotely connectable	RemoteConnectable		

Time division	3	0..1	A1	1=One rate metering 2=Two rate metering night/day 3=Two rate metering winter day/other	MeteringTimeDivision		
Meter number	3	0..1	A50	12345	MeterIdentification		
Related accounting point identification	3	0..1	A90	645823734848458216	RelatedMeteringPoint	schemeAgencyIdentifier=9	
Community Identification	3	0..1	A50	64300760500141234 56	CommunityIdentification		
Community Name	3	0..1	A200	EnergyTogether	CommunityName		
Area information	3	1..1			MeteringGridAreaUsedDomainLocation		
Metering grid area identification	4	1..1	A50	44Y1001A1001A46L	Identification	schemeAgencyIdentifier=305	
Accounting point address	3	0..8			MeteringPointAddress		
Address type	4	1..1	A4	AF01=Main address AF02=Additional address	Type	listAgencyIdentifier=NFI	
Street name	4	0..1	A90	Syyriankatu	StreetName		
Building number	4	0..1	A10	21	BuildingNumber		
Stairwell identification	4	0..1	A10	A	FloorIdentification		

Apartment	4	0..1	A10	13	RoomIdentification		
Postal code	4	0..1	A10	00510	Postcode		
Post office	4	0..1	A50	HELSINKI	CityName		
Country	4	0..1	A2	AX,FI,NO,RU,SE	CountryCode	schemeAgencyIdentifier=5	ISO 3166 alpha-2
Address specifier	4	0..1	A150	Third column from the left looking from the bridge	AddressFreeForm		
Language	4	0..1	A2	fi, sv	Language	schemeAgencyIdentifier=5	
Coordinates	3	0..1			MPPositionMeteringPointGeographicalCoordinate		
Latitude	4	1..1	A10	61°10,27'N	Latitude		
Longitude	4	1..1	A10	24°33,67'E	Longitude		
Accounting point characteristics	3	0..1			MPDetailMeteringPointCharacteristic		
Remotely readable	4	0..1	A1	1=Remotely readable 0=Not remotely readable	RemoteReadable		
Metering method	4	0..1	A3	E13=Continunous metering E14=Reading metering E16=Unmetered	MeteringMethod		
Metering time step	4	0..1	A25	PT15M, PT1H,	ResolutionDuration	Format: PnYnMnDTnHnMnS	Deviation from

				P1D, P1M, P1Y			implementation
User group	4	0..1	A4		UserGroup		
Heating depending on electricity	4	0..1	A1	0=Not dependent 1=Dependent	HeatingMethodType		
Fuse size	4	0..1	A10	3x100	FuseSize		
Electric power	4	0..1	D8.2	20000	ContractedConnectionCapacity	kW	
Tax category	4	0..1	A1	0=No tax 1=Electricity tax category 1 2=Electricity tax category 2	TaxCategory		
Annual consumption estimates	4	0..2			EstimatedMetrics		
Time division	5	1..1	A3	E10=Estimated annual consumption 2 E11=Estimated annual consumption 1	MeterTimeFrame		
Estimated annual consumption	5	1..1	I9	5000	Total		
Controlled load	3	0..n			LoadUnit		
Controlled load identification	4	1..1	A50		Identification		

Controlled load name	4	0..1	A90		Name		
Description	4	0..1	A150		Description		
Timings	4	0..1	A90		Timing		
Control limits	4	0..1	A90		Limits		
Maximum power	4	0..1	D8.2		MaxPower		
Maximum power unit	4	0..1	A5	W, kW, MW, GW	UnitType		
Storage device	3	0..n			StorageUnit		
Storage device identification	4	1..1	A50		Identification		
Storage device name	4	1..1	A90		Name		
Storage device type	4	1..1	A4	BH01=Electric battery (stationary) BH02=Electric car battery BH03=Power 2 gas BH04=Pumped hydroelectric energy storage BH05=Compressed air storage BH06=Hydrogen storage	Type	listAgencyIdentifier=NFI	

				BH07=Flywheel BH08=Other storage device			
Capacity	4	0..1	D8.2		Capacity		
Capacity unit	4	0..1	A5	Wh, kWh, MWh, GWh	UnitType		
Maximum power	4	0..1	D8.2		MaxCapacity		
Maximum power unit	4	0..1	A5	W, kW, MW, GW	MaxCapacityUnitType		
Production device	3	0..n			ProductionUnit		
Production device identification	4	1..1	A50		Identification		
Production device name	4	1..1	A90		Name		
Production type	4	1..1	A10		Type		
Maximum power	4	0..1	D8.2		MaxCapacity		
Maximum power unit	4	0..1	A5	W, kW, MW, GW	UnitType		

A.1.3.4 F03 Accounting point data request

Message name: MasterDataMPEvent

Information field	T	P	Format	Example	XML element	Comment	Note
Payload	1	1..1			Transaction		
Start of occurrence	2	0..1	Time stamp	2015-06-12T21:00:00+00:00	StartOfOccurrence		
Accounting point identification	2	1..1	A90	645823734848458216	IdentificationMP	schemeAgencyIdentifier=9	
Customer information	2	0..n			MPCustomer		
Customer identification	3	1..1	A50	010191-090U	Identification	schemeAgencyIdentifier=260	

A.1.3.5 F21 Accounting point data

Message name: ResponseMPInfo

Information field	T	P	Format	Example	XML element	Comment	Note
Payload	1	1..1			Transaction		
Start of occurrence	2	1..1	Time stamp	2015-06-12T21:00:00+00:00	StartOfOccurrence		
Basic accounting point data	2	1..1			MeteringPointUsedDomainLocation		
Accounting point identification	3	1..1	A90	645823734848458216	Identification	SchemeAgencyIdentifier=9	

Accounting point status	3	1..1	A4	AE01=Connected AE02=Disconnected AE03=Under construction AE04=Removed from use AE05=Deleted	PhysicalStatusType	listAgencyIdentifier=NFI	
Accounting point type	3	1..1	A4	AG01=Consumption AG02=Production	MeteringPointType	listAgencyIdentifier=NFI	
Accounting point sub-type	3	1..1	A4	AQ01=Normal AQ02=Property accounting point AQ03=Production unit's own consumption	MeteringPointSubType	listAgencyIdentifier=NFI	
Remotely connectable	3	1..1	A1	0=Not remotely connectable 1=Remotely connectable	RemoteConnectable		
Time division	3	1..1	A1	1=One rate metering 2=Two rate metering night/day 3=Two rate metering winter day/other	MeteringTimeDivision		
Meter number	3	0..1	A50	12345	MeterIdentification		
Related accounting point identification	3	0..1	A90	645823734848458216	RelatedMeteringPoint	SchemeAgencyIdentifier=9	
Community Identification	3	0..1	A50	64300760500141234 56	CommunityIdentification		

Community Name	3	0..1	A200	EnergyTogether	CommunityName		
Area information	3	1..1			MeteringGridAreaUsedDomainLocation		
Metering grid area identification	4	1..1	A50	44Y1001A1001A46L	Identification	SchemeAgencyIdentifier=305	
Accounting point address	3	1..8			MeteringPointAddress		
Address type	4	1..1	A4	AF01=Main address AF02=Additional address	Type	listAgencyIdentifier=NFI	
Street name	4	1..1	A90	Syyriankatu	StreetName		
Building number	4	0..1	A10	21	BuildingNumber		
Stairwell identification	4	0..1	A10	A	FloorIdentification		
Apartment	4	0..1	A10	13	RoomIdentification		
Postal code	4	1..1	A10	00510	Postcode		
Post office	4	1..1	A50	HELSINKI	CityName		
Country	4	1..1	A2	AX,FI,NO,RU,SE	CountryCode	SchemeAgencyIdentifier=5	
Address specifier	4	0..1	A150	Third column from the left looking from the bridge	AddressFreeForm		
Language	4	1..1	A2	fi, sv	Language	schemeAgencyIdentifier=5	
Coordinates	3	0..1			MPPositionMeteringPointG		

					eographicalCoordinate		
Latitude	4	1..1	A10	61°10,27'N	Latitude		
Longitude	4	1..1	A10	24°33,67'E	Longitude		
Accounting point characteristics	3	0..1			MPDetailMeteringPointCharacteristic		
Remotely readable	4	0..1	A1	1=Remotely readable 0=Not remotely readable	RemoteReadable		
Metering method	4	0..1	A3	E13=Continuous metering E14=Reading metering E16=Unmetered	MeteringMethod		
Metering time step	4	0..1	A25	PT1H	ResolutionDuration	Format: PnYnMnDTnHnMnS	Deviation from implementation
User group	4	0..1	A4		UserGroup		
Heating depending on electricity	4	0..1	A1	0=Not dependent 1=Dependent	HeatingMethodType		
Fuse size	4	0..1	A10	3x100	FuseSize		
Electric power	4	0..1	D8.2	20000	ContractedConnectionCapacity	kW	
Reactive energy time series available	4	0..1	A1	0=Not delivered 1=Delivered	ReactiveEnergy		
Annual consumption estimates	4	0..2			EstimatedMetrics		

Time division	5	1..1	A3	E10=Estimated annual consumption 2 E11=Estimated annual consumption 1	MeterTimeFrame		
Estimated annual consumption	5	1..1	I9	5000	Total		
Controlled load	3	0..n			LoadUnit		
Controlled load identification	4	1..1	A50		Identification		
Controlled load name	4	0..1	A90		Name		
Description	4	0..1	A150		Description		
Timings	4	0..1	A90		Timing		
Control limits	4	0..1	A90		Limits		
Maximum power	4	0..1	D8.2		MaxPower		
Maximum power unit	4	0..1	A5	W, kW, MW, GW	UnitType		
Storage device	3	0..n			StorageUnit		
Storage device identification	4	1..1	A50		Identification		
Storage device name	4	1..1	A90		Name		

Storage device type	4	1..1	A4	BH01=Electric battery (stationary) BH02=Electric car battery BH03=Power 2 gas BH04=Pumped hydroelectric energy storage BH05=Compressed air storage BH06=Hydrogen storage BH07=Flywheel BH08=Other storage device	Type	listAgencyIdentifier=NFI	
Capacity	4	0..1	D8.2		Capacity		
Capacity unit	4	0..1	A5	Wh, kWh, MWh, GWh	UnitType		
Maximum power	4	0..1	D8.2		MaxCapacity		
Maximum power unit	4	0..1	A5	W, kW, MW, GW	MaxCapacity UnitType		
Production device	3	0..n			ProductionUnit		
Production device identification	4	1..1	A50		Identification		

Production device name	4	1..1	A90		Name		
Production type	4	1..1	A10		Type		
Maximum power	4	0..1	D8.2		MaxCapacity		
Maximum power unit	4	0..1	A5	W, kW, MW, GW	UnitType		
Grid agreement information	3	0..1			TransferContract		
Customer note	4	0..1	A90		CustomerNote		
Contact method	4	0..1	A4	AC01=Electronic AC02=Other	ContactType	listAgencyIdentifier=NFI	
Interruption critical	4	0..1	A1	0=Not critical 1=Interruption critical	Priority		
Invoicing channel	4	0..1	A4	AI01=Paper invoice AI02=Electronic invoicing AI03=E-Invoice AI04=E-mail AI05=Netposti AI06=Direct debit AI07=Mobile invoice AI08=Other invoicing channel	InvoicingChannel	listAgencyIdentifier=NFI	
Invoicing method	4	0..1	A4	AH01=Separate invoicing AH02=Grid invoices both AH03=Supplier invoices both	InvoicingMethod	listAgencyIdentifier=NFI	

Reason for agreement start	4	0..1	A4	AT01=Switching agreements AT02=Switching suppliers AT03=Moving in	ContractReason	listAgencyIdentifier=NFI	
Agreement start date	4	0..1	Time stamp	2015-06-12T21:00:00+00:00	ContractStart		
Reason for agreement end	4	0..1	A4	AN01=Moving out AN02=Termination AN03=Dissolving AN04=Meter removal	Reason	listAgencyIdentifier=NFI	
Agreement end date	4	0..1	Time stamp	2015-06-12T21:00:00+00:00	EndOfOccurrence		
Agreement type	4	0..1	A3	11=Grid agreement 12=Sales agreement	ContractType		
Agreement identification	4	0..1	A50	MS21444412	Identification		
Delivery agreement	4	0..1	A1	0=Not delivery agreement 1=Delivery agreement	DeliveryContract		
Tax category	4	0..1	A1	0=No tax 1=Electricity tax category 1 2=Electricity tax category 2	TaxCategory		
Grid product data	4	1..n			GridProductData		
Product code	5	1..1	A50	YAE	TransferContractCode		
Sales agreement information	3	0..1			MasterDataContract		

Customer note	4	0..1	A90		CustomerNote		
Contact method	4	0..1	A4	AC01=Electronic AC02=Other	ContactType	listAgencyIdentifier=NFI	
Interruption critical	4	0..1	A1	0=Not critical 1=Interruption critical	Priority		
Invoicing channel	4	0..1	A4	AI01=Paper invoice AI02=Electronic invoicing AI03=E-Invoice AI04=E-mail AI05=Netposti AI06=Direct debit AI07=Mobile invoice AI08=Other invoicing channel	InvoicingChannel	listAgencyIdentifier=NFI	
Invoicing method	4	0..1	A4	AH01=Separate invoicing AH02=Grid invoices both AH03=Supplier invoices both	InvoicingMethod	listAgencyIdentifier=NFI	
Fixed-term agreement	4	0..1	A1	0=Continuing agreement 1=Fixed-term agreement	TimeLimited		
Fixed-term start date	4	0..1	Time stamp	2015-06-12T21:00:00+00:00	FixedContractStart		
Fixed-term end date	4	0..1	Time stamp	2015-06-12T21:00:00+00:00	FixedContractEnd		
Special termination period	4	0..1	I4	30	NoticeDays		
Special termination clause	4	0..1	A1	0=Not exceptional 1=Exceptional termination condition	NoticeBasis		

Reason for agreement start	4	0..1	A4	AT01=Switching agreements AT02=Switching suppliers AT03=Moving in	ContractReason	listAgencyIdentifier=NFI	
Agreement start date	4	0..1	Time stamp	2015-06-12T21:00:00+00:00	ContractStart		
Reason for agreement end	4	0..1	A4	AN01=Moving out AN02=Termination AN03=Dissolving AN04=Meter removal	Reason	listAgencyIdentifier=NFI	
Agreement end date	4	0..1	Time stamp		EndOfOccurrence		
Agreement type	4	0..1	A3	11=Grid agreement 12=Sales agreement	ContractType		
Agreement identification	4	0..1	A50	MS21444412	Identification		
Delivery agreement	4	0..1	A1	0=Not delivery agreement 1=Delivery agreement	DeliveryContract		
Notice period	4	0..1			NoticePeriod		
Termination period start date	5	0..1	Time stamp	2015-06-12T21:00:00+00:00	NoticeStart		
Termination period end date	5	0..1	Time stamp	2015-07-12T21:00:00+00:00	NoticeEnd		
Sales product	4	0..n			SalesProduct		
Product code	5	1..1	A50		ProductCode		

Supplier information	4	0..1			BalanceSupplierInvolvedEnergyParty		
Party identification	5	0..1	A13	6458237348480	Identification	SchemeAgencyIdentifier=9	
Agreement situation	3	0..1			ContractSituation		
Starting sales agreement	4	0..1	Time stamp	2015-06-12T21:00:00+00:00	NextContractStart	Start date of following agreement event	
Sales agreement with the customer	4	1..1	A4	AJ01=Agreement with the customer AJ02=Agreement partially with the customer AJ03=No agreement with the customer	EnergyContractByCustomer	listAgencyIdentifier=NFI	
Fixed-term agreement	4	1..1	A1	0=Continuing agreement 1=Fixed-term agreement	TimeLimited		
Fixed-term end date	4	0..1	Time stamp	2015-06-12T21:00:00+00:00	FixedContractEnd		
Valid sales agreement ends	4	0..1	Time stamp	2015-06-12T21:00:00+00:00	NextContractEnd		
Special termination clause	4	1..1	A1	0=Not exceptional 1=Exceptional termination condition	NoticeBasis		
Special termination period	4	0..1	I4	30	NoticeDays		

Notice period	4	0..1			ContractSituationNoticePeriod		
Termination period start date	5	0..1	Time stamp	2015-06-12T21:00:00+00:00	NoticeStart		
Termination period end date	5	0..1	Time stamp	2015-07-12T21:00:00+00:00	NoticeEnd		
Grid agreement with the customer	4	1..1	A4	AK01=Agreement with the customer AK02=Agreement partially with the customer AK03=No agreement with the customer	TransferContractByCustomer	listAgencyIdentifier=NFI	
Basic customer information	2	0..n			ConsumerInvolvedCustomerParty		If accounting point has no agreement, there's no customer
Customer sub-type	3	1..1	A4	BF01=Normal BF02=Estate of a deceased person BF03=Company estate	CustomerSubType	listAgencyIdentifier=NFI	
Customer identification	3	1..1	A50	010191-090U	Identification	SchemeAgencyIdentifier=260	
Customer identification type	3	1..1	A4	AA01=Business ID AA03=Personal ID AA04=Party's own ID	IdentificationType	listAgencyIdentifier=NFI	
Customer type	3	1..1	A4	AB01=Company AB02=Consumer	CustomerType	listAgencyIdentifier=NFI	

Information restriction	3	1..1	A1	0=Not Private 1=Private	InformationRestriction		
Language	3	1..1	A2	fi, en, sv	Language	schemeAgencyIdentifier=5	
Additional identification	3	0..1	A50		AdditionalCode		
Company name	3	0..1	A200	Oy Datahub Ab	Name		
Given name	3	0..1	A50	Esa	GivenName		
Middle names	3	0..1	A50	Mikko Ylermi	MiddleName		
Family name	3	0..1	A50	Jaatikainen	FamilyName		
Date of birth	3	0..1	Date	1991-01-01	DateOfBirth	YYYY-MM-DD	
Contact information	3	0..2			Communication		
Contact information type	4	0..1	A4	AD01=Telephone AD02=E-mail	CommunicationChannel	listAgencyIdentifier=NFI	
Telephone number/Email address	4	0..1	A90		CompleteNumber		
Postal address	3	1..1			ConsumerInvolvedCustomerAddress		
c/o	4	0..1	A150	Oy Datahub Ab	CareOf		
Street name	4	0..1	A90	Syyriankatu	StreetName		
Building number	4	0..1	A10	21	BuildingNumber		

Stairwell identification	4	0..1	A10	A	FloorIdentification		
Apartment	4	0..1	A10	13	RoomIdentification		
Postal code	4	1..1	A10	00510	Postcode		
PO Box	4	0..1	A15	PL 15	Pobox		
Post office	4	1..1	A50	HELSINKI	CityName		
Country	4	1..1	A2	FI	CountryCode	schemeAgencyIdentifier=5	ISO 3166 alpha-2

A.1.3.6 E66 Metering data

Message name: EnergyTimeSeries

Information field	T	P	Format	Example	XML element	Comment
Payload	1	1..n			Transaction	
Unique transaction ID	2	1..1	A36		UniqueIdentification	Timeseries UUID identification
Metering time series identification	2	0..1	A90	FI_HKE001_12345	Identification	Time series ID used by metering responsible party. Datahub does not set a naming rule for the ID.
Invoice relevant	2	0..1	A1	0=Not invoice relevant 1=Is invoice relevant	InvoiceRelevant	
Reporting period	2	1..1			ObservationPeriodTimeSeriesPeriod	

Time step	3	0..1	A25	PT15M, PT1H, P1D, P1M, P1Y	ResolutionDuration	Format: PnYnMnDTnHnMnS
Start time	3	1..1	Time stamp	2015-06-12T21:00:00+00:00	Start	
End time	3	1..1	Time stamp	2015-06-12T21:00:00+00:00	End	
Metering type	2	1..1			ProductIncluded ProductCharacteristic	
Metering time series type	3	1..1	A18	8716867000030=Active energy 8716867000139=Reactive energy, input 8716867000146=Reactive energy, output 8716867000047=Reactive energy (Connection points)	Identification	
Unit	3	1..1	A6	Wh, kWh, MWh, GWh, varh, kvarh, Mvarh, Gvarh	UnitType	

Metering characteristics	2	1..1			MPDetailMeasurementMeteringPointCharacteristic	
Metering point type	3	1..1	A3	F01=Accounting Point E18=Production E20=Connection point	MeteringPointType	
Metering point	2	1..1			MeteringPointUsedDomainLocation	
Metering point identification	3	1..1	A90	707057500022939815	Identification	schemeAgencyIdentifier=9
Area information	2	0..1			MeteringGridAreaUsedDomainLocation	
Metering grid area identification	3	1..1	A90	44Y1001A1001A46L	Identification	schemeAgencyIdentifier=305
Input area	2	0..1			InAreaUsedDomainLocation	
Metering grid area identification	3	1..1	A90	44Y1001A1001A46L	Identification	schemeAgencyIdentifier=305
Output area	2	0..1			OutAreaUsedDomainLocation	
Metering grid area identification	3	1..1	A90	44Y1001A1001A46L	Identification	schemeAgencyIdentifier=305
Time series values	2	1..n			OBS	
Position	3	1..1	I4	1	SEQ	[1]
Values	3	1..1			EOBS	

<choice 1>						
Value	4	1..1	D8.6	1.123	QTY	[2]
Status	4	0..1	A3	Z02=Uncertain 99=Estimated Z01=Corrected OK Z04=Partially missing 21=Temporary 56=Estimated, approved for billing	QQ	[2]
</choice 1>						
<choice 2>						
Value missing	4	1..1	A1	1=true	QM	[2]
</choice 2>						

Note	Specification
[1]	Position specifies time step order number in relation to start time. For example, the first hour of the time period receives a value of 1, the second a value of 2, etc.
[2]	In message E66, a schema choice element <xsd:choice> is used within element *Values* <EOBS>. Submit either *Value* and *Status* or *Value missing* field, but not both.

A.1.3.7 F08 Metering data request

Message name: RequestMeasuredDataInfo

Information field	T	P	Format	Example	XML element	Comment
Payload	1	1..1			Transaction	
Request period	2	1..1			RequestPeriod	

Start time	3	1..1	Time stamp	2015-06-12T21:00:00+00:00	Start	
End time	3	1..1	Time stamp	2015-06-12T21:00:00+00:00	End	
Time step	2	0..1	A25	PT15M, PT1H, P1D, P1M, P1Y	ResolutionDuration	Format: PnYnMnDTnHnMnS
Invoice relevant	2	0..1	A1	0=Not invoice relevant 1=Is invoice relevant	InvoiceRelevant	
Metering point	2	1..1			MeteringPoint	
Metering point type	3	0..n	A4	F01=Accounting point E18=Production E20=Connection point	MeteringPointType	listAgencyIdentifier=NFI
Accounting point type	3	0..n	A4	AG01=Consumption AG02=Production	AccountingPointType	listAgencyIdentifier=NFI
Metering point identification	3	0..n	A90	707057500022939815	Identification	schemeAgencyIdentifier=9
Metering grid area identification	3	0..n	A50	44Y1001A1001A46L	MeteringArea	schemeAgencyIdentifier=305
Product	2	0..n			Product	

Product identification	3	1..1	A50	8716867000030= Active energy, 8716867000047 =Reactive energy	ProductIdentification	
Unit type	3	1..1	A6	kWh, MWh, kvarh, Mvarh,	UnitType	

Response event:

A metering data event is used as a response event. (Metering data)

A.1.3.8 F26 Structural data, Energy Community

Message name: MasterDataECEvent

Information field	T	P	Format	Example	XML element	Comment
Payload	1	1..1			Transaction	
Community Identification	2	1..1	A50	6430076050014123456	CommunityIdentification	
Community Name	2	1..1	A200	EnergyTogether	CommunityName	
Start of Occurrence	2	1..1	Time stamp	2021-06-12T21:00:00+00:00	StartOfOccurrence	
Surplus method	2	1..1	A3	SMA= Surplus method A SMB= Surplus method B	SurplusMethod	

Consumption accounting points	2	1..n			ConsAccountingPoints	
Accounting Point Identification	3	1..1	A90	6430076050014123456	AccountingPointIdentification	
Percentage	3	1..1	D2.2	20.78	Percentage	
Small-scale production accounting points	2	0..n			SSProdAccountingPoints	
Accounting Point Identification	3	1..1	A90	6430076050014123456	AccountingPointIdentification	
Is Surplus	3	1..1	A1	0=Not surplus accounting point 1=Is surplus accounting point	IsSurplus	