

List of stereotype to categorize subProfiles ShortCircuit Description Operation European Abstract Entsoe

Concrete Classes

CoordinateSystem

ValidatedHistoricalData contextual model

Coordinate reference system.

Native Members

crsUrn	0 .. 1	CoordinateSystemKind_String	A Uniform Resource Name (URN) for the coordinate reference system (crs) used to define 'Location.PositionPoints'. An example would be the European Petroleum Survey Group (EPSG) code for a coordinate reference system, defined in URN under the Open Geospatial Consortium (OGC) namespace as: urn:ogc:def:uom:EPSG::XXXX, where XXXX is an EPSG code (a full list of codes can be found at the EPSG Registry web site http://www.epsg-registry.org/). To define the coordinate system as being WGS84 (latitude, longitude) using an EPSG OGC, this attribute would be urn:ogc:def:uom:EPSG::4236. A profile should limit this code to a set of allowed URNs agreed to by all sending and receiving parties.
---------------	--------	---	---

DateAndOrTime

ValidatedHistoricalData contextual model

The Date and or the Time.

Native Members

dateTime	0 .. 1	DateTime	Date and time as per ISO 8601 YYYY-MM-DDThh:mm:ss.sssZ.
-----------------	--------	--------------------------	---

FlowDirection

ValidatedHistoricalData contextual model

The coded identification of the direction of energy flow.

Native Members

direction	1 .. 1	DirectionKind_String	The coded identification of the direction of energy flow.
------------------	--------	--------------------------------------	---

[Fuel](#) [ValidatedHistoricalData contextual model](#)

A class indicating the origin of the fuel used at the related object.

Native Members

fuel	1 .. 1	Fuel_String	An indication of the fuel used for the energy production, or part of the energy production, that is potentially fed into the grid at the related object.
-------------	--------	-----------------------------	--

[Location](#) [ValidatedHistoricalData contextual model](#)

The place, scene, or point of something where someone or something has been, is, and/or will be at a given moment in time. It can be defined with one or more position points (coordinates) in a given coordinate system.

Native Members

mRID	0 .. 1	String	<p>The unique identification of a location.</p> <p>In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification, location, etc.</p> <p>Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.</p>
type	0 .. 1	String	Classification by utility's corporate standards and practices, relative to the location itself (e.g., geographical, functional accounting, etc., not a given property that happens to exist at that location).

PositionPoints	[0..1] PositionPoint	Sequence of position points describing this location, expressed in coordinate system 'Location.CoordinateSystem'.
CoordinateSystem	[0..1] CoordinateSystem	Coordinate system used to describe position points of this location.

[MarketEvaluationPoint](#)

[ValidatedHistoricalData contextual model](#)

The location where one or more products are measured. This may be a physical or virtual location.

Native Members

mRID	1..1 MeasurementPointID_String	A unique identification of the measurement point. In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification. Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.
MeterReadings	[0..1] MeterReading	All meter readings obtained from this usage point.
UsagePointLocation	[0..1] UsagePointLocation	Location of this usage point.

[MarketParticipant](#)

[ValidatedHistoricalData contextual model](#)

The identification of the party participating in energy market business processes.

Native Members

mRID	1..1 PartyID_String	The identification of a party in the energy market.
-------------	-------------------------------------	---

In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.

Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context.

Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this.

For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.

MarketRole

[1..1] [MarketRole](#)

The role associated with a MarketParticipant.

MarketRole

[ValidatedHistoricalData contextual model](#)

The identification of the intended behaviour of a market participant played within a given business process.

Native Members

type

1..1 [MarketRoleKind_String](#)

The identification of the role played by a market player.

Measure_Unit

[ValidatedHistoricalData contextual model](#)

The particular quantity, defined and adopted by convention, with which other quantities of the same kind are compared in order to express their magnitudes relative to that quantity.

Native Members

name

1..1 [MeasurementUnitKind_String](#)

The identification of the formal code for a measurement unit (UN/ECE Recommendation 20).

MeterReading

[ValidatedHistoricalData contextual model](#)

Set of values obtained from the meter.

Native Members

mRID	0 .. 1	ResourceID_String	<p>The unique identification of the meter reading.</p> <p>In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides an identification in the context of a business exchange.</p> <p>Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in RFC 4122, for the mRID. The use of UUID is strongly recommended.</p> <p>For CIMXML data files in RDF syntax conforming to IEC 61970-552 Edition 1, the mRID is mapped to rdf:id or rdf:about attributes that identify CIM object elements.</p>
Readings	[0 .. 1]	Reading	All reading values contained within this meter reading.

[MktPSRTyp](#)

[ValidatedHistoricalData contextual model](#)

The type of a power system resource.

Native Members

psrType	1 .. 1	PsrType_String	The coded type of a power system resource.
----------------	--------	--------------------------------	--

[Point](#)

[ValidatedHistoricalData contextual model](#)

The identification of the values being addressed within a specific interval of time.

Native Members

position	1 .. 1	Position_Integer	A sequential value representing the relative position within a given time interval.
Energy_Quantity	[0 .. 1]	Quantity	The Quantity information associated with a given Point.
EnergyQuality_Quantity	[0 .. 1]	Quantity	The Quantity information associated with a given Point.

Point

ValidatedHistoricalData assembly model

The identification of the values being addressed within a specific interval of time.

Native Members

energy_Quantity.quality	0..1	Quality_String	The description of the quality of the quantity. --- The Quantity information associated with a given Point.
energy_Quantity.quantity	0..1	Decimal	The quantity value. The association role provides the information about what is expressed. --- The Quantity information associated with a given Point.
energy_Quantity.type	0..1	QuantityTypeKind	The description of the type of the quantity. --- The Quantity information associated with a given Point.
energyQuality_Quantity.quality	0..1	Quality_String	The description of the quality of the quantity. --- The Quantity information associated with a given Point.
energyQuality_Quantity.quantity	0..1	Decimal	The quantity value. The association role provides the information about what is expressed. --- The Quantity information associated with a given Point.
energyQuality_Quantity.type	0..1	QuantityTypeKind	The description of the type of the quantity. --- The Quantity information associated with a given Point.
position	1..1	Position_Integer	A sequential value representing the relative position within a given time interval.

PositionPoint

ValidatedHistoricalData contextual model

Set of spatial coordinates that determine a point, defined in the coordinate system specified in 'Location.CoordinateSystem'. Use a single position point instance to describe a point-oriented location. Use a sequence of position points to describe a line-oriented object (physical location of non-point oriented objects like cables or lines), or area of an object (like a substation or a geographical zone - in this case, have first and last position point with the same values).

Native Members

sequenceNumber	0 .. 1	Integer	Zero-relative sequence number of this point within a series of points.
xPosition	0 .. 1	String	X axis position.
yPosition	0 .. 1	String	Y axis position.
zPosition	0 .. 1	String	(if applicable) Z axis position.

Process

[ValidatedHistoricalData contextual model](#)

The formal identification of the business process in which a flow of information is exchanged.

Native Members

processType	1 .. 1	ProcessKind_String	The identification of the nature of process that the document addresses.
--------------------	--------	------------------------------------	--

Quantity

[ValidatedHistoricalData contextual model](#)

Description of quantities needed in the data exchange.

The type of the quantity is described either by the role of the association or the quantityType attribute.

The quality attribute provides the information about the quality of the quantity (measured, estimated, etc.).

Native Members

quality	0 .. 1	Quality_String	The description of the quality of the quantity.
quantity	1 .. 1	Decimal	The quantity value. The association role provides the information about what is expressed.
type	0 .. 1	QuantityTypeKind	The description of the type of the quantity.

Reading

ValidatedHistoricalData contextual model

Specific value measured by a meter or other asset, or calculated by a system. Each Reading is associated with a specific ReadingType.

Native Members

mRID	0 .. 1	ResourceID_String	The identification of the reading. Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in RFC 4122, for the mRID. The use of UUID is strongly recommended. For CIMXML data files in RDF syntax conforming to IEC 61970-552 Edition 1, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.
ReadingType	[0 .. 1]	ReadingType	Type information for this reading value.

ReadingType

ValidatedHistoricalData contextual model

Detailed description for a type of a reading value. Values in attributes allow for the creation of recommended codes to be used for identifying reading value types as follows:

Native Members

accumulation	0 .. 1	AccumulationKind	Accumulation behaviour of a reading over time, usually 'measuringPeriod', to be used with individual endpoints (as opposed to 'macroPeriod' and 'aggregate' that are used to describe aggregations of data from individual endpoints).
aggregate	0 .. 1	AggregateKind	Salient attribute of the reading data aggregated from individual endpoints. This is mainly used to define a mathematical operation carried out over 'macroPeriod', but may also be used to describe an attribute of the data when the 'macroPeriod' is not defined.
commodity	0 .. 1	CommodityKind	Commodity being measured.

Reason

[ValidatedHistoricalData contextual model](#)

The motivation of an act.

Native Members

code	1 .. 1	ReasonCode_String	The motivation of an act in coded form.
text	0 .. 1	ReasonText_String	The textual explanation corresponding to the reason code.

RegisteredResource

[ValidatedHistoricalData contextual model](#)

A resource that is registered through the market participant registration system. Examples include generating unit, load, and non-physical generator or load.

Native Members

description	0 .. 1	String	The description is a free human readable text describing or naming the object. It may be non unique and may not correlate to a naming hierarchy.
mRID	1 .. 1	ResourceID_String	<p>The unique identification of a resource.</p> <p>In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.</p> <p>Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context.</p> <p>Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this.</p> <p>For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.</p>
name	0 .. 1	String	The name is any free human readable and possibly non unique text naming the object.
PSRTypE	[0 .. 1]	MktPSRTypE	The identification of the type of resource associated with this RegisteredResource.

Location	[0..1] Location	Location of this power system resource.
Fuel	[0..1] Fuel	

Series_Period

ValidatedHistoricalData assembly model

The identification of the period of time corresponding to a given time interval and resolution.

Native Members

reason.code	0..1 ReasonCode_String	The motivation of an act in coded form. --- The reason information associated with a Series_Period providing motivation information.
reason.text	0..1 ReasonText_String	The textual explanation corresponding to the reason code. --- The reason information associated with a Series_Period providing motivation information.
resolution	1..1 Duration	The definition of the number of units of time that compose an individual step within a period.
timeInterval	1..1 ESMP_DateTimeInterval	The start and end time of the period.

Series_Period

ValidatedHistoricalData contextual model

The identification of the period of time corresponding to a given time interval and resolution.

Native Members

resolution	1..1 Duration	The definition of the number of units of time that compose an individual step within a period.
-------------------	-------------------------------	--

timeInterval	1 .. 1	ESMP_DateTimeInterval	The start and end time of the period.
Reason	[0 .. 1]	Reason	The reason information associated with a Series_Period providing motivation information.

[Time_Period](#)

[ValidatedHistoricalData contextual model](#)

The identification of a time interval or a duration.

Native Members

timeInterval	1 .. 1	ESMP_DateTimeInterval	The start and end date and time for a given interval.
---------------------	--------	---------------------------------------	---

[TimeSeries](#)

[ValidatedHistoricalData assembly model](#)

A set of time-ordered quantities being exchanged in relation to a product.

In the ESMP profile, the TimeSeries provides not only time-ordered quantities but also time-ordered information.

Native Members

businessType	0 .. 1	BusinessKind_String	The identification of the nature of the time series.
dateAndOrTime.dateTime	0 .. 1	DateTime	Date and time as per ISO 8601 YYYY-MM- DDThh:mm:ss.sssZ. --- A date and/or time associated with a TimeSeries.
energy_Measurement_Unit.name	1 .. 1	MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure associated with the quantities in a TimeSeries.

<code>energyQuality_Measurement_Unit.name</code>	0..1	MeasurementUnitKind_String	The identification of the formal code for a measurement unit (UN/ECE Recommendation 20). --- The unit of measure associated with the quantities in a TimeSeries.
<code>flowDirection.direction</code>	1..1	DirectionKind_String	The coded identification of the direction of energy flow. --- The flow direction associated with a TimeSeries.
<code>marketEvaluationPoint.meterReadings.mRID</code>	0..1	ResourceID_String	The unique identification of the meter reading. In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides an identification in the context of a business exchange. Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in RFC 4122, for the mRID. The use of UUID is strongly recommended. For CIMXML data files in RDF syntax conforming to IEC 61970-552 Edition 1, the mRID is mapped to rdf:id or rdf:about attributes that identify CIM object elements. --- The identification of a measurement point associated with a TimeSeries. --- All meter readings obtained

from this usage point.

marketEvaluationPoint.meterReadings.readings.mRID

0..1 [ResourceID_String](#)

The identification of the reading.

Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in RFC 4122, for the mRID. The use of UUID is strongly recommended.

For CIMXML data files in RDF syntax conforming to IEC 61970-552 Edition 1, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.

--- The identification of a measurement point associated with a TimeSeries.

--- All meter readings obtained from this usage point.

--- All reading values contained within this meter reading.

marketEvaluationPoint.meterReadings.readings.readingType.accumulation 0..1 [AccumulationKind](#)

Accumulation behaviour of a reading over time, usually 'measuringPeriod', to be used with individual endpoints (as opposed to 'macroPeriod' and 'aggregate' that are used to describe aggregations of data from individual endpoints).

--- The identification of a measurement point associated with a TimeSeries.

--- All meter readings obtained

			<p>from this usage point.</p> <ul style="list-style-type: none"> --- All reading values contained within this meter reading. --- Type information for this reading value.
<code>marketEvaluationPoint.meterReadings.readings.readingType.aggregate</code>	0..1	AggregateKind	<p>Salient attribute of the reading data aggregated from individual endpoints. This is mainly used to define a mathematical operation carried out over 'macroPeriod', but may also be used to describe an attribute of the data when the 'macroPeriod' is not defined.</p> <ul style="list-style-type: none"> --- The identification of a measurement point associated with a TimeSeries. --- All meter readings obtained from this usage point. --- All reading values contained within this meter reading. --- Type information for this reading value.
<code>marketEvaluationPoint.meterReadings.readings.readingType.commodity</code>	0..1	CommodityKind	<p>Commodity being measured.</p> <ul style="list-style-type: none"> --- The identification of a measurement point associated with a TimeSeries. --- All meter readings obtained from this usage point. --- All reading values contained within this meter reading. --- Type information for this reading value.
<code>marketEvaluationPoint.mRID</code>	0..1	MeasurementPointID_String	<p>A unique identification of the</p>

			measurement point.
			In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.
			Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements. --- The identification of a measurement point associated with a TimeSeries.
marketEvaluationPoint.usagePointLocation.geoInfoReference	0..1	String	(if applicable) Reference to geographical information source, often external to the utility. --- The identification of a measurement point associated with a TimeSeries. --- Location of this usage point.
mRID	0..1	ID_String	A unique identification of the time series. In the ESMP context, the "model authority" is defined as a party (originator of the

			exchange) that provides a unique identification in the context of a business exchange such as time series identification, bid identification, ...
			Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.
product	0..1	EnergyProductKind_String	The identification of the nature of an energy product such as power, energy, reactive power, etc.
reason.code	0..1	ReasonCode_String	The motivation of an act in coded form. --- The reason information associated with a TimeSeries providing motivation information.
reason.text	0..1	ReasonText_String	The textual explanation corresponding to the reason code. --- The reason information associated with a TimeSeries providing motivation information.

registeredResource.description	0..1	String	The description is a free human readable text describing or naming the object. It may be non unique and may not correlate to a naming hierarchy. --- The identification of a resource associated with a TimeSeries.
registeredResource.fuel.fuel	0..1	Fuel_String	An indication of the fuel used for the energy production, or part of the energy production, that is potentially fed into the grid at the related object. --- The identification of a resource associated with a TimeSeries.
registeredResource.location.coordinateSystem.crsUrn	0..1	CoordinateSystemKind_String	A Uniform Resource Name (URN) for the coordinate reference system (crs) used to define 'Location.PositionPoints'. An example would be the European Petroleum Survey Group (EPSG) code for a coordinate reference system, defined in URN under the Open Geospatial Consortium (OGC) namespace as: urn:ogc:def:uom:EPSG::XXXX, where XXXX is an EPSG code (a full list of codes can be found at the EPSG Registry web site http://www.epsg-registry.org/). To define the coordinate system as being WGS84 (latitude, longitude) using an EPSG OGC, this attribute would be urn:ogc:def:uom:EPSG::4236. A profile should limit this code to a set of allowed URNs agreed to by all sending and

		receiving parties.
		<p>--- The identification of a resource associated with a TimeSeries.</p> <p>--- Location of this power system resource.</p> <p>--- Coordinate system used to describe position points of this location.</p>
registeredResource.location.mRID	0..1 String	<p>The unique identification of a location.</p> <p>In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification, location, etc.</p> <p>Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.</p> <p>--- The identification of a resource associated with a TimeSeries.</p> <p>--- Location of this power system resource.</p>

<code>registeredResource.location.positionPoints.sequenceNumber</code>	0..1	Integer	Zero-relative sequence number of this point within a series of points.
			<p>--- The identification of a resource associated with a TimeSeries.</p> <p>--- Location of this power system resource.</p> <p>--- Sequence of position points describing this location, expressed in coordinate system 'Location.CoordinateSystem'.</p>
<code>registeredResource.location.positionPoints.xPosition</code>	0..1	String	X axis position.
			<p>--- The identification of a resource associated with a TimeSeries.</p> <p>--- Location of this power system resource.</p> <p>--- Sequence of position points describing this location, expressed in coordinate system 'Location.CoordinateSystem'.</p>
<code>registeredResource.location.positionPoints.yPosition</code>	0..1	String	Y axis position.
			<p>--- The identification of a resource associated with a TimeSeries.</p> <p>--- Location of this power system resource.</p> <p>--- Sequence of position points describing this location, expressed in coordinate system 'Location.CoordinateSystem'.</p>

<code>registeredResource.location.positionPoints.zPosition</code>	0..1	<code>String</code>	(if applicable) Z axis position. --- The identification of a resource associated with a TimeSeries. --- Location of this power system resource. --- Sequence of position points describing this location, expressed in coordinate system 'Location.CoordinateSystem'.
<code>registeredResource.location.type</code>	0..1	<code>String</code>	Classification by utility's corporate standards and practices, relative to the location itself (e.g., geographical, functional accounting, etc., not a given property that happens to exist at that location). --- The identification of a resource associated with a TimeSeries. --- Location of this power system resource.
<code>registeredResource.mRID</code>	0..1	<code>ResourceID String</code>	The unique identification of a resource. In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.

Master resource identifier

		issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements. --- The identification of a resource associated with a TimeSeries.
registeredResource.name	0..1 String	The name is any free human readable and possibly non unique text naming the object. --- The identification of a resource associated with a TimeSeries.
registeredResource.pSRTyp.e.psrType	0..1 PsrType_String	The coded type of a power system resource. --- The identification of a resource associated with a TimeSeries. --- The identification of the type of resource associated with this RegisteredResource.
version	1..1 ESMPVersion_String	The identification of the version of the time series.

[TimeSeries](#)

A set of time-ordered quantities being exchanged in relation to a product.

In the ESMP profile, the TimeSeries provides not only time-ordered quantities but also time-ordered information.

[ValidatedHistoricalData contextual model](#)

Native Members

businessType	0 .. 1	BusinessKind_String	The identification of the nature of the time series.
mRID	0 .. 1	ID_String	<p>A unique identification of the time series.</p> <p>In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides a unique identification in the context of a business exchange such as time series identification, bid identification, ...</p>
			<p>Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context.</p> <p>Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this.</p> <p>For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.</p>
product	0 .. 1	EnergyProductKind_String	The identification of the nature of an energy product such as power, energy, reactive power, etc.
version	1 .. 1	ESMPVersion_String	The identification of the version of the time series.
RegisteredResource	[0 .. 1]	RegisteredResource	The identification of a resource associated with a TimeSeries.
Reason	[0 .. 1]	Reason	The reason information associated with a TimeSeries providing motivation information.
Energy_Measurement_Unit	[1 .. 1]	Measure_Unit	The unit of measure associated with the quantities in a TimeSeries.
MarketEvaluationPoint	[0 .. 1]	MarketEvaluationPoint	The identification of a measurement point associated with a TimeSeries.
FlowDirection	[1 .. 1]	FlowDirection	The flow direction associated with a TimeSeries.
DateAndOrTime	[1 .. 1]	DateAndOrTime	A date and/or time associated with a TimeSeries.

EnergyQuality_Measurement_Unit [0..1] [Measure_Unit](#)

The unit of measure associated with the quantities in a TimeSeries.

UsagePointLocation**ValidatedHistoricalData contextual model**

Location of an individual usage point.

Native Members

geoInfoReference	0 .. 1	String	(if applicable) Reference to geographical information source, often external to the utility.
-------------------------	--------	------------------------	--

VHD_MarketDocument**ValidatedHistoricalData contextual model**

An electronic document containing the information necessary to satisfy the requirements of a given business process.

Native Members

createdDateTime	1 .. 1	ESMP_DateTime	The date and time of the creation of the document.
description	0 .. 1	String	The description is a free human readable text describing or naming the object. It may be non unique and may not correlate to a naming hierarchy.
mRID	1 .. 1	ID_String	<p>The unique identification of the document being exchanged within a business process flow.</p> <p>In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides an identification in the context of a business exchange such as document identification, ...</p> <p>Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.</p>
revisionNumber	0 .. 1	ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from

another.

type	0 .. 1 MessageKind_String	The coded type of a document. The document type describes the principal characteristic of the document.
Period	[1..1] Time_Period	The time interval that is associated with an electronic document and which is valid for the whole document.
Process	[1..1] Process	The Process associated with an electronic document header that is valid for the whole document.
Sender_MarketParticipant	[1..1] MarketParticipant	The MarketParticipant associated with an electronic document header.
Receiver_MarketParticipant	[1..1] MarketParticipant	The MarketParticipant associated with an electronic document header.

[VHD_MarketDocument](#)

[ValidatedHistoricalData assembly model](#)

An electronic document containing the information necessary to satisfy the requirements of a given business process.

Native Members

createdDateTime	1 .. 1 ESMP_DateTime	The date and time of the creation of the document.
description	0 .. 1 String	The description is a free human readable text describing or naming the object. It may be non unique and may not correlate to a naming hierarchy.
mRID	1 .. 1 ID_String	<p>The unique identification of the document being exchanged within a business process flow.</p> <p>In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides an identification in the context of a business exchange such as document identification, ...</p> <p>Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context.</p>

			Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.
period.timeInterval	1..1	ESMP_DateTimeInterval	The start and end date and time for a given interval. --- The time interval that is associated with an electronic document and which is valid for the whole document.
process.processType	1..1	ProcessKind_String	The identification of the nature of process that the document addresses. --- The Process associated with an electronic document header that is valid for the whole document.
receiver_MarketParticipant.marketRole.type	1..1	MarketRoleKind_String	The identification of the role played by a market player. --- The MarketParticipant associated with an electronic document header. --- The role associated with a MarketParticipant.
receiver_MarketParticipant.mRID	1..1	PartyID_String	The identification of a party in the energy market. In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification. Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this. For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements. --- The MarketParticipant associated with an electronic document header.
revisionNumber	0..1	ESMPVersion_String	The identification of the version that distinguishes one evolution of a document from another.
sender_MarketParticipant.marketRole.type	1..1	MarketRoleKind_String	The identification of the role played by a market player.

		<p>--- The MarketParticipant associated with an electronic document header.</p> <p>--- The role associated with a MarketParticipant.</p>
sender_MarketParticipant.mRID	1 .. 1	<p>PartyID_String</p> <p>The identification of a party in the energy market.</p> <p>In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.</p>
		<p>Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context.</p> <p>Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this.</p> <p>For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.</p> <p>--- The MarketParticipant associated with an electronic document header.</p>
type	0 .. 1	<p>MessageKind_String</p> <p>The coded type of a document. The document type describes the principal characteristic of the document.</p>

Enumerations

[CoordinateSystemTypeList](#)

The identification of the coordinate system used for the location position.

[ESMPEnumerations](#)

ED50	ED 50 (European Datum 1950) is a geodetic datum which was defined after World War II for the international connection of geodetic networks.
OSGB36	Ordinance Survey Great Britain 1936. The Ordnance Survey (OS) devised the national grid reference system, and it is heavily used in their survey data, and in maps (whether published by the Ordnance Survey or commercial map producers) based on those surveys.
GTRF	Galileo Terrestrial Reference Frame

WGS84	The World Geodetic System version 1984. for use in cartography, geodesy, and navigation including by GPS. It comprises a standard coordinate system for the earth, a standard spheroidal reference surface (the datum or reference ellipsoid) for raw altitude data, and a gravitational equipotential surface (the geoid) that defines the nominal sea level.
--------------	--

DirectionTypeList

ESMPEnumerations

The coded identification of the direction of energy flow.

UP	Up signifies that the available power can be used by the Purchasing area to increase energy.
DOWN	Down signifies that the available power can be used by the Purchasing area to decrease energy.
UP and DOWN	Up and Down signifies that the UP and Down values are equal.
Stable	The direction at a given instant in time is considered to be stable.

FuelTypeList

ESMPEnumerations

The identification of the type of fuel.

Unspecified	Fuel that cannot be associated with any of available fuel codes.
Renewable solid unspecified	Fuel produced in a solid form from renewable resources that cannot be associated with any of available renewable solid fuel codes.
Renewable solid municipal waste	Solid waste of biological material produced by households, hospitals and the tertiary sector (in general all waste that resembles household waste).
Renewable solid industrial and commercial waste	Solid waste generated by businesses, production units, bureaus and offices.
Renewable solid wood	

Solid wood energy resource.

Renewable solid animal fats	Solid animal fats energy resource.
Renewable solid biomass from agriculture	Solid by-products and residues from agriculture.
Renewable liquid unspecified	Fuel produced in form of liquid from renewable resources that cannot be associated with any of available renewable liquid fuel codes.
Renewable liquid municipal biodegradable waste	Liquid municipal waste capable of undergoing anaerobic or aerobic decomposition.
Renewable liquid black liquor	Alkaline-spent liquor obtained from the digesters during the production of sulphate or soda pulp.
Renewable liquid pure plant oil	Oil produced from plants, mainly from rapeseed and sunflower crops.
Renewable liquid waste plant oil	Oil produced from plants that is no longer usable for its originally intended purpose.
Renewable liquid refined vegetable oil	Oil produced from plants and transformed into fuel by refining process (hydrocracking or hydrogenation).
Renewable gaseous unspecified	Fuel produced in form of gas from renewable resources that cannot be associated with any of available renewable gaseous fuel codes.
Renewable gaseous landfill gas	Gas produced by digestion of land filled waste.
Renewable gaseous sewage gas	Gas produced from the anaerobic fermentation of sewage sludge.
Renewable gaseous agricultural gas	Gas produced from agricultural processes.
Renewable gaseous gas	

from organic waste digestion	Gas produced by anaerobic digestion process from organic waste.
Renewable gaseous process gas	Gas produced by an industrial process as a consequence.
Renewable gaseous other biogenic sources	Gas produced by form of biogenic resource transformation that cannot be associated with any of available renewable gaseous fuel codes that use biogenic energy resource.
Renewable heating and cooling solar	Sunlight energy source.
Renewable heating and cooling geothermal	Geothermal energy source.
Renewable heating and cooling aerothalermal	Thermal energy obtained from air.
Renewable heating and cooling hydrothermal	Thermal energy obtained from large body of water.
Renewable heating and cooling process heat	Thermal energy obtained from process heat.
Renewable mechanical unspecified	Energy from renewable resource transformed into mechanical energy that cannot be associated with any of available renewable mechanical fuel codes.
Renewable mechanical wind	Kinetic energy of wind transformed into mechanical energy.
Renewable mechanical hydro and marine	Falling or flowing water energy or energy derived from tidal movement, wave motion or ocean current.
Fossil unspecified	Unspecified fossil energy source.
Fossil solid unspecified	Unspecified fossil solid energy source.

Fossil solid hard coal	Hard coal solid fossil energy source. This includes Anthracite, Bituminous coal, Coking coal, Coke-oven coke and Lignite coke.
Fossil solid brown coal	Brown coal solid fossil energy source. This includes Sub-bituminous coal, Lignite, Brown coal briquette and Peat briquette.
Fossil solid peat	Solid fossil peat energy source.
Fossil solid municipal waste	Solid fossil municipal waste energy source.
Fossil solid industrial and commercial waste	Solid fossil industrial and commercial waste energy source.
Fossil liquid unspecified	Unspecified fossil liquid energy source.
Fossil liquid crude oil	Liquid crude oil fossil energy source. This includes shale oil or other types.
Fossil liquid natural gas liquids (NGL)	Liquid natural gas liquids (NGL) fossil energy source.
Fossil liquid petroleum products	Liquid petroleum products energy source. This includes Ethane,Naphtha, Aviation gasoline , Motor gasoline, Aviation turbine fuel,Other kerosene, Gas/diesel oil , Fuel oil, low sulphur ,Fuel oil, high sulphur ,Liquid Petroleum Gas , Orimulsion , Bitumen ,Lubricants ,Petroleum coke , Refinery Feedstock.
Fossil gaseous unspecified	Unspecified fossil gaseous energy source.
Fossil gaseous natural gas	Fossil gaseous natural gas energy source.
Fossil gaseous coal-derived gas	Fossil gaseous coal-derived gas energy source. This includes Blast furnace gas,Coke-oven gas or other types.
Fossil gaseous petroleum products	Fossil gaseous petroleum products energy source. This includes Propane, Butane, Refinery gas, Chemical waste gas or other types.
Fossil gaseous municipal gas plant	Fossil gaseous municipal gas plant energy source.

Fossil gaseous process gas	Fossil gaseous process gas energy source. This includes Carbon monoxide, Methane , Hydrogen (fossil sourced) ,Phosphor gas ,Oxy gas and other types.
Fossil heat unspecified	Unspecified fossil heat energy source.
Fossil heat process heat	Fossil process heat energy source.
Nuclear solid radioactive fuel	Solid Nuclear radioactive energy source. This includes UOX, AGR, MOX or other types.
Gas synthesis unspecified	Unspecified gas synthesis energy source.
Gas synthesis furnace gas	Gas synthesis from furnace gas energy source.
Waste heat and cold unspecified	Unspecified Waste heat and cold energy source.
Waste heat and cold By-product in industrial installation	Waste heat and cold from by-product in industrial installation energy source.
Waste heat and cold By-product in power generation	Waste heat and cold from by-product in power generation energy source.
Waste heat and cold By-product in tertiary sector	Waste heat and cold from by-product in tertiary sector energy source.

CodingSchemeTypeList

Codification scheme used to identify the coding scheme used for the set of coded values to identify specific objects.

EIC

The coding scheme is the Energy Identification Coding Scheme (EIC), maintained by ENTSO-E.

ESMPEnumerations

GS1	The coding scheme for the preceding attribute is the Global Location Number (GLN 13) or Global Service Relation Number (GSRN 18), maintained by GS1.
Andorra National coding scheme	The National coding scheme of the country in question.
Albania National coding scheme	The National coding scheme of the country in question.
Armenia National coding scheme	The National coding scheme of the country in question.
Austria National coding scheme	The National coding scheme of the country in question.
Azerbaijan National coding scheme	The National coding scheme of the country in question.
Bosnia and Herzegovina National coding scheme	The National coding scheme of the country in question.
Belgium National coding scheme	The National coding scheme of the country in question.
Bulgaria National coding scheme	The National coding scheme of the country in question.
Switzerland National coding scheme	The National coding scheme of the country in question.
Serbia and Montenegro National coding scheme	The National coding scheme of the country in question.
Czech Republic National coding scheme	The National coding scheme of the country in question.
Germany National coding scheme	The National coding scheme of the country in question.

Denmark National coding scheme	The National coding scheme of the country in question.
Estonia National coding scheme	The National coding scheme of the country in question.
Spain National coding scheme	The National coding scheme of the country in question.
Finland National coding scheme	The National coding scheme of the country in question.
France National coding scheme	The National coding scheme of the country in question.
United Kingdom National coding scheme	The National coding scheme of the country in question.
Georgia National coding scheme	The National coding scheme of the country in question.
Gibraltar National coding scheme	The National coding scheme of the country in question.
Greece National coding scheme	The National coding scheme of the country in question.
Croatia National coding scheme	The National coding scheme of the country in question.
Hungary National coding scheme	The National coding scheme of the country in question.
Ireland National coding scheme	The National coding scheme of the country in question.
Italy National coding scheme	The National coding scheme of the country in question.

Kyrgyzstan National coding scheme	The National coding scheme of the country in question.
Kazakhstan National coding scheme	The National coding scheme of the country in question.
Liechtenstein National coding scheme	The National coding scheme of the country in question.
Lithuania National coding scheme	The National coding scheme of the country in question.
Luxembourg National coding scheme	The National coding scheme of the country in question.
Latvia National coding scheme	The National coding scheme of the country in question.
Morocco National coding scheme	The National coding scheme of the country in question.
Moldavia National coding scheme	The National coding scheme of the country in question.
Macedonia National coding scheme	The National coding scheme of the country in question.
Netherlands National coding scheme	The National coding scheme of the country in question.
Nordic Regional coding scheme	The coding scheme of the Nordic region which covers Denmark, Finland, Norway and Sweden.
Norway National coding scheme	The National coding scheme of the country in question.
Poland National coding scheme	The National coding scheme of the country in question.
Portugal National coding	The National coding scheme of the country in question.

scheme		
Romania National coding scheme	The National coding scheme of the country in question.	
Russian Federation National coding scheme	The National coding scheme of the country in question.	
Sweden National coding scheme	The National coding scheme of the country in question.	
Slovenia National coding scheme	The National coding scheme of the country in question.	
Slovakia National coding scheme	The National coding scheme of the country in question.	
Turkey National coding scheme	The National coding scheme of the country in question.	
Ukraine National coding scheme	The National coding scheme of the country in question.	
CGM	The coding scheme used for Common Grid Model Exchange Standard (CGMES).	
Cyprus National coding scheme	The National coding scheme of the country in question.	

RoleTypeList

Identification of the role played by a party.

Trade responsible party Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.

Consumption responsible party Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.

ESMPEnumerations

Combined power exchange (not to be used)	This role is no longer in the ENTSO-E Harmonised Role Model Document.
System operator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Imbalance settlement responsible	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Production responsible party	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Transmission capacity allocator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Balance responsible party	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Metered data aggregator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Billing agent	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Market operator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Energy supplier	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Consumer	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Control area operator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Control block operator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Coordination centre operator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Grid access provider	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.

Grid operator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Meter administrator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Party connected to grid	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Producer	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Profile maintenance party	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Meter operator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Metered data collector	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Metered data responsible	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Metering point administrator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Resource Provider	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Scheduling coordinator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Capacity Trader	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Interconnection Trade Responsible	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Nomination Validator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document.
Market information aggregator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document. A party that collects information from different sources and assembles it to provide a summary of the market.

Information receiver	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document. A party, not necessarily a market participant, which receives information about the market.
Reserve Allocator	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document. A party that informs the market of reserve requirements, receives tenders against the requirements and in compliance with the prequalification criteria, determines what tenders meet requirements and assigns tenders.
MOL Responsible	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document. A party that informs the market of reserve requirements, receives tenders against the requirements and in compliance with the prequalification criteria, determines what tenders meet requirements and assigns tenders.
Capacity Coordinator	A party, acting on behalf of the SOs involved, responsible for establishing a coordinated Offered Capacity and/or NTC and/or ATC between several Scheduling Areas.
Reconciliation Accountable	Refer to role model definitions in the ENTSO-E Harmonised Role Model Document. A party that is financially accountable for the reconciled volume of energy products for a profiled local metering point.
Reconciliation Responsible	A party that is responsible for reconciling, within a metering grid area, the volumes used in the imbalance settlement process for profiled metering points and the actual metered quantities.
Data provider	A party that is responsible for providing information to a central authority.
Local Issuing Office (LIO)	A party that is responsible for operating a Local Issuing Office (LIO).
Central Issuing Office (CIO)	A party that is responsible for operating a Central Issuing Office (CIO).
EIC Participant	A party that participates in the EIC environment.
Weather analyser	A party that analyses the current and forecast weather situation and establishes a prognosis of its impact on the renewable energy environment as well as the overall load.
Regional Security Coordinator (RSC)	The RSC as defined in the System Operation guideline.

Energy Service Company (ESCO)	A party offering energy-related services to the Party Connected to Grid, but not directly active in the energy value chain or the physical infrastructure itself. The ESCO may provide insight services as well as energy management services.
Balancing Service Provider	A party with reserve-providing units or reserve-providing groups able to provide balancing services to LFC Operators.
Energy trader	A party that is selling or buying energy.
LFC Operator	A party that is responsible for the Load Frequency Control of its LFC Area or LFC Block.
Transmission System Operator (TSO)	The Transmission System Operator (TSO) is responsible for the transport of electricity on the extra high-voltage and high-voltage interconnected system. This is a market participant and not a role in Harmonised Role Model.
Distribution System Operator (DSO)	Distribution System Operator (DSO) is responsible for transport of electricity on high-voltage (optionally), medium-voltage and low-voltage distribution systems. This is a market participant and not a role in Harmonised Role Model.
Resource Capacity Mechanism Operator	Resource capacity mechanism operator is the party responsible to operate the resource capacity mechanism in a member state. It can either be the TSO or an independent party.
Resource aggregator	A party that aggregates resources for usage by a service provider for energy market services.
Cost sharing calculator	A party responsible for the mapping of the costs between areas and parties.
Settlement responsible	A party responsible for settling the costs.
Coordinated Capacity Calculator	Coordinated Capacity Calculator is the entity or entities with the task of calculating transmission capacity, at regional level or above.

UnitOfMeasureTypeList

(synonym MeasurementUnit) The unit of measure that is applied to a quantity. The measurement units shall be in compliance with UN/ECE Recommendation 20.

ESMPEnumerations**ampere**

The unit of electrical current in the International system of Units (SI) equivalent to one Coulomb per second.

megavolt-ampere	MVA unit as per UN/CEFACT recommendation 20.
One	A unit for dimensionless quantities, also called quantities of dimension one.
cubic hectometres	A unit of volume equal to one million cubic metres.
kilovolt	kV unit as per UN/CEFACT recommendation 20.
kilometre	km unit as per UN/CEFACT recommendation 20.
kilovolt ampere reactive	A unit of electrical reactive power represented by a current of one thousand amperes flowing due to a potential difference of one thousand volts where the sine of the phase angle between them is 1. The unity power factor is expressed in thousands of a volt ampere reactive.
gigawatt hour	GWh unit as per UN/CEFACT recommendation 20.
kilowatt hour	A total amount of electrical energy transferred or consumed in one hour.
kilowatt	A unit of bulk power flow, which can be defined as the rate of energy transfer /consumption when a current of 1000 amperes flows due to a potential of 1000 volts at unity power factor expressed in thousands of a watt.
megavolt ampere reactive hours	Total amount of reactive power across a power system.
megavolt ampere reactive	A unit of electrical reactive power represented by a current of one thousand amperes flowing due to a potential difference of one thousand volts where the sine of the phase angle between them is 1.
megawatt	A unit of bulk power flow, which can be defined as the rate of energy transfer /consumption when a current of 1000 amperes flows due to a potential of 1000 volts at unity power factor expressed in millions of a watt.
cubic metres per second	The volume flow rate of cubic metre per second.
cubic metre	A Cubic metre.

metre	The length of a metre.
megawatt hours	The total amount of bulk energy transferred or consumed.
percent	A unit of proportion equal to 0.01.
gigawatt	GW unit as per UN/CEFACT recommendation 20.
watt	The watt is the International System of Units (SI) standard unit of power (energy per unit time), the equivalent of one joule per second.
meter per second	A unit of measurement of the speed expressed in m/s.
degree (unit of angle)	A unit of measurement of angles expressed in a 0 to 360 degree gradient.
watt per square meter	A unit of measurement of the density of heat flow rate expressed in watt per square meter.
Celsius	A unit of measurement of temperature expressed in degree Celsius.
OKTA unit	A unit of measurement of the cloudiness expressed in OKTA or OCTA, i.e. A unit of count defining the number of eighth-parts as a measure of the celestial dome cloud coverage.
hectopascal	A unit of measurement of the pressure expressed in hectopascal.
millimeter	A unit of measurement of length expressed in millimeter.
K (Kelvin)	Temperature unit refer ISO 80000-5 (Quantities and units, Part 5: Thermodynamics).
Hertz	HTZ unit as per UN/CEFACT recommendation 20.
Megawatt per Hertz	A unit of energy expressed as the load change in million watts that will cause a frequency shift of one hertz.
millihertz	A unit of frequency equal to 0.001 cycle per second.

minute	A period of time equal to sixty seconds.
second	A period of time equal to one second.

AssetTypeList**ESMPEnumerations**

The identification of the type of asset.

Tipline	A high voltage line used for cross border energy interconnections.
Line	A specific electric line within a country.
Resource Object	A resource that can either produce or consume energy.
Generation	A resource that can produce energy.
Load	A resource that can consume energy.
Phase Shift Transformer	An electrical device for controlling the power flow through specific lines in a power transmission network.
Circuit Breaker	An electrical switch designed to protect an electrical circuit from damage caused by overcurrent/overload or short circuit.
Biomass	A resource using biomass for energy.
Fossil Brown coal/Lignite	A resource using Fossil Brown coal/Lignite for energy.
Fossil Coal-derived gas	A resource using Fossil Coal-derived gas for energy.
Fossil Gas	A resource using Fossil Gas for energy.

Fossil Hard coal	A resource using Fossil Hard coal for energy.
Fossil Oil	A resource using Fossil Oil for energy.
Fossil Oil shale	A resource using Fossil Oil shale for energy.
Fossil Peat	A resource using Fossil Peat for energy.
Geothermal	A resource using Geothermal for energy.
Hydro-electric pure pumped storage head installation	Unit in which moving water energy is converted to electricity using flowing water to generate electricity with a large dam and reservoirs. Pure pumped storage plants store water in an upper reservoir with no natural inflows.
Hydro Run-of-river head installation	Unit in which moving water energy is converted to electricity using flowing water to generate electricity in the absence of a large dam and reservoirs.
Hydro-electric storage head installation	Unit in which moving water energy is converted to electricity using flowing water to generate electricity with a large dam and reservoirs.
Marine unspecified	Unit in which marine energy is converted to electricity with equipment/devices not specified.
Nuclear unspecified	A unit in which the heat source is a nuclear reactor of type that is not specified in other nuclear types.
Other renewable	A resource using Other renewable for energy.
Solar unspecified	Unit in which solar energy is converted to electricity with equipment/devices not specified.
Waste	A resource using Waste for energy.
Wind Offshore	Unit in which wind energy is converted to electricity using wind farms constructed in bodies of water, usually in the ocean.
Wind Onshore	Unit in which wind energy is converted to electricity using wind farms constructed on land.

Other unspecified	Other unspecified technology.
AC Link	Overhead line or cable which is used to transmit electrical power via Alternative Current.
DC Link	Overhead line or cable which is used to transmit electrical power via Direct Current.
Substation	An assembly of equipment in an electric power system through which electric energy is passed for transmission, transformation, distribution or switching.
Transformer	Electrical device that transfers energy from one voltage level to another voltage level.
Busbar	A specific element within a substation to connect grid elements for energy distribution purposes.
Capacitor	A transmission element designed to inject reactive power into the transmission network.
Inductor	A transmission element designed to compensate reactive power in the transmission network.
Power plant connection	All the network equipment that link the generating unit to the grid.
FACTS	Flexible Alternating Current Transmission System
Energy storage	A resource that stores energy. It could be gas, electricity, etc.
Demand Side Response	A resource that change its electricity consumption patterns in response to a signal or incentive.
Production unit	A production unit is a composition of one or several generation units.
Dispatchable hydro resource	A resource referring to dispatchable hydro generation.
Solar photovoltaic	Unit in which solar energy is converted to electricity using a technology based on the photoelectric effect.
Solar concentration	

	Unit in which solar energy is converted to electricity using mirrors to concentrate the sun's energy to drive traditional steam turbines or engines.
Wind unspecified	Unit in which wind energy is converted to electricity with equipment/devices not specified.
Hydro-electric unspecified	Unit in which moving water energy is converted to electricity with equipment/devices not specified.
Hydro-electric mixed pumped storage head installation	Unit in which moving water energy is converted to electricity using flowing water to generate electricity with a large dam and reservoirs. Mixed pumped storage plants use a combination of pumped storage and conventional hydroelectric plants with an upper reservoir that is replenished in part by natural inflows from a stream or river.
Marine tidal	Unit in which marine energy from tides is converted to electricity.
Marine wave	Unit in which marine energy from waves is converted to electricity.
Marine currents	Unit in which marine energy from currents is converted to electricity.
Marine pressure	Unit in which marine energy from pressure is converted to electricity.
Thermal unspecified	Unit in which heat energy is converted to electricity with equipment/devices not specified in other thermal types.
Thermal combined cycle gas turbine with heat recovery	Unit in which heat energy is converted to electricity called Combined Cycle Gas Turbine. The power is generated by the single or multiple gas turbine(s) in combination with the steam turbine(s). The unit might be equipped with waste heat recovery (e.g. to district heating network).
Thermal steam turbine with back-pressure turbine (open cycle)	Unit in which heat energy is converted to electricity. The power is generated with the steam that is expanded in the back-pressure steam turbine with or without heat output (e.g. to district heating network).
Thermal steam turbine with condensation turbine (closed cycle)	Unit in which heat energy is converted to electricity. The power is generated with the steam that is expanded in the condensation steam turbine with or without heat output (e.g. to district heating network).
Thermal gas turbine with heat recovery	Unit in which heat energy is converted to electricity called Simple Cycle Gas Turbine. The power is generated by the gas turbine and the flue gas waste heat is recovered (e.g. to district heating network).

Thermal internal combustion engine	An internal combustion engine is a heat engine in which the combustion of a fuel occurs with an oxidizer (usually air) in a combustion chamber that is an integral part of the working fluid flow circuit (e.g. reciprocating engine). The unit might be equipped with waste heat recovery (e.g. to district heating network).
Thermal micro-turbine	Unit in which heat energy is converted to electricity called Simple Cycle Gas Turbine. The power is generated by the gas turbine (capacity less than 500kWe). The unit might be equipped with waste heat recovery (e.g. to district heating network).
Thermal Stirling engine	A Stirling engine is a heat engine that is operated by the cyclic compression and expansion of air or other gas (the working fluid) at different temperatures, resulting in a net conversion of heat energy to mechanical work.
Thermal fuel cell	A fuel cell is an electrochemical cell that converts the chemical energy of a fuel (e.g. hydrogen) and an oxidizing agent (e.g. oxygen) into electricity through a pair of redox reactions.
Thermal steam engine	A steam engine is a heat engine that performs mechanical work using steam as its working fluid. The steam engine uses the force produced by steam pressure to push a piston back and forth inside a cylinder.
Thermal organic Rankine cycle	The Organic Rankine Cycle (ORC) is named for its use of an organic, high molecular mass fluid with a liquid-vapor phase change, or boiling point, occurring at a lower temperature than the water-steam phase change. The fluid allows Rankine cycle heat recovery from lower temperature sources such as biomass combustion, industrial waste heat, geothermal heat, solar ponds etc. The low-temperature heat is converted into useful work, that can itself be converted into electricity.
Thermal gas turbine without heat recovery	Unit in which heat energy is converted to electricity called Simple Cycle Gas Turbine. The power is generated by the gas turbine and there is no flue gas waste heat recovery.
Nuclear heavy water reactor	A unit in which the heat source is a pressurized heavy-water reactor (PHWR) that is a nuclear reactor that uses heavy water (deuterium oxide D ₂ O) as its coolant and neutron moderator.
Nuclear light water reactor	A unit in which the heat source is a light-water reactor (LWR) that is a type of thermal-neutron reactor that uses normal water, as both its coolant and neutron moderator – furthermore a solid form of fissile elements is used as fuel.
Nuclear breeder	A unit in which the heat source is a nuclear reactor that generates more fissile material than it consumes.
Nuclear graphite reactor	A unit in which the heat source is a graphite-moderated reactor that is a nuclear reactor that uses carbon as a neutron moderator, which allows natural uranium to be used as nuclear fuel.

QualityTypeList

ESMPEnumerations

The quality of an object.

Adjusted	The contents of the object have been adjusted.
Not available	The contents of the object are not available.
Estimated	The contents of the object are estimated. The code is typically used when measured values are missing and an estimate is made based on historical data.
As provided	The contents of the object are as provided.
Incomplete	The contents of the object are calculated based on incomplete data.
Calculated	The contents of the object are calculated. The code is typically used when a value is calculated based on several other known values.

QuantityTypeKind

IEC62746DataTypes

CEEDS specific enumeration for the mapping of OBIS codes in the DLMS/COSEM definition cf. IEC 62056

Total_Active_Energy_Consumed_kWh	OBIS Code: 1-0:1.8.0 ActiveEnergySumDrawn
Total_Active_Energy_Produced_kWh	OBIS Code: 1-0:2.8.0 ActiveEnergySumSupply
Instantaneous_Active_Power_Consumption_kw	OBIS Code: 1-0:1.7.0 ActivePowerRTDrawn
Instantaneous_Active_Power_Generation_kw	OBIS Code: 1-0:2.7.0 ActivePowerRTSupply
Instantaneous_Voltage_V_in_phase_L1	OBIS Code: 1-0:32.7.0 Instantaneous voltage (U) in phase L1 [V]
Instantaneous_Voltage_V_in_phase_L2	OBIS Code: 1-0:52.7.0 Instantaneous voltage (U) in phase L2 [V]

Instantaneous_Voltage_V_in_phase_L3	OBIS Code: 1-0:72.7.0 Instantaneous voltage (U) in phase L3 [V]
Instantaneous_Current_A_in_phase_L1	OBIS Code: 1-0:31.7.0 Instantaneous current (I) in phase L1 [A]
Instantaneous_Current_A_in_phase_L2	OBIS Code: 1-0:51.7.0 Instantaneous current (I) in phase L2 [A]
Instantaneous_Current_A_in_phase_L3	OBIS Code: 1-0:71.7.0 Instantaneous current (I) in phase L3[A]
Instantaneous_PowerFactor	OBIS Code: 1-0:13.7.0 Instantaneous power factor
Total_Active_Energy_Consumed_kWh_in_phase_L1	OBIS Code 1-0:21.8.0 Positive active energy (A+) in phase L1 total [kWh]
Total_Active_Energy_Consumed_kWh_in_phase_L2	OBIS Code 1-0:41.8.0 Positive active energy (A+) in phase L2 total [kWh]
Total_Active_Energy_Consumed_kWh_in_phase_L3	OBIS Code 1-0:61.8.0 Positive active energy (A+) in phase L3 total [kWh]
Total_Active_Energy_Produced_kWh_in_phase_L1	OBIS Code 1-0:22.8.0 Negative active energy (A+) in phase L1 total [kWh]
Total_Active_Energy_Produced_kWh_in_phase_L2	OBIS Code 1-0:42.8.0 Negative active energy (A+) in phase L2 total [kWh]
Total_Active_Energy_Produced_kWh_in_phase_L3	OBIS Code 1-0:62.8.0 Negative active energy (A+) in phase L3 total [kWh]
Instantaneous_Active_Power_Consumption_kw_in_phase_L1	OBIS Code: 1-0:21.7.0 Positive active instantaneous power (A+) in phase L1 [kW]
Instantaneous_Active_Power_Consumption_kw_in_phase_L2	OBIS Code: 1-0:41.7.0 Positive active instantaneous power (A+) in phase L2 [kW]
Instantaneous_Active_Power_Consumption_kw_in_phase_L3	OBIS Code: 1-0:61.7.0 Positive active instantaneous power (A+) in phase L3 [kW]
Instantaneous_Reactive_Power_Consumption_kvar	OBIS Code: 1-0:3.7.0 Positive reactive instantaneous power (Q+) [kvar]

Instantaneous_Reactive_Power_Consumption_kvar_in	OBIS Code: 1-0:23.7.0 Positive reactive instantaneous power (Q+) in phase L1 [kvar]
Instantaneous_Reactive_Power_Consumption_kvar_in	OBIS Code: 1-0:43.7.0 Positive reactive instantaneous power (Q+) in phase L2 [kvar]
Instantaneous_Reactive_Power_Consumption_kvar_in	OBIS Code: 1-0:63.7.0 Positive reactive instantaneous power (Q+) in phase L3 [kvar]
Instantaneous_Reactive_Power_Generation_kvar	OBIS Code: 1-0:4.7.0 Negative reactive instantaneous power (Q-) [kvar]
Instantaneous_Voltage_V	OBIS Code: 1-0:12.7.0 Instantaneous voltage (U) [V]
Instantaneous_Current_A	OBIS Code: 1-0:11.7.0 Instantaneous current (I) [A]
Instantaneous_Current_A_in_phase_neutral	OBIS Code: 1-0:91.7.0 Instantaneous current (I) in neutral [A]
Maximum_Current_A	OBIS Code: 1-0:11.6.0 Maximum current (I max) [A]
Maximum_Current_A_in_phase_L1	OBIS Code: 1-0:31.6.0 Maximum current (I max) in phase L1 [A]
Maximum_Current_A_in_phase_L2	OBIS Code: 1-0:51.6.0 Maximum current (I max) in phase L2[A]
Maximum_Current_A_in_phase_L3	OBIS Code: 1-0:51.6.0 Maximum current (I max) in phase L3 [A]
Instantaneous_Power_Factor_in_phase_L1	OBIS Code: 1-0:33.7.0 Instantaneous power factor in phase L1
Instantaneous_Power_Factor_in_phase_L2	OBIS Code: 1-0:53.7.0 Instantaneous power factor in phase L2
Instantaneous_Power_Factor_in_phase_L3	OBIS Code: 1-0:73.7.0 Instantaneous power factor in phase L3
Frequency_Hz	OBIS Code: 1-0:14.7.0 Frequency [Hz]

ProcessTypeList

ESMPEnumerations

Indicates the nature of process that the document addresses.

Day ahead	The information provided concerns a day ahead process.
Intra day incremental	The information provided concerns an intra day schedule.
Inter-area transit	The information provided concerns an inter area transit schedule. The rules governing this process are market dependent
System operation closure	The information provided concerns the closure of a given period of both scheduled and regulation information.
Metered data aggregation	The information provided concerns the aggregation process of metered information.
Imbalance settlement	The information provided concerns the imbalance settlement for a given period for a balance responsible party or parties.
Capacity allocation	The information provided concerns the capacity allocation process.
Central reconciliation	The process carried out to finalise the imbalance settlement based on actual metered values against provisional values from profiled metering points.
Released capacity allocation	The process concerns the notification of capacity rights that are being released.
Proposed capacity allocation	The process concerns the proposed capacity to be allocated for a given border.
Agreed capacity allocation	The process concerns the capacity that has been agreed for allocation for a border.
Long term	The process concerns scheduling all schedules except daily and intraday contracts.
Post scheduling adjustment	The process concerns the adjustments made to previous schedules after the period of execution.

Forecast	The data contained in the document are to be handled in short, medium, long term forecasting process.
Capacity determination	The process of determining the capacity for use.
Realised	The process for the treatment of realised data as opposed to forecast data.
Schedule day	The process concerns the day ahead, intraday and eventually ex-post scheduling in a single document. The schedule will be transferred within the total position including historic information.
Intraday total	This process concerns an intraday schedule which contains the accumulated day ahead and intraday current position.
Intraday accumulated	This process concerns a single intraday schedule process where only intraday evolutions occur through version changes.
SOMA process	System Operator meter alignment process.
SOVM process	System Operator validated measurement process.
RGCE accounting process	The document provides ENTSO-E Regional Group Continental Europe accounting process information.
CCSR RGCE Settlement	The process concerns the control center settlement report for the whole of the ENTSO-E Regional Group Continental Europe.
CBSR Settlement	The process concerns the control block settlement report.
CASR Settlement	The process concerns the control area settlement report.
Outage information	The process concerns TSO publication of outages on its power system.
Reserve resource process	The process being described is for general reserve resources.
Primary reserve process	The process being described is for primary reserves.

Secondary reserve process	The process being described is for secondary reserves.
Tertiary reserve process	The process being described is for tertiary reserves.
Week ahead	The process being described is for the week ahead.
Month ahead	The process being described is for the month ahead.
Year ahead	The process being described is for the year ahead.
Contracted	The process being described is for contracted information.
Network information	The process being described is for network information.
Creation	The process being described is for the creation of information.
Modification	The process being described is for the modification of information.
Deactivation process	The process being described is for deactivation of information.
Synchronisation process	The process being described is for the synchronisation of information.
Intraday process	The process being described is for intraday process.
Redispatch process	The process being described is for redispatch activation.
Activation history process	The process being described is for the provision of an activation history.
Flow based domain constraint day-ahead	The information provided concerns the flow-based process in day ahead.
Flow based domain	The information provided concerns the flow-based process in intraday.

constraint intraday	
Two days ahead	Two days ahead.
Replacement reserve	A process being described is for replacement reserves (RR) to restore or support the required level of frequency restoration reserves.
Manual frequency restoration reserve	A process being described is for manual frequency restoration reserves (mFRR).
Day-ahead capacity determination	The process run at the day-ahead timeframe to determine the capacity for use.
Intraday capacity determination	The process run at the intraday timeframe to determine the capacity for use.
Long term capacity determination	The process run at the long term timeframe to determine the capacity for use.
Automatic frequency restoration reserve	A process being described is for automatic frequency restoration reserves (aFRR).
Frequency containment reserve	A process being described is for frequency containment reserves (FCR).
Common Grid Model (CGM) merging process	The process for merging individual grid models to form the common grid model.
Coordinated security analysis	The process being described is used for coordinated security analysis.
Exchange of master data	A process for exchanging master data.
Frequency restoration reserve	The process being described is for general frequency restoration reserve.
FSKAR settlement	The information provided concerns the Financial Settlement of K?f, ACE and ramping period settlement for a given period.

mFRR capacity market	Processes related to the Reserve option market to assure that there are enough available reserves for the manual FRR market.
Internal trade reporting	The process related to internal trade reporting.
Scheduled activation mFRR	mFRR being subject to scheduled activation.
Direct activation mFRR	mFRR being subject to direct activation.
Registration	A process related to the registration and management of object information.
Imbalance Netting	The process described is for imbalance netting.
Criteria application for instantaneous frequency	The process describes criteria application for instantaneous frequency.
Criteria application for frequency restoration	The process describes criteria application for frequency restoration.
Cost sharing	The process describes the cost sharing process for costly remedial actions.
Central selection aFRR	aFRR subject to central selection of bids for activation.
Local selection aFRR	aFRR subject to local selection of bids for activation.
Common grid model alignment	The process for aligning bidding zone net positions.
Pan-European verification function	The process for verifying bidding zone net positions.
Outage planning coordination	The process being described is used for outage planning coordination.
Short term adequacy	The process being described is used for short term adequacy calculations.

Coordinated capacity calculation	The process being described is used for coordinated capacity calculation.
---	---

AccumulationKind

CEEDS_ESMP.Enums

Kind of accumulation behaviour for read / measured values from individual end points.

none	Not applicable, or implied by the unit of measure.
bulkQuantity	<p>A value from a register which represents the bulk quantity of a commodity. This quantity is computed as the integral of the commodity usage rate. This value is typically used as the basis for the dial reading at the meter, and as a result, will roll over upon reaching a maximum dial value.</p> <p>Note 1: With the metering system, the roll-over behaviour typically implies a roll-under behavior so that the value presented is always a positive value (e.g. unsigned integer or positive decimal.) However, when communicating data between enterprise applications a negative value might occur in a case such as net metering.</p> <p>Note 2: A 'bulkQuantity' refers primarily to the dial reading and not the consumption over a specific period of time.</p>
continuousCumulative	<p>The sum of the previous billing period values and the present period value.</p> <p>Note: 'continuousCumulative' is commonly used in conjunction with 'demand', and it would represent the cumulative sum of the previous billing period maximum demand values (as occurring with each demand reset) summed with the present period maximum demand value (which has yet to be reset.)</p>
cumulative	<p>The sum of the previous billing period values.</p> <p>Note: 'cumulative' is commonly used in conjunction with "demand." Each demand reset causes the maximum demand value for the present billing period (since the last demand reset) to accumulate as an accumulative total of all maximum demands. So instead of 'zeroing' the demand register, a demand reset has the effect of adding the present maximum demand to this accumulating total.</p>
deltaData	<p>The difference between the value at the end of the prescribed interval and the beginning of the interval. This is used for incremental interval data.</p> <p>Note: One common application would be for load profile data, another use might be to report the number of events within an interval (such as the number of equipment energisations within the specified period of time.)</p>
indicating	<p>As if a needle is swung out on the meter face to a value to indicate the current value.</p> <p>Note: An 'indicating' value is typically measured over hundreds of milliseconds or greater, or may imply a "pusher" mechanism to capture a value. Compare this to 'instantaneous' which is measured over a shorter period of time.</p>
summation	A form of accumulation which is selective with respect to time.

Note : 'summation' could be considered a specialisation of 'bulkQuantity' as it selectively accumulates pulses over a timing pattern (while 'bulkQuantity' accumulates pulses all of the time).

timeDelay	A form of computation which introduces a time delay characteristic to the data value.
instantaneous	Typically measured over the fastest period of time allowed by the definition of the metric (usually milliseconds or tens of milliseconds.) Note: 'instantaneous' was moved to attribute #3 in Ed.2 of IEC 61968-9, from attribute #1 in Ed.1 of IEC 61968-9.
latchingQuantity	<p>When this description is applied to a metered value, it implies that the value is a time-independent cumulative quantity much like a 'bulkQuantity', except that it latches upon the maximum value upon reaching that value. Any additional accumulation (positive or negative) is discarded until a reset occurs.</p> <p>Note: A 'latchingQuantity' may also occur in the downward direction – upon reaching a minimum value. The terms 'maximum' or 'minimum' (for 'aggregate') will usually be included when this type of accumulation behaviour is present.</p> <p>When this description is applied to an encoded value (UOM= 'Code'), it implies that the value has one or more bits which are latching. The condition that caused the bit to be set may have long since evaporated.</p> <p>In either case, the timestamp that accompanies the value may not coincide with the moment the value was initially set.</p> <p>In both cases a system will need to perform an operation to clear the latched value.</p>
boundedQuantity	A time-independent cumulative quantity much like a 'bulkQuantity' or a 'latchingQuantity', except that the accumulation stops at the maximum or minimum values. When the maximum is reached, any additional positive accumulation is discarded, but negative accumulation may be accepted (thus lowering the counter.) Likewise, when the negative bound is reached, any additional negative accumulation is discarded, but positive accumulation is accepted (thus increasing the counter.)

AggregateKind

CEEDS_ESMP.Enums

Kind of aggregation for read / measured values from multiple end points.

none	Not applicable.
average	The value represents average.
excess	The value represents an amount over which a threshold was exceeded.
highThreshold	The value represents a programmed high threshold.
lowThreshold	

The value represents a programmed low threshold.

maximum The highest value observed.

minimum The smallest value observed.

nominal The nominal value.

normal The normal value.

secondMaximum The second highest value observed.

secondMinimum The second smallest value observed.

thirdMaximum The third highest value observed.

fourthMaximum The fourth highest value observed.

fifthMaximum The fifth highest value observed.

sum The accumulated sum.

CommodityKind

CEEDS_ESMP.Enums

Kind of commodity being measured.

H2

none Not Applicable

electricitySecondaryMetered All types of metered quantities. This type of reading comes from the meter and represents a “secondary” metered value.

electricityPrimaryMetered	It is possible for a meter to be outfitted with an external VT and/or CT. The meter might not be aware of these devices, and the display not compensate for their presence. Ultimately, when these scalars are applied, the value that represents the service value is called the “primary metered” value. The “index” in sub-category 3 mirrors those of sub-category 0.
communication	A measurement of the communication infrastructure itself.
air	
insulativeGas	(SF6 is found separately below.)
insulativeOil	
naturalGas	
propane	
potableWater	Drinkable water
steam	Water in steam form, usually used for heating.
wasteWater	(Sewerage)
heatingFluid	This fluid is likely in liquid form. It is not necessarily water or water based. The warm fluid returns cooler than when it was sent. The heat conveyed may be metered.
coolingFluid	The cool fluid returns warmer than when it was sent. The heat conveyed may be metered.
nonpotableWater	Reclaimed water – possibly used for irrigation but not sufficiently treated to be considered safe for drinking.
nox	Nitrous Oxides NOX
so2	Sulfur Dioxide SO2

ch4	Methane CH4
co2	Carbon Dioxide CO2
carbon	
hch	Hexachlorocyclohexane HCH
pfc	Perfluorocarbons PFC
sf6	Sulfurhexafluoride SF6
tvLicence	Television
internet	Internet service
refuse	trash

ReasonCodeTypeList

The coded motivation of an act.

ESMPEnumerations

Errors not specifically identified	This code is used to identify errors that have not been specifically addressed in the Reason code list. It can be used at any level and refers to the level for which it has been identified.
Message fully accepted	The message has been fully accepted for application processing.
Message fully rejected	No part of the message has been accepted for application processing, e.g. Global position incomplete.
Message contains errors at the time series level	Part of the message contents, i.e. certain time series, has been accepted for application processing. It is necessary to look at the time series level to determine the time series that have been rejected. The time series is excluded from the global position.

Time interval incorrect	The schedule time interval is not within the contractual agreement or the period does not agree with the schedule time interval.
Sender without valid contract	The sender has no current valid contract with the TSO. The message consequently will be fully rejected.
Schedule accepted	The schedule of the recipient as presented has been completely accepted.
Schedule partially accepted	The schedule of the recipient as presented has been partially accepted. It is necessary to look at the time series level to determine the changes (time series rejected, modified, etc.).
Schedule rejected	The schedule of the recipient as presented has been totally rejected. The cause could be the non presentation of a counter part for the involved trades.
Time series not matching	Time series mismatches.
Credit limit exceeded	The contractual credit limit has been exceeded and as such the message has been rejected.
Time series fully rejected	The time series has been fully rejected. In the case of a confirmation report, this reason code is used in conjunction with either A26 or A30.
Time series accepted with specific time interval errors	The time series has been accepted but some time interval quantities have been rectified or zeroed out.
In party/Out party invalid	There is no contract for the parties indicated or the rules for cross border nominations are not being respected. The time series has been rejected.
Area invalid	The area is unknown or not allowed. The time series has been rejected.
A24 not applicable	This code is no longer applicable.
A25 not applicable	This code is no longer applicable.
Default time series applied	The time series has been rejected and replaced with a default time series profile. This reason code may not be used in conjunction with A30.

Cross border capacity exceeded	The cross border capacity has been exceeded. The time series has been rejected or adjusted.
Counterpart time series missing	This provides an indication that the time series has not got a counterpart time series. In the case of an Intermediate Confirmation Report this is advising the recipient that the time series may be rejected at nomination closure if the counterpart time series is not received. In the case of a Final Confirmation Report this is informing the recipient that the time series has been rejected because the counterpart time series has not been forthcoming.
Counterpart time series quantity differences	The time series has been rejected as it does not match that of the counterpart who is considered by market rules to be correct.
Imposed Time series from nominated party's time series (party identified in reason text)	The nominated party's time series has replaced the current time series. This reason code may not be used in conjunction with A26.
Resolution inconsistency	The resolution is not coherent with the time interval, or resolution not valid.
Quantity inconsistency	The quantity is not coherent. For example a time period with the same version number but different quantities or an non permitted number of digits after the decimal point, etc.
Quantity increased	The quantity has been increased in order to satisfy minimum constraints.
Quantity decreased	The quantity has been decreased in order to satisfy congestion constraints.
Default quantity applied	The default quantity has been applied as the current quantity does not satisfy contractual obligations.
Quantities must not be signed values	The quantity proposed is illegal since signed values are only permitted in specific circumstances.
A47 not applicable	This code is no longer applicable.
Modification reason	In an intraday transmission, the reason for the modification is as follows (in the reason text).
Position inconsistency	A position is missing or too many.

Senders time series version conflict	There is an error in the sender time series version, i.e. it could be superior to the message version or is inconsistent with the existing data. The time series has been rejected.
Message identification or version conflict	The message identification is already in the receiving system. Or a higher version already exists. Message rejected.
Time series missing from new version of message	A time series is not contained in a new version of the message. Message rejected.
Receiving party incorrect	The receiving party is incorrect. Message rejected.
Global position not in balance	The message does not balance out to zero. Market rules might require that the message is rejected.
Time series identification conflict	The identification of the time series is duplicated or incorrect. Time series will be rejected.
Corresponding Time series not netted	All corresponding time series must be netted. Time series rejected.
Deadline limit exceeded/Gate not open	The deadline for receiving schedule messages has passed. Message or time series rejected.
One to one nomination inconsistency	There is a one to one nomination inconstancy with the in/out parties or areas. Time series rejected.
Not compliant to local market rules	The level in which this is identified is not in compliance with local market rules. The level in question has been rejected.
Inter-area transit schedule exceeds nominated schedule	The inter-area transit schedule exceeds the nominated schedule for the same time interval. The inter-area transit schedule is rejected.
Currency invalid	The currency is not in compliance with ISO 4217.
Invalid business type	The business type does not belong to the valid set of business types for the process in question.

Time Series modified	The time series has been modified.
Resource Object Invalid	The Resource Object defined in the document is not valid.
Reserve object Technical limits exceeded	Reserve objects aggregated values are not within technical/prequalified limits
Planned reserves do not correspond with contractual data	Planned reserves do not correspond with contractual data.
Limit Data is not available	Limit Data is not available.
Reserve Object not qualified for reserve type	Reserve Object is not qualified for reserve type.
Mandatory attributes missing	Mandatory attributes missing.
Curtailment	The capacity in question has been curtailed.
Linked bid rejected due to associated bid unsuccessful	The bid in question has been rejected because an associated bid has been unsuccessful.
Original bid divided to permit acceptance	The original bid quantity has been divided to enable it to be accepted.
Bid accepted	The bid in question has been accepted.
Auction Status	The information in the Reason Text provides auction status information.
Right status information	The information in the Reason Text provides status information concerning the transmission rights in question.
Agreement identification inconsistency	There is an inconsistency between the contract type and the agreement identification.

Dependency matrix not respected	There is an inconsistency between the document contents and the dependency matrix.
Sender identification and/or role invalid	The identification of the sender or the sender/role combination is invalid.
Process type invalid	The process type does not figure in the list of valid process types for this document.
Domain invalid	The domain does not figure in the list of valid domains for this document and process.
Matching period invalid	The period is not within the expected limits.
In/Out area inconsistent with domain	The in and out area does not figure within the domain specified.
Disagree with matching results	The matching results provided are not consistent.
Confirmation ignored due to higher version already received	The report has been ignored since a higher version has been received.
Confirmation without adjustment (time series have been matched without change)	The report has been successfully matched without any changes.
Confirmation with adjustment (time series have been modified)	The report has been matched but required adjustment.
For action (only in intermediate confirmation - time series need mutual agreement and action)	The report in question is only for action in an intermediate stage.
Time series matched	The time series has been successfully matched.

Time series ignored (note: this can only apply to time series that are set to zero - see matching principles)	The time series has been ignored and not matched since it does not figure in a counterparty transmission. All are correctly equal to zero.
Modification proposal (intermediate confirmation)	The document is a proposal for change before finalization.
Expected document not received	The document that is expected has not been received within the expected timeframe.
Not possible to send document on time, but estimated delivery time is provided	The document that is due cannot be transmitted within the required timeframe. An estimated time of transmission is provided.
Not possible to send document on time, and furthermore no expected time of return to normal situation	The document that is due cannot be transmitted within the required timeframe. The time of transmission of the document is unknown.
Document cannot be processed by receiving system	The receiving system cannot process that document in question.
Complementary information	Additional text is provided in order to further explain a condition, for example to provide details of an outage.
Technical constraint	A technical constraint has been applied.
Force majeure curtailment	Curtailment due to Force Majeure. A code that enables the identification of the curtailment reason for settlement purposes.
Network security curtailment	Curtailment due to network security reasons A code that enables the identification of the curtailment reason for settlement purposes.
Auction cancelled	The auction has been cancelled.
Incomplete document	The document is incomplete and cannot be processed.

Accounting Point (tie-line) Time Series missing	The document is incomplete as a time series for an accounting point is missing.
Meter data Time series missing	The document is incomplete as a time series for meter data is missing.
Estimated values not allowed in first transmission	The document is in its initial form and estimated values are not allowed.
No quantity values allowed for a quality that is not available	No quantity values are allowed for a quality that is not available.
Time series accepted	Time series accepted.
Auction without bids being entered	The auction has terminated without any bids being submitted. The ReasonText may provide the identification of the auction in question.
Data not yet available	It is not possible to perform the necessary action since the required data for this action is not yet available.
Bid not accepted	The bid in question has not been accepted.
Initiator area problem	The problem concerns the initiator area.
Cooperating area problem	The problem concerns the cooperating area.
Communication status currently active	The status within the system indicates that the communication capability is currently active.
Communication status currently inactive	The status within the system indicates that the communication capability is currently inactive.
Communication status currently restricted	The status within the system indicates that the communication capability is currently restricted.

Problem associated with both areas	The problem concerns both areas.
Tender unavailable in MOL list	A tender that has been requested is no longer available in the MOL.
Price based on preliminary exchange rate	The price is based on a preliminary exchange rate.
Failure	A failure has occurred.
Foreseen maintenance	Maintenance is foreseen.
Shutdown	A shutdown has occurred.
Official exchange rate approved	The official exchange rate has been approved.
System regulation	The information provided regards a regulation for system purposes.
Frequency regulation	The information provided regards a regulation for frequency purposes.
Load flow overload	Situation in the grid, where loading of a certain grid element, e.g. overhead line, is above defined technical limits.
Voltage level adjustment	A TSO activity to maintain an acceptable voltage profile throughout the network. This is achieved by balancing of the respective reactive power requirements of the network and the customers.
Emergency situation curtailment	Curtailment due to emergency situation. A code that enables the identification of the curtailment reason for settlement purposes.
Calculation process failed	The calculation has not been performed.
No capacity constraint impact on the market	The market position is such as no capacity constraint is applied to limit the cross border exchanges.

Special Condition	Special condition need to be fulfilled.
Unverified	Missing or not validated data.
Verified	Data has successfully passed the verification process.
CGM inconsistency	Describes an element which was not found in the CGM.
Network dictionary inconsistency	Describes an element which was not found in the network dictionary.
Capacity reduced by TSO	Describes a capacity that was reduced by a TSO.
Overload	Describes an N-k or N state overload.
GLSK limitation	Describes a situation in which there is not enough power adjustment in the GLSK file to cover the capacity.
Voltage constraint	Describes an N-k or N state voltage violation.
Angle constraint	Describes an N-k or N state angle violation.
Stability	Describes a situation in which the dynamic behaviour of the network violated.
Loadflow divergence	Describes a network situation in which the provided capacity values are part of a load flow divergence situation.
Exclusion for SoS reasons	This is the adjustment applied to the capacity of a branch to have a minimum RAM (Remaining Available Margin) available for commercial exchanges.
Constraint by the market	A constraint due to market restrictions.
Ordinary	The contingency is ordinary (methodology for coordinating operational security analysis, article 6).

Exceptional	The contingency is exceptional (methodology for coordinating operational security analysis, article 6).
Out of range	The contingency is out of range (methodology for coordinating operational security analysis, article 6).
Internal congestion	A temporary congestion within a bidding zone or scheduling area.
Operational security constraints	Operational security constraints identified by TSOs.
Estimated value	Describes a situation where a calculation process has failed and extrapolated or interpolated values will be applied.
Balancing	Activated for balancing purposes.
Values shared	Values of this time series are also valid for counter-party.
Outside price limits	The offered price is not within the valid limits.
Previous timeframe data	In case of processing issue, sent data are based on the previous timeframe.
MOL merging successful	The merging of the Merit Order List has been successfully processed.
MOL merging failed	The merging of the Merit Order List has failed.
Because of redispatching	Because of redispatching according to Article 2(26) of Commission Regulation (EU) 543/2013
Because of countertrading	Because of countertrading according to Article 2(13) of Commission Regulation (EU) 543/2013
Because of other remedial action	Not available because of any remedial action.
Insufficiency of reserves	The reserve capacity is not sufficient.

Unavailability of reserve providing unit	The unit providing the reserve is subject to technical unavailability.
Unavailability of automatic protection systems	Unavailability of tools to detect predetermined system conditions that have a high probability of causing unusual stress on the power system, for which pre-planned remedial action is considered necessary or for which automatic protective actions may be triggered such as special protection schemes or automatic load shedding.
Physical cable or converter restrictions	Limitation due to physical cable or converter restrictions.
Constraints in controller systems	Limitation due to constraints in controller systems.
Adjusted because of expected violation of operational security	The capacity is adjusted because of an expected violation of operational security limits of physical transmission assets.
Adjusted because already considered remedial actions are assessed as not sufficient	The capacity is adjusted because the remedial actions were assessed as not sufficient or ineffective to avoid the expected violation of operational security limit(s).
Time series partially accepted	The time series is partially accepted.
Demand fully netted	Demand was fully netted against other demand(s).
Bid activated in same direction	One or several bids were activated in the same direction within the same uncongested area as the demand.
Optimization in progress	The activation optimisation framework is being executed.

BusinessTypeList

The exact business nature identifying the principal characteristic of a time series.

Production

The nature of the business being described is production details.

ESMPEnumerations

Internal trade	The nature of the business being described is internal trade details.
External trade explicit capacity	The nature of the business being described is external trade details between two areas with limited capacity requiring a capacity agreement identification.
Consumption	The nature of the business being described is consumption details.
External trade total	The nature of the business being described is external trade total.
External trade without explicit capacity	The nature of the business being described is external trade details between two areas without requiring capacity allocation information.
Net Production / Consumption	Net production/consumption - where signed values will be used. With the following rules: In area=Out area, In party=Out party, + means production and - means consumption.
Net internal trade	Net internal trade - where the direction from out party (seller) to in party (buyer) is positive and the opposite direction is negative (with minus signs).
IPP (Independent Power Producer)	A time series concerning the production schedule from an IPP.
Tertiary control	A time series concerning tertiary reserve.
Primary control	A time series concerning primary reserve.
Secondary control	A time series concerning secondary reserve.
Load profile	A time series concerning a load profile as calculated by a metered data aggregator.
Aggregated energy data	A time series concerning adjusted metered readings received from a metered data collector and aggregated and validated by a metered data aggregator.
Losses	A time series concerning losses that have been calculated for a tieline or an area.

Transits (CBT)	A time series concerning inter area transit flows determined for CBT requirements.
Settlement deviation	A time series concerning the imbalance energy calculated by an imbalance settlement responsible.
Technical constraint deviation	A time series defining the imbalance between schedules accepted by the system operator due to technical constraints and schedules declared by the balance responsible party.
Balance energy deviation	A time series defining the imbalance between the schedule of a balance responsible party that has been corrected by the system operator after using balance energy bids and the schedule that was accepted by the system operator due to technical constraints.
Imbalance volume	A time series defining the imbalance between the actual meter readings and the schedule of the balance responsible party corrected by the system operator after using balance energy bids.
Unintended energy	A timeseries concerning the volume of an unintended cross-border exchange of energy.
Frequency control	A time series concerning primary and secondary reserve.
Balance management	A time series concerning energy balancing services.
Total trade	A time series concerning the total of both the internal and external trades.
General Capacity Information	A time series providing the total capacity available on a TSO border.
Available transfer capacity (ATC)	Available transfer capacity for cross-border exchanges.
Net transfer capacity (NTC)	Net transfer capacity for cross-border exchanges.
Control Area Program	A time series providing the total exchanges between two TSOs (including the commercial transactions, the compensation program and the losses compensation program). Note this definition might change when UCTE brings forward its coding requirements.
Already allocated	The already allocated capacity is the total amount of allocated transmission rights.

capacity (AAC)	
Internal inter area trade	A trade that occurs between internal areas within a market balance area.
Offered Capacity	The time series provides the offered capacity.
Capacity transfer notification	The time series provides information concerning the notification of the transfer of capacity to another market participant.
Authorised AAC	The time series in question provides the amount of transmission capacity rights to be nominated.
Capacity rights	The time series in question provides the capacity rights allocated for a given border.
Minimum authorised AAC	The time series in question provides the minimum amount of transmission capacity rights to be nominated.
Maximum authorised AAC	The time series in question provides the maximum amount of transmission capacity rights to be nominated.
Installed generation	The time series in question provides the installed generation.
Available generation	The time series in question provides the available generation.
Interconnection Trade Responsible Designation	The Time series in question provides the designation of the ITR that may nominate the capacity in question.
Released AAC	The already allocated capacity (AAC) that has been released for resale.
Requested capacity (with price)	The time series in question provides information concerning the requested capacity including price information.
Requested capacity (without price)	The time series in question provides information concerning the requested capacity but excludes price information.
Compensation program	Compensation of unintentional deviation is performed by exporting to / importing from the interconnected system during the compensation period by means of schedules as calculated during the accounting of unintentional deviations.

Schedule activated reserves	The cross border or internal reserves that are to be activated through schedule nomination.
System Operator redispatching	The cross border redispatching between System Operators that are to be activated through schedule nomination.
Market capacity price	The price of the capacity offered on a given market.
Market capacity price differential	The difference between the price of capacity in a Market Balance Area receiving the capacity (In Area) and the price of capacity in a Market Balance Area providing the capacity (Out Area), i.e. In Area Price - Out Area price.
Inflow	The volume of water that flows into a reservoir in a given interval.
Water extraction	The volume of water that can be extracted from a reservoir in a given interval.
Turbined water	The volume of water that can be turbined in a plant in a given interval.
Water spillage	The volume of water that is not turbined going through the spillway in a given interval.
Planned maintenance	Maintenance has been planned for the object in question with a forecast ending date.
Unplanned outage	An unplanned outage has occurred on the object in question.
Use it Or Sell it (UIOSI) pricing	The time series provides information on the capacity resold in the "use it or sell it" process and its corresponding price.
Compensation for auction cancellation where capacity is for resale	The time series provides information on the compensation of the capacity for resale following an auction cancellation.
Resale pricing	For each Physical Transmission Rights holder, this document contains the resold capacity and its corresponding price.
Curtailed capacity compensation	The time series provides information to compensate a party when curtailment is applied on the capacity obtained in a previous auction, resale or transfer.

Use it Or Sell it (UIOSI) compensation	The time series provides information on the compensation for the capacity following an auction cancellation.
Minimum possible	The time series provides a schedule of minimum possible values for a Resource Object. The nature of the flow could be defined by the attribute Direction.
Maximum available	The time series provides a schedule of maximum available values for a Resource Object. The nature of the flow could be defined by the attribute Direction.
Spot price	The time series provides the market spot prices from an auction.
Minimum ATC	The Available Transmission Capacity that must be guaranteed because of regulatory constraints.
Meter Measurement data	The data as provided for a meter measurement source.
Accounting Point Relevant data	The metered data that is to be considered relevant for accounting purposes.
Energy flow	Energy flow information.
Power plant energy Schedule	Energy flow scheduled for a power plant.
Compensation Requirements for the compensation period	The time series provides the compensation requirements for a given compensation period.
Market coupling results	The time series provides the results of a market coupling auction.
Production, unavailable	Production capacity that normally would be available, but due to maintenance or similar is temporarily unavailable.
Supplementary available generation	The supplementary generation that is available.
Interruptible consumption	The consumption that may be interrupted on request.

Summarised Market Balance Area Schedule	A time series providing the total exchanges based on commercial transactions between two Market Balance Areas.
Load Frequency Control Program Schedule	A time series providing the schedule information for the Load Frequency Control Program.
Timeframe Independent Schedule	A time series providing the total exchanges of Timeframe Independent Schedules between two System Operators.
Consumption curtailment	A time series providing the amount of voluntary consumption curtailed by the energy supplier of an end-consumer.
Production, dispatchable	The nature of the business being described is dispatchable production details, i.e. generation output that can be changed by a request (activation order) of the TSO according with the applicable Market Rules.
Consumption, dispatchable	The nature of the business being described is dispatchable consumption details, i.e. consumption output that can be changed by a request (activation order) of the TSO according with the applicable Market Rules.
Production, non-dispatchable	The nature of the business being described is non-dispatchable production details, i.e. generation output that cannot be modified by an activation order.
Consumption, non-dispatchable	The nature of the business being described is non-dispatchable consumption details, i.e. consumption output that cannot be modified by an activation order.
Total Transfer Capacity (TTC)	The Total Transfer Capacity is the maximum exchange program between two areas compatible with operational security standards applicable at each system if future network conditions, generation and load patterns were perfectly known in advance.
Mutual Emergency Assistance Service (MEAS)	The cross border Mutual Emergency Assistance Service between System Operators that are to be activated through schedule nomination.
Auction cancelation	The time series covers auction cancellation right.
Nomination curtailment	The time series covers nomination curtailment rights
Internal redispatch	Redispatch to relieve Market Balance Area internal congestion.

Control area balance energy	A sum of secondary, tertiary control as well as other energy that was used to balance a control area.
Balancing energy price	Price of energy used to balance.
Economised secondary reserve	The activated secondary reserve that had been economised due to pooled reserve management.
Spinning reserve	The extra generating capacity that is available by increasing the production of generators that are already connected to the power system.
Solar	The business being described concerns solar power.
positive forecast margin	The business being described concerns a positive forecast margin.
Negative forecast margin	The business being described concerns a negative forecast margin.
Wind generation	The business being described concerns wind generation.
Solar generation	The business being described concerns solar generation.
Frequency containment reserve	The business being described concerns frequency containment reserve.
Automatic frequency restoration reserve	The business being described concerns automatic frequency restoration reserve.
Manual frequency restoration reserve	The business being described concerns manual frequency restoration reserve.
Replacement reserve	The business being described concerns replacement reserve.
Financial information	The business being described concerns financial information.
Interconnector network	The business being described concerns interconnector network evolution.

evolution

Interconnector network dismantling	The business being described concerns interconnector network dismantling.
Counter trade	The business being described concerns counter trades.
Congestion costs	The business being described concerns congestion costs.
Capacity allocated (including price)	The business being described concerns capacity allocation and includes price information.
DC link constraint	The business being described concerns DC link constraints.
Auction revenue	The business being described concerns auction revenue.
Total nominated capacity	The business being described concerns the total nominated capacity.
Net position	The business being described concerns net position.
Congestion income	The business being described concerns congestion income.
Production unit	The business being described concerns a production unit.
Rounded market coupling results	Rounded outputs of the market coupling to be sent to TSOs and Market Participants.
Allocation Revenue	The time series provides information on the revenue generated by the allocations.
Production deviation	A time series concerning the imbalance energy between the metered production and the schedules calculated by an imbalance settlement responsible.
Consumption deviation	A time series concerning the imbalance energy between metered consumption and the forecasted consumption calculated by an imbalance settlement responsible.

Transmission asset	The business being described concerns a transmission asset.
Consumption unit	The business being described concerns a consumption unit.
In-feed ATC	Available Transfer Capacity at the in-feed side of a DC tieline.
Out-feed ATC	Available Transfer Capacity at the out-feed side of a DC tieline.
Balance up regulation price	A time series concerning balance regulation market prices for up regulation.
Balance down regulation price	A time series concerning balance regulation market prices for down regulation.
Main direction	A time series concerning the direction of balance regulations.
Consumption imbalance price	A time series concerning imbalance prices for consumption.
Production sales imbalance price	A time series concerning imbalance prices for production sales.
Production purchase imbalance price	A time series concerning imbalance prices for production purchase.
Average balance price between MBAs	A time series concerning the average prices between Market Balance Areas.
Pumped	A time series concerning the electricity consumption related to pumping.
Large installation consumption	A time series concerning consumption from large installation.
Metering Grid Area (MGA) imbalance	A time series concerning imbalance between reported consumption, production and exchange in a Metering Grid Area.

HVDC Link settings	The time series in question provides HVDC Link settings.
Transmission Reliability Margin (TRM)	A time series concerning Transmission Reliability Margin (TRM).
Imbalance component for a pool	This information is used to provide to a pool manager the combined imbalance of all the pool participants.
Area Control error (ACE)	The sum of the instantaneous difference between the actual and the set-point value of the measured total power value and Control Program including Virtual Tie-Lines for the power interchange of a LFC Area or a LFC Block and the frequency bias given by the product of the K-Factor of the LFC Area or the LFC Block and the Frequency Deviation.
Area Control Error after Imbalance Netting	A time series concerning the Area Control Error after applying the imbalance netting energy correction.
Implicit and explicit trade total	The sum of cross border schedules based on implicit and explicit trades including long term, yearly, monthly, weekly, daily processes.
Production units own consumption	The consumption of one or more production units.
Constraint situation	The timeseries describes the constraint situation for a given TimeInterval. A constraint situation can be: <ul style="list-style-type: none">- composed of a list of network elements in outage associated for each outage to a list of network elements on which remedial actions have been carried out accordingly to contingency process- or it can be an external constraint.
Initial domain	The timeseries describe the full flow based domain for a given TimeInterval. Critical network elements are displayed in details and their impact on the market is quantified.
Flow based domain adjusted to long term schedules	The timeseries describe the full flow based domain for a given TimeInterval adjusted to the latest update of the schedules. Critical network elements are displayed in details and their impact on the market is quantified.
Network element constraint	The timeSeries describes limiting elements which are overloaded.
Calculation opposition (Red Flag)	The timeSeries describes a party who is opposed to the calculation result and imposes its transfer capacity value.

Base case proportional shift key	The GSK or LSK are proportional to the base case generation or load.
Proportional to participation factors shift key	The GSK or LSK are proportional to the participation factors.
Proportional to the remaining capacity shift key	The GSK is proportional to the remaining available capacity.
Merit order shift key	The GSK is proportional to a merit order list.
Wind speed	The TimeSeries provides information on the wind speed.
Wind direction	The TimeSeries provides information on the wind direction.
Solar irradiance	The TimeSeries provides information on the power per unit area produced by the sun in the form of electromagnetic radiation.
Air temperature	The TimeSeries provides information on the air temperature.
Cloudiness	The TimeSeries provides information on the cloudiness, i.e. the level of coverage of the sky with clouds.
Air humidity	The TimeSeries provides information on the level of humidity of the air.
Atmospheric pressure	The TimeSeries provides information on the atmospheric pressure.
Precipitation	The TimeSeries provides information on the amount of rain, snow, etc. that falls on the ground.
Network constraint situation that constraints the market	The TimeSeries describes the network elements, that constraints the market, to be taken into account to simulate a network constraint during the network load flow studies. The network situation includes the contingencies, the remedial actions, the monitored network elements and the potential additional constraints.
Contingency	The TimeSeries describes the network elements part of the contingency to be simulated for a given TimeInterval.

Remedial Action	The TimeSeries describes a set of remedial actions for a given TimeInterval.
Monitored Network Element	The TimeSeries describes the network elements to be monitored during the network load flow studies.
Busbar	The TimeSeries describes the network elements that composed a busbar.
Network Element	The TimeSeries describes network elements.
SPS	The TimeSeries describes the network elements managed by a Special Protection System (automation).
Aggregated netted external market schedule	The aggregated netted external market schedules for a given border.
Aggregated netted external TSO schedule	The aggregated netted external TSO schedules for a given border.
Aggregated netted external schedule	The aggregated netted external schedules for a given border.
Netted area AC position	The AC position for a given area.
Netted area position	The netted aggregation of all AC external schedules of an area plus the aggregated External Netted Schedules of related HVDC links of an area.
Interconnection shift key	The shift key series describes the amount of power to be shifted from a border area.
DC flow with losses	DC flow with losses refers to the values at the importing end of the DC line.
DC flow without losses	DC flow without losses refers to the values at the exporting end of the DC line.
minimum value of netted area position	That value which a netted area position must not fall below for a given area.

maximum value of netted area position	That value which a netted area position must not exceed for a given optimisation area.
maximum value of DC flow	That value which a balanced DC flow must not exceed for a given DC line on exporting end. When aligning DC flows CGMA algorithm will respect this constraint.
minimum value of DC flow	That value which a balanced DC flow must not fall below for a given DC line on exporting end. Currently this business type is only included for consistency reasons. It is always set to 0. This constraint might, however, be used in future. When aligning DC flows the CGMA algorithm will respect this constraint.
indicative AC flow	It is the hypothetical flow on the aggregate of all AC tie lines of an electrical border between two optimisation areas. It results from the adjustments to the preliminary netted area positions of all optimisation areas made by the CGMA algorithm. Indicative AC flows are an artefact of the CGMA algorithm, and do not correspond to physical flows
Offer	The time series provides an offer to provide reserves.
Need	The time series provides a requirement for reserves.
Opportunity costs or benefits	The time series describes any opportunity costs or benefits.
Financial compensation or penalties	The time series describes any financial compensation or penalties
Global radiation	The total short-wave radiation from the Global radiation is the total short-wave radiation from the sky falling onto a horizontal surface on the ground. It includes both the direct solar radiation and the diffuse radiation resulting from reflected or scattered sunlight.
Diffuse radiation	Radiation resulting from reflected or scattered sunlight.
Direct solar radiation	Radiation resulting from direct sunlight
Outage (OUT)	Outage process: Element is out of operation due to planned maintenance or due to an unplanned/forced outage. Outage may be used as a synonym for unavailability.
Special switching state (SSS)	Outage Process: This state applies to grid elements which are in operation in an exceptional state (e.g. separated nodes operation).

Testing (TEST)	Outage process: TESTING means any element status is possible - ON or OUT. This status applies either between first connection and final commissioning of the relevant asset, or directly following maintenance of the relevant asset.
Auxiliary busbar operation	Outage process: Element is in operation but connected via auxiliary busbar
Automatic reclosing	Outage process: Protection function Automatic reclosing is switched off for electric line
Busbar protection	Protection function busbar protection is switched off
Phase Shift Angle	The maximum phase shift angle allowed between two network elements.
Base Case Network Situation	The TimeSeries describes the network elements to be taken into account to simulate a base case network situation during the network load flow studies, without any contingency.
Inter-TSO assistance	Cross border assistance schedule between TSOs not interconnected directly.
FlexibleNeed	The business type indicates that the need is optional.
GLSK Limitation	A constraint related to a GLSK maximum or minimum limitation in the production or/and consumption shift.
Capacity ramping limitation	A constraint related to a ramping limitation on the capacity offered at a given border.
interconnector capacity	The maximum capacity that can be exchanged on an interconnector, excluding external factor on both ends.
Must Run	A time series concerning must run generation.
Procured capacity	An accepted offer of balancing capacity.
Used capacity	The used cross-zonal balancing capacity.
Estimated costs	Estimated costs of the process.

Estimated benefits	Estimated benefits of the process.
Load Shedding	A time series concerning a load shedding used to avoid failure of the power system.
Remaining Capacity	A time series concerning the remaining capacity.
Indicator of generation capacity adequacy	Indicator of adequacy, it indicates if there is final generation remaining capacity after SMTA calculation.
Income from price divergence without congestions	The time series describes income due to price divergence without congestion between bidding zones.
Push-button	The cross-border Push-button service between System Operators.
Intertripping	The cross-border Intertripping service between System Operators.
Emergency instruction	The cross-border Emergency instruction service between System Operators.
Ramp management	The schedule resulting from cross-border Ramp management service between System Operators.
Profile smoothing	The schedule resulting from cross-border Profile smoothing service between System Operators.
Emergency reallocation deselection	The schedule resulting from cross-border Emergency reallocation deselection service between System Operators.
SO-SO-trade	The generic cross border trade between System Operators.
Production reduction	A time series providing the volume of production reduced by an energy provider / producer / supplier.
Maximum power exchange	The timeseries provides the maximum admissible power flow between two bidding zones respecting operational security limits taking into account N-1 criterion.
Maximum power exchange	The timeseries provides the maximum admissible power flow between two bidding zones after remedial actions.

after remedial actions

Network constraint situation that cannot limit the market	The TimeSeries describes the network elements, that cannot limit the market, to be taken into account to simulate a network constraint during the network load flow studies. The network situation includes the contingencies, the remedial actions, the monitored network elements and the potential additional constraints.
Flat participation for all generators or loads	Flat GSK factors of all generators or loads, independently of the size.
Proportional to installed capacity of generators	Generators participate relative to their maximum (installed) capacity (MW).
Market price and total volume	A time series concerning market price and total volume.
Import price	A time series concerning import price (the volume-weighted price average of all accepted bids).
Capacity allocated (excluding price)	The business being described concerns capacity allocation and excludes price information.
Common Grid Model Equipment	The timeseries provides equipment related to the Common Grid Model (CGM).
Exchanged balancing reserve capacity	The balancing reserve capacity exchanged between areas.
Shared balancing reserve capacity	The balancing reserve capacity shared between areas.
Share of reserve capacity	A time series concerning the share of reserve capacity.
Actual reserve capacity	A timeseries concerning actual reserve capacity.
K-factor	K-factor as stated in the SO GL Art. 2 (45). It is also known as Frequency Bias.
Frequency Containment	FCR-N is a reserve that is automatically activated in both directions around a set point when the frequency varies between 50.10 Hz

Reserve-Normal (FCR-N)	and 49.90 Hz after an imbalance.
Frequency Containment Reserve-Disturbance (FCR-D)	FCR-D is a reserve that is automatically activated when the frequency falls below 49.90 Hz or rises above 50.1 Hz after an imbalance.
Internal trade difference	A time series concerning internal trade difference, within an area, such as a Bidding Zone or Scheduling Area. The internal trade difference is the difference between trades reported from an out party (seller) and an in party (buyer).
Small scale production	Production from small scale production plants.
System price	The system price is an unconstrained market clearing reference price. It is calculated without any congestion restrictions by setting capacities to infinity.
Wind gust	An increase in the speed of the wind lasting for a short period.
Area imbalance	A time series concerning imbalance between planned consumption, production and exchange in an Area.
Unintended energy price	A timeseries concerning the price of the unintended cross-border exchange of energy.
Frequency containment process energy	A timeseries containing the volume of energy resulting from the frequency containment process.
Frequency containment process energy price	A timeseries containing the energy price from the frequency containment process.
Ramping period energy	A timeseries containing the volume of energy exchanged as a result of ramping between different ANES values.
Ramping period energy price	A timeseries containing the price of the energy exchanged as a result of ramping between different ANES values.
Frequency deviation	A timeseries concerning the difference between the actual and the nominal frequency of a synchronous area.
Day-Ahead market price	A timeseries concerning Day-Ahead market prices.

Conditional bid	Standard product bid that is conditional on bids submitted outside of common platform.
Thermal limit	The current causing a given network element to work outside of the range of safe operating temperatures.
Frequency Limit	A constraint related to the containment of frequency deviations within a given area.
Voltage limit	The maximum or minimum permissible voltage within normal operation state of a given network element.
Current limit	The maximum permissible current within normal operation state of a given network element.
Short circuit current limit	The maximum permissible short-circuit current within normal operation state of a given network element.
Dynamic stability limit	A maximum permissible load ensuring the control of oscillations in the grid and avoiding the loss of synchronism.
Disconnection	A timeseries describing disconnection of a TSO from a common platform.
Intended energy with positive price	A timeseries concerning the amount of intended energy with prices higher than zero (and including zero).
Intended energy with negative price	A timeseries concerning the amount of intended energy with prices lower than zero (excluding zero).
Decoupling	A time series describing decoupling of an area.
Resource capacity unit	A timeseries containing information about resource capacity units.
Resource entry capacity data	A timeseries containing the resource capacity that can be allocated to an eligible resource capacity operator from another area.
Resource capacity obligation data	A timeseries containing the resource capacity operator obligation to guarantee delivery.
Available energy	A timeseries concerning the available energy.

Production curtailment	A timeseries concerning the curtailment of production.
Rounding error	A timeseries describing a rounding error.
Metered frequency	The timeseries provides information about metered frequency.
Adjusted TTC to the nominal criteria	The exchange program between two areas which guarantees that the Margin Available for Cross-Zonal Trade (MACZT) fulfils the nominal criteria at least on the most limiting Critical Network Element with Contingency (CNEC) which limits the transfer capacity.
Adjusted TTC to the nominal criteria with TSOs limitation	The exchange program between two areas which allows the Margin Available for Cross-Zonal Trade (MACZT) on, at least, the most limiting Critical Network Element with Contingency (CNEC) to get closer to the nominal criteria fulfilment with a limited impact on the rest of the network.
Frequency deviation larger than standard deviation	Total time in which the absolute value of the instantaneous frequency deviation was larger than the standard frequency deviation.
Frequency deviation larger than maximum deviation	Total time in which the absolute value of the instantaneous frequency deviation was larger than the maximum instantaneous frequency deviation.
Frequency deviation not returned to 50%	Number of events in which the absolute value of the instantaneous frequency deviation of the synchronous area exceeded 200 % of the standard frequency deviation as stated in SO GL (EU) regulation Art 131.1.a.vi.
Frequency deviation not returned to restoration range	Number of events in which the absolute value of the instantaneous frequency deviation of the synchronous area exceeded 200 % of the standard frequency deviation.
Frequency deviation outside recovery range	Number of events for which the absolute value of the instantaneous frequency deviation was outside of the frequency recovery range.
Frequency	A time series describing measurement frequency.
Mean value	A time series describing mean values.
Standard deviation	A time series describing standard deviation.

Percentile	A time series describing percentiles.
Measured frequency resolution	A time series describing the resolution of a measured frequency.
Accuracy	A time series describing measurement accuracy.
FRCE outside level 1 range	The number of time intervals in which the average value of the FRCE was outside the Level 1 FRCE range as stated in SO GL (EU) regulation Art 131.1.b.i.
FRCE outside level 2 range	The number of time intervals in which the average value of the FRCE was outside the Level 2 FRCE range as stated in SO GL (EU) regulation. Art 131.1.b.i.
FRCE exceeded 60% of FRR capacity	The number of events for which the FRCE exceeded 60 % of the reserve capacity on FRR as stated in SO GL (EU) regulation Art 131.1.b.ii.
FRCE exceeded steady state deviation	The number of events for which the absolute value of the FRCE exceeded the maximum steady-state frequency deviation.
FRCE calculation and accuracy descriptor	A time series describing how FRCE is calculated and its accuracy.
Forecasted capacity	A time series describing forecasted capacity.
Minimum available capacity	A time series describing minimum available capacity.
Average available capacity	A time series describing average available capacity.
Maximum available capacity	A time series describing maximum available capacity.
Frequency and accuracy descriptor	A time series describing how system frequency and accuracy are determined.
Long-Term internal	A time series describing long-term redispatch to relieve Scheduling Area internal congestion.

redispatch

Other unavailability	This is an unplanned unavailability. Not considered by market participants as a planned maintenance.
Faster than standard FAT	Bids that can support a “Full Activation Time” (FAT) that is faster than standard FAT. Fast activation can be done for bids with activation time shorter than the minimum requirement for the standard product. When circumstances call for it, the TSO can order activation of such bids on a shorter notice.
Faster than standard deactivation time	Fast deactivation can be done for bids with activation time shorter than the minimum requirement for the standard product. When circumstances call for it, the TSO can order activation of such bids on a shorter notice.
Slower than standard FAT	Bids that can support a Full Activation Time (FAT) that is slower than standard FAT.
Remedial action cost summary	A timeseries summarizing all incurred costs and/or revenues per party related to the activated remedial actions eligible to Cost Sharing.
Settlement result	A timeseries representing the cost sharing settlement results between parties (i.e. which party will be paying and/or receiving money for the concerned period).
Reserved cross zonal capacity	The reserved cross zonal capacity for system operator needs (EBGL art. 38(1)(b) and art. 41.).
Energy reserves	A timeseries describing energy reserves.
Combined dynamic constraint	The time series describes a combined dynamic constraint, being defined as a limit on the sum of power flows on a set of network elements or partial flows on a set of network elements for the purpose to respect dynamic stability limits.
Anonymised constraint	The time series describes an anonymised constraint.

EnergyProductTypeList***ESMPEnumerations***

The identification of the nature of an energy product such as power, energy, reactive power, etc.

Active power	The product of voltage and the in-phase component of alternating current measured in units of watts and standard multiples thereof.
---------------------	---

Reactive power	The product of voltage and current and the sine of the phase angle between them, measured in units of voltamperes reactive and standard multiples thereof. (not used for planned schedules).
Active energy	The electrical energy produced, flowing or supplied by an electrical circuit during a time interval, being the integral with respect to time of instantaneous active power, measured in units of watt-hours, or standard multiples thereof.
Reactive energy	The integral with respect to time of reactive power (not used for planned schedules).
Capacitive Reactive energy	Capacitive reactive energy.
Inductive Reactive energy	Inductive reactive energy.
Water	For hydro power stations, this enables the identification of the quantity of water stored behind a dam (volume, head level, etc.), or the constraints in the flow of water.
Capacitive reactive power	Capacitive reactive power.
Inductive reactive power	Inductive reactive power.

[MessageTypeList](#)

The coded type of a document. The message type describes the principal characteristic of a document.
This enumeration is used in the XML instances based on IEC 62325.

[ESMPEnumerations](#)

Balance responsible schedule	A schedule which has been prepared by a balance responsible party providing planned schedule information.
Allocated capacity schedule	A schedule which has been prepared by a capacity allocator providing allocated capacity.
Balance area schedule	A schedule that provides the planned schedule information for a balance area.

System Operator area schedule	A compilation of all external schedules concerning two System Operator areas or a connector concerning two System Operator of all balance responsible parties.
Control block area schedule	A compilation of all the exchange programs of all control areas for one control block with all neighbouring control areas of a neighbouring control block.
Coordination center area schedule	A compilation of the exchange programs of all exchange blocks divided into UCTE south and north.
Intermediate confirmation report	An intermediate confirmation report that may be produced between final cutoffs.
Final confirmation report	A final confirmation report that is produced after a final cutoff.
Finalised schedule	A compilation of a set of schedules that have been finalized after a given cutoff.
Regulation data report	A compilation of the time series employed on a given day to ensure the balance of the system.
Aggregated energy data report	A compilation of the time series of all the meter readings or their equivalent for a given period.
Imbalance report	The report containing the complete situation of a given period for a party and including the schedules, regulation data and actual or calculated readings.
Interconnection Capacity	Document for cross-border capacity exchanges.
Resource Provider Resource Schedule	A document providing the schedules for resource objects submitted by a resource provider.
Acquiring System Operator Reserve Schedule	A document providing reserve purchases submitted by an Acquiring System Operator.
Anomaly Report	A document providing anomaly information for the receiving party to correct.
Acknowledgement Document	A document providing acknowledgement information.

Confirmation report	A document providing confirmation information.
Capacity for Resale	A document providing information about capacity for resale.
Approved Capacity Transfer	A document to approve a capacity transfer.
Capacity transfer notification	A document notifying a capacity transfer.
Transmission rights portfolio	A document providing the portfolio of the transmission capacity rights of a market participant.
Allocations	A document providing the capacity allocations for a border.
Bid document	A document providing bid information.
Allocation result document	A document providing the allocation results of an auction.
Capacity document	A document providing capacity information.
Rights document	A document providing transmission capacity rights information.
Generation availability schedule	This document contains information related to energy availability.
Cross border schedule	This document contains the cross border schedules for all the borders of a given country where energy is exchanged.
Agreed capacity	The capacity agreed between parties.
Proposed capacity	The capacity proposed for agreement between parties.
System vertical load	The sum of all flows out of the transmission grid via directly connected transformers and lines to distribution grids and end consumers

as known by the System Operator.

Escalation document	A document which requesting the escalation of a situation.
Trouble shooting document	A document providing trouble shooting information for the resolution of a problem.
Deactivation document	A document providing deactivation information.
Reserve tender document	The document that is used for the tendering for reserves within the ERRP process.
Reserve Allocation Result Document	The document used to provide the results of a Reserve auction.
SATCR activation	The document is used to provide the activation of reserves through the SATCR process.
DATCR activation	The document is used to provide the activation of reserves through the DATCR process.
Activation response	The document is used to provide a response to a request to activate reserves.
Tender reduction	The document is used to provide information concerning the reduction of a previously submitted tender.
MOL Document	The document is used to provide Merit Order List information.
Price Document	The document is used to provide market price information.
Measurement Value Document	The document is used to provide measurement information from measurement devices.
SOAM Document	The document is used to provide system operator accounting data for matching.
SOVA Document	The document is used to provide system operator validated accounting data.
CCVA Document	The document is used to provide coordination center validated accounting data.

Daily settlement document	The document is used to provide daily settlement information.
Weekly settlement document	The document is used to provide weekly settlement information.
Capacity Auction Specification Document	The document is used to provide capacity auction specification information.
Market Coupling Results Document	The document is used to provide the results of a market coupling auction.
Outage publication Document	The document is used to provide the outage information for publication.
Forced generation outage Document	A document providing information on forced generation outages.
Summarised Market Schedule	A compilation of all external schedules concerning two Market Balance Areas of all balance responsible parties.
Compensation Program Schedule	A schedule that provides the schedule information for the compensation of unintended deviation.
Load Frequency Control Program Schedule	A schedule that provides the schedule information for the Load Frequency Control Program of a Control Area or a Control Block.
Timeframe Independent Schedule	A compilation of all external Timeframe Independent Schedules concerning two System Operators.
Information request	An information request being made concerning some specific information.
status request for a position independently from a specific process	A status request concerning the position of an object independently of any ongoing processes.
Estimated Net Transfer Capacity	The estimated net transfer capacity for a given border.

Compensation rights	The capacity rights that have been allocated as compensation.
Redispatch notice	A notice to confirm the actions agreed between System Operators to resolve a congestion situation through redispatch.
Tender reduction response	A response to a tender reduction request that provides corrections to the initial document.
System total load	Total load', including losses without power used for energy storage, is equal to generation deducted with exports, added with imports and deducted with power used for energy storage.
Final MOL	A document providing the information concerning the situation of the MOL at the end of an activation period.
Resource Provider Schedule for production/consumption	A document providing the schedules for production/consumption for resource objects submitted by a resource provider.
Installed generation per type	A document providing the installed generation per generation type.
Wind and solar forecast	A document providing the forecast of wind and solar generation.
Load forecast margin	A document providing the load forecast margin for a period.
Generation forecast	A document providing the generation forecast for a period.
Reservoir filling information	A document providing information concerning the filling of reservoirs.
Actual generation	A document providing the actual generation for a period.
Wind and solar generation	A document providing the generation of wind and solar energy for a period.
Actual generation per type	A document providing the actual generation per generation type for a period.

Load unavailability	A document providing the unavailability of units providing load on the network.
Production unavailability	A document providing the unavailability of production units providing energy to the network.
Transmission unavailability	A document providing the unavailability of transmission capacity on the network.
Offshore grid infrastructure unavailability	A document providing the unavailability of an offshore grid infrastructure to the network.
Generation unavailability	A document providing the unavailability of generation units providing energy to the network.
Contracted reserves	A document providing the reserves contracted for a period.
Accepted offers	A document providing the offers of reserves that have been accepted for a period.
Activated balancing quantities	A document providing the quantities of reserves that have been activated for balancing.
Activated balancing prices	A document providing the prices of the reserves that have been activated for balancing.
Imbalance prices	A document providing the prices of reserves due to imbalance for a period.
Imbalance volume	A document providing the volume of the imbalance for a period.
Financial situation	A document providing the financial situation for reserves.
Cross border balancing	A document providing the cross border balancing requirements for a period.
Contracted reserve prices	A document providing the price of reserves contracted for a period.

Interconnection network expansion	A document providing information on the expansion of the interconnection network.
Counter trade notice	A document providing information on counter trades for a period.
Congestion costs	A document providing the cost of congestion for a period.
DC link capacity	A document providing the DC links for a period.
Non EU allocations	A document providing allocations made to non EU member states.
Configuration document	A document providing configuration information.
Redispatch activation document	A document enabling the activation of a redispatch notice.
Detailed activation history document	A document enabling a detailed history of activations.
Aggregated activation history document	A document enabling an aggregated history of activations.
HVDC Link constraints	A document providing the information concerning the maximum and minimum active power flow through each link can limited.
HVDC Configuration	A document providing the information concerning the power set point. The mode in which the HVDC is managed.
HVDC Schedule	A document providing the information for operating DC links.
EIC code request	A document providing the information requesting a new EIC code.
EIC code information	A document providing EIC information in a central registry exchange or information to an EIC participant.
EIC code publication	A document providing EIC publication information in a web site publication of a limited set of information.

Critical network element determination	A document providing all the elements necessary for the capacity coordinator to determine the transfer capacity and the associated critical network elements.
Critical network element publication	A document providing all the elements necessary for the market information aggregator and TSOs to know the critical network elements which limit the transfer capacity.
Flow based domain	A document providing the capacity domain and its limits available for the TSO.
Flow based domain publication	A document providing the capacity domain and its limits available for the market.
Flow based domain market impact publication	A document providing the capacity domain and its impacts on the market to be published.
Anonymized flow based parameters publication	A document providing all the relevant flow based parameters in case of flow based capacity allocation.
Critical network element market impact publication	A document providing the critical network elements and its impacts on the market to be published.
Weather document	An estimation or prediction in advance of the weather by analysis of meteorological data and the results of what actually happened with the weather.
Energy prognosis document	A document to provide the prognosis of energy production/load for a given period.
Network constraint document	A document providing the network constraint situations used for the load flow studies. A network constraint situation includes contingencies, monitored elements and remedial actions.
Aggregated netted external market schedule document	A document used to report aggregated netted external market schedules for a given border.
Aggregated netted external TSO schedule document	A document used to report aggregated netted external TSO schedules for a given border.
Reporting status market	A document used to report the status of aggregated netted external market schedules, aggregated netted external TSO schedules and

document	compensation program schedules on a given border.
Reporting information market document	A document used to report the information concerning aggregated netted external schedules, aggregated netted external market schedules, aggregated netted external TSO schedules, compensation program schedules, netted area position schedules and netted area AC position schedules to an interested party.
Status request for a reporting information market document	A document requesting the provision of a reporting information document.
Reserve need document	Used by a TSO to send its reserve needs.
Generation and load shift keys document	A document providing the values of the generation and load shift keys to be used on network model.
Offers to be activated	A document containing the outcome of the process, with the list of offers that are to be activated by the TSO concerned and the results for its reserve needs.
Clearing price	A document containing the outcome of the process, with the clearing prices for a period.
Security analysis report	A document providing a report on a performed security analysis.
Aggregated netted external schedule document	A document used to report aggregated netted external schedules for a given border.
External TSO schedule	A document used to report external TSO schedules for a given border or interconnector.
Move of scheduled production	A document indication a move of scheduled production.
PS&LC results document	A document providing Pole Splitting & Loss Calculation results.
Notification data market document	A document used to notify data to any information receiver.
Additional Constraint	

document	A document describing additional constraints for a capacity calculation process.
Operational state document	A document used for exchanging operational states for grid assets.
Published offered capacity	A document providing the most recent values of offered capacity.
Market result document	Published prices and volumes
Area Configuration document	A document containing the definition of areas.
Area Composition document	A document containing the relations between areas, i.e which Metering Grid Areas a Bidding Zone composed of.
Connected Areas document	A document containing which other areas an area is connected to i.e. which Metering Grid Areas a Metering Grid Area is connected to.
Settlement document	A document providing settlement information.
Imbalance prognosis document	A document to provide the prognosis of energy imbalances for a given period.
Complete set of bids	Submission of complete set of bids. If there are existing bids, they should be replaced.
Merged MOL notice	A notice providing information on the MOL merging process.
K-factor document	A document providing K-factor values.
Settlement coordination document	A document providing settlement information for coordination between different parties.
Financial settlement document	A document providing financial settlement information.
Bid availability	A document providing the detailed reasons for changing the availability or volume of a bid.

document

Resource capacity unit document A document providing information about resource capacity units.

Other market information A document providing other market information.

Message partially accepted The detailed transactions of the received document are partially accepted. It is necessary to look at the detailed (transaction) level to determine if the transaction is accepted, rejected etc.

Requested capacity A document providing requested capacity (e.g. ATC, CZCL) value.

Compound types

[ESMP_DateTimeInterval](#)

[ESMPDataTypes](#)

This datatype enables to express the start date and time, and the end date and time of a time interval with a specific pattern. This pattern is the YYYY-MM-DDThh:mmZ.

start 1..1 [YMDHM_DateTime](#) The start date and time of the interval with a minute resolution.

end 1..1 [YMDHM_DateTime](#) The end date and time of the interval with a minute resolution.

Datatypes

[CoordinateSystemKind_String](#)

[ESMPDataTypes](#)

The identification of the nature of an energy product such as power, energy, reactive power, etc.

value 1..1 [CoordinateSystemTypeList](#) Main Core value Space.

DirectionKind_String

[ESMPDataTypes](#)

The coded identification of the direction of energy flow.

value 1 .. 1 [DirectionTypeList](#) Main Core value Space.

Fuel_String

[ESMPDataTypes](#)

The identification of fuel used for the energy production.

value 1 .. 1 [FuelTypeList](#) Main Core value Space.

MeasurementPointID_String

[ESMPDataTypes](#)

The coded identification of a domain covering a number of related objects, such as metering point, accounting point, etc.

In the ESMP context, it is an authorized issuing office that provides an agreed identification coding scheme for measurement point identification.

codingScheme 1 .. 1 [CodingSchemeTypeList](#) DomainQualification.

value 1 .. 1 [String](#) Main Core value Space.

PartyID_String

[ESMPDataTypes](#)

The identification of an actor in the energy market.

In the ESMP context, it is an authorized issuing office that provides an agreed identification coding scheme for market participant identification.

codingScheme 1 .. 1 [CodingSchemeTypeList](#) DomainQualification.

value 1 .. 1 [String](#) Main Core value Space.

MarketRoleKind_String

[ESMPDataTypes](#)

The identification of the role played by a party.

value 1 .. 1 [RoleTypeList](#) Main Core value Space.

MeasurementUnitKind_String

[ESMPDataTypes](#)

The coded identification of a unit of measure that is applied to a quantity. The measurement units shall be in compliance with UN/ECE Recommendation 20.

value 1 .. 1 [UnitOfMeasureTypeList](#) Main Core value Space.

ResourceID_String

[ESMPDataTypes](#)

The identification of a resource object in the energy market.

In the ESMP context, it is an authorized issuing office that provides an agreed identification coding scheme for resources (generator, lines, substations, etc.) identification.

codingScheme 1 .. 1 [CodingSchemeTypeList](#) DomainQualification.

value 1 .. 1 [String](#) Main Core value Space.

PsrType_String

[ESMPDataTypes](#)

The coded type of a power system resource.

value 1 .. 1 [AssetTypeList](#) Main Core value Space.

Position_Integer

[ESMPDataTypes](#)

An integer value, this value is used as a sequential value representing the relative position of an entity within a space such as a time interval.

value 1 .. 1 [Integer](#)

Main Core value Space.

Quality_String

[ESMPDataTypes](#)

The coded identification of the quality of the information.

value 1 .. 1 [QualityTypeList](#)

Main Core value Space.

ProcessKind_String

[ESMPDataTypes](#)

The coded identification of the nature of process.

value 1 .. 1 [ProcessTypeList](#)

Main Core value Space.

ReasonCode_String

[ESMPDataTypes](#)

The coded motivation of an act.

value 1 .. 1 [ReasonCodeTypeList](#)

Main Core value Space.

ReasonText_String

[ESMPDataTypes](#)

The textual explanation of an act as a string of characters.

value 1 .. 1 [String](#)

Main Core value Space.

YMDHM_DateTime

ESMPDataTypes

In ESMP, the date and time is expressed as "YYYY-MM-DDThh:mmZ", which conforms with ISO 8601 UTC time zone. This date and time is without the seconds.

value	1 .. 1	DateTime	The date and time as "YYYY-MM-DDThh:mmZ", which conforms with the ISO 8601 UTC time zone.
--------------	--------	--------------------------	---

BusinessKind_String

ESMPDataTypes

The coded identification of the business type.

value	1 .. 1	BusinessTypeList	Main Core value Space.
--------------	--------	----------------------------------	------------------------

ID_String

ESMPDataTypes

A code to uniquely distinguish one occurrence of an entity from another.

In the ESMP context, the code is defined either by:

- an emitting company that provides an agreed identification unique within a business context such as capacity auction identification, market agreement identification, etc.
- a party (originator of the exchange) that provides a unique identification in the framework of a business exchange such as document identification, time series identification, bid identification, ...

value	1 .. 1	String	Main Core value Space.
--------------	--------	------------------------	------------------------

EnergyProductKind_String

ESMPDataTypes

The identification of the nature of an energy product such as power, energy, reactive power, etc.

value	1 .. 1	EnergyProductTypeList	Main Core value Space.
--------------	--------	---------------------------------------	------------------------

ESMPVersion_String

ESMPDataTypes

In ESMP, the coded value is restricted to digits.

A code that distinguishes one evolution of an identified object from another. Information about a specific object may be sent several times, each transmission being identified by a different version number.

value 1 .. 1 [String](#) Main Core value Space.

[ESMP_DateTime](#)

[ESMPDataTypes](#)

In ESMP, the dateTime shall be expressed in UTC as YYYY-MM-DDThh:mm:ssZ.

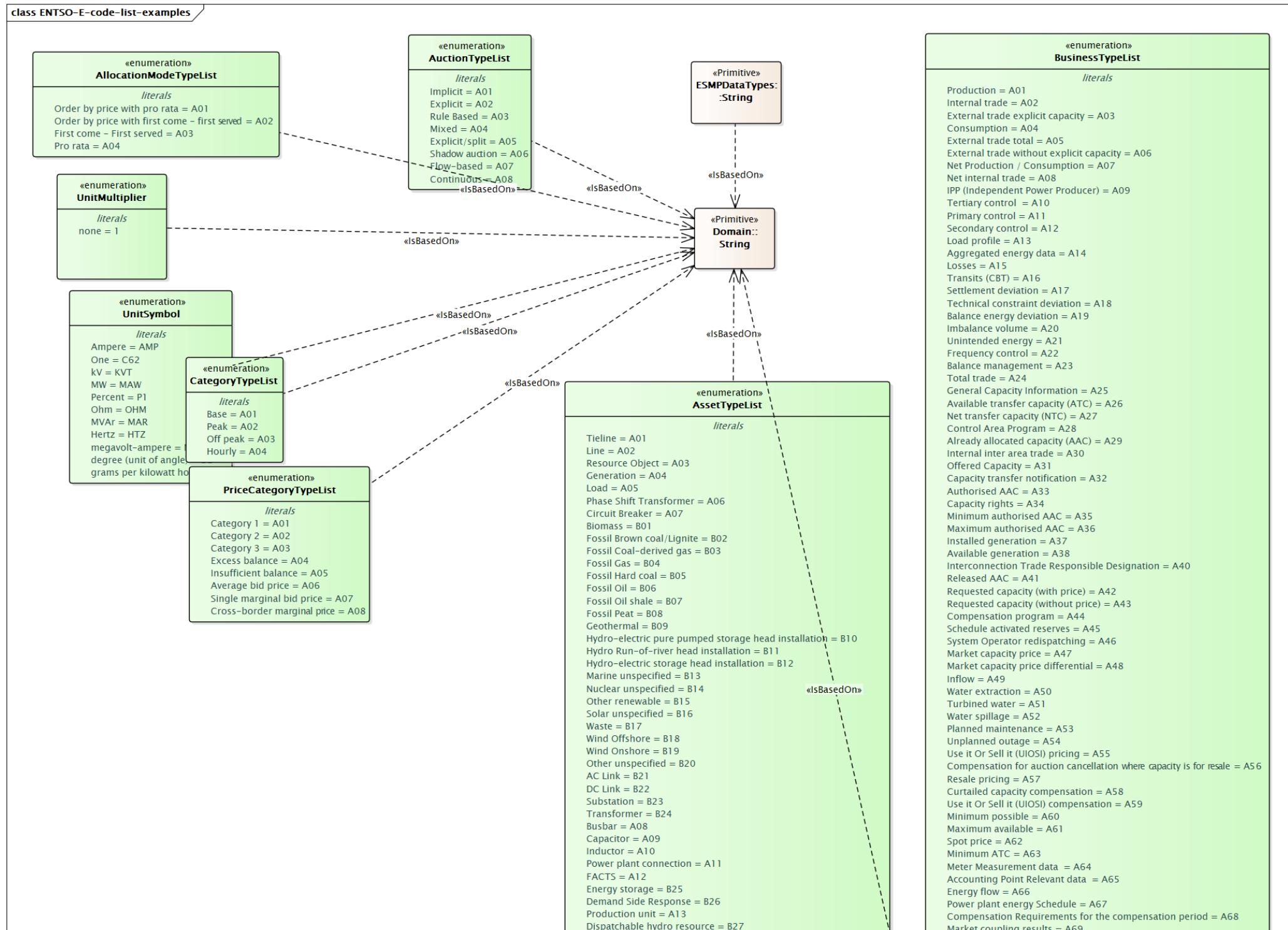
value 1 .. 1 [DateTime](#) Main Core value Space.

[MessageKind_String](#)

[ESMPDataTypes](#)

The coded type of a document.

value 1 .. 1 [MessageTypeList](#) Main Core value Space.

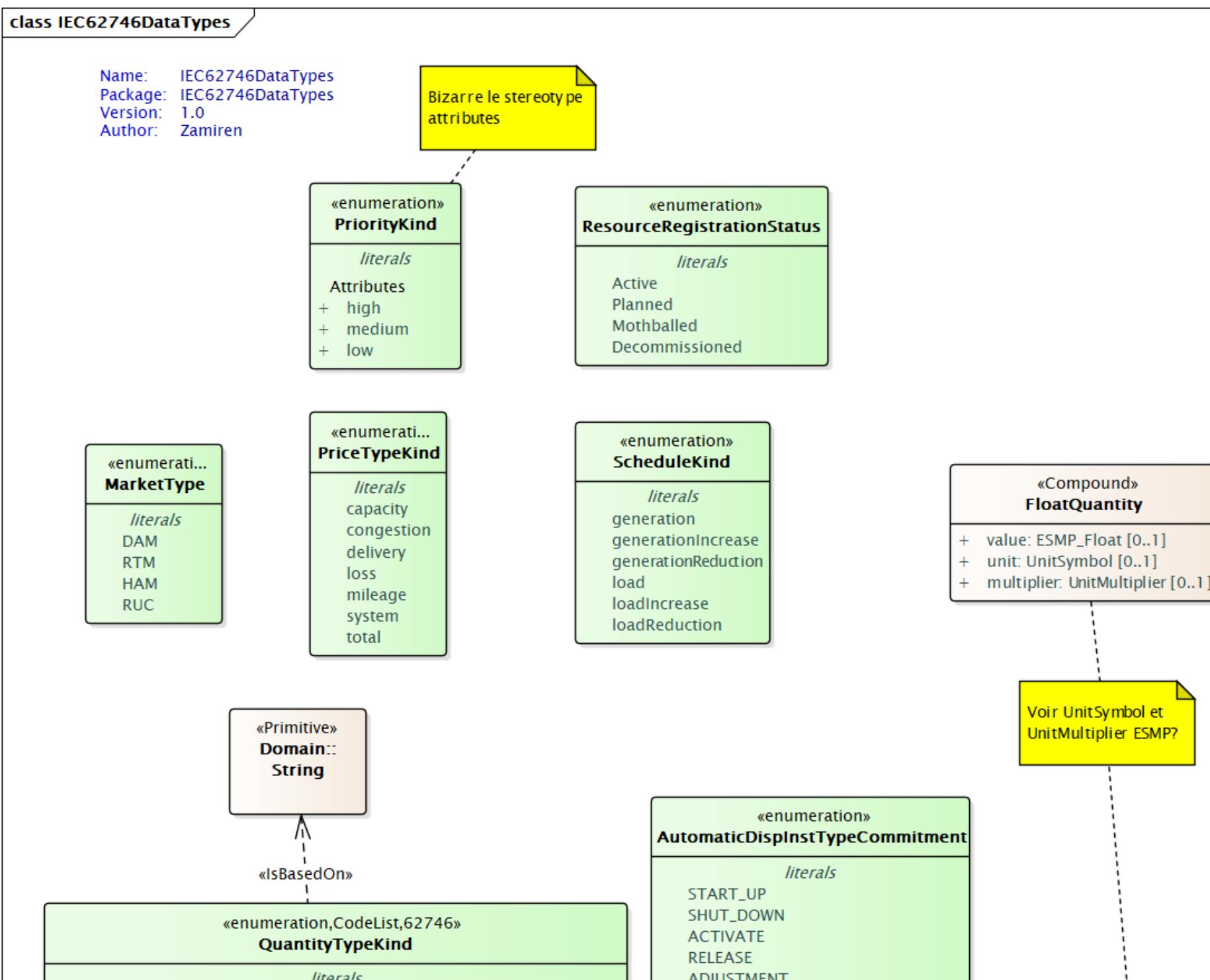


Solar photovoltaic = B28
 Solar concentration = B29
 Wind unspecified = B30
 Hydro-electric unspecified = B31
 Hydro-electric mixed pumped storage head installation = B32
 Marine tidal = B33
 Marine wave = B34
 Marine currents = B35
 Marine pressure = B36
 Thermal unspecified = B37
 Thermal combined cycle gas turbine with heat recovery = B38
 Thermal steam turbine with back-pressure turbine (open cycle) = B39
 Thermal steam turbine with condensation turbine (closed cycle) = B40
 Thermal gas turbine with heat recovery = B41
 Thermal internal combustion engine = B42
 Thermal micro-turbine = B43
 Thermal Stirling engine = B44
 Thermal fuel cell = B45
 Thermal steam engine = B46
 Thermal organic Rankine cycle = B47
 Thermal gas turbine without heat recovery = B48
 Nuclear heavy water reactor = B49
 Nuclear light water reactor = B50
 Nuclear breeder = B51
 Nuclear graphite reactor = B52

Production, unavailable = A70
 Supplementary available generation = A71
 Interruptible consumption = A72
 Summarised Market Balance Area Schedule = A73
 Load Frequency Control Program Schedule = A74
 Timeframe Independent Schedule = A75
 Consumption curtailment = A76
 Production, dispatchable = A77
 Consumption, dispatchable = A78
 Production, non-dispatchable = A79
 Consumption, non-dispatchable = A80
 Total Transfer Capacity (TTC) = A81
 Mutual Emergency Assistance Service (MEAS) = A82
 Auction cancellation = A83
 Nomination curtailment = A84
 Internal redispatch = A85
 Control area balance energy = A86
 Balancing energy price = A87
 Economised secondary reserve = A88
 Spinning reserve = A89
 Solar = A90
 positive forecast margin = A91
 Negative forecast margin = A92
 Wind generation = A93
 Solar generation = A94
 Frequency containment reserve = A95
 Automatic frequency restoration reserve = A96
 Manual frequency restoration reserve = A97
 Replacement reserve = A98
 Financial information = A99
 Interconnector network evolution = B01
 Interconnector network dismantling = B02
 Counter trade = B03
 Congestion costs = B04
 Capacity allocated (including price) = B05
 DC link constraint = B06
 Auction revenue = B07
 Total nominated capacity = B08
 Net position = B09
 Congestion income = B10
 Production unit = B11
 Rounded market coupling results = B12
 Allocation Revenue = B13
 Production deviation = B14
 Consumption deviation = B15
 Transmission asset = B16
 Consumption unit = B17
 In-feed ATC = B18
 Out-feed ATC = B19
 Balance up regulation price = B20
 Balance down regulation price = B21
 Main direction = B22
 Consumption imbalance price = B23
 Production sales imbalance price = B24
 Production purchase imbalance price = B25
 Average balance price between MBAs = B26
 Pumped = B27
 Large installation consumption = B28
 Metering Grid Area (MGA) imbalance = B29
 HVDC Link settings = B30
 Transmission Reliability Margin (TRM) = B31
 Imbalance component for a pool = B32
 Area Control error (ACE) = B33
 Area Control Error after Imbalance Netting = B34
 Implicit and explicit trade total = B35
 Production units own consumption = B36
 Constraint situation = B37
 Initial domain = B38
 Flow based domain adjusted to long term schedules = B39
 Network element constraint = B40
 Calculation opposition (Red Flag) = B41
 Base case proportional shift key = B42
 Proportional to participation factors shift key = B43
 Proportional to the remaining capacity shift key = B44

Merit order shift key = B45
 Wind speed = B46
 Wind direction = B47
 Solar irradiance = B48
 Air temperature = B49
 Cloudiness = B50
 Air humidity = B51
 Atmospheric pressure = B52
 Precipitation = B53
 Network constraint situation that constraints the market = B54
 Contingency = B55
 Remedial Action = B56
 Monitored Network Element = B57
 Busbar = B58
 Network Element = B59
 SPS = B60
 Aggregated netted external market schedule = B61
 Aggregated netted external TSO schedule = B62
 Aggregated netted external schedule = B63
 Netted area AC position = B64
 Netted area position = B65
 Interconnection shift key = B66
 DC flow with losses = B67
 DC flow without losses = B68
 minimum value of netted area position = B69
 maximum value of netted area position = B70
 maximum value of DC flow = B71
 minimum value of DC flow = B72
 indicative AC flow = B73
 Offer = B74
 Need = B75
 Opportunity costs or benefits = B76
 Financial compensation or penalties = B77
 Global radiation = B78
 Diffuse radiation = B79
 Direct solar radiation = B80
 Outage (OUT) = B81
 Special switching state (SSS) = B82
 Testing (TEST) = B83
 Auxiliary busbar operation = B84
 Automatic reclosing = B85
 Busbar protection = B86
 Phase Shift Angle = B87
 Base Case Network Situation = B88
 Inter-TSO assistance = B89
 FlexibleNeed = B90
 GLSK Limitation = B91
 Capacity ramping limitation = B92
 interconnector capacity = B93
 Must Run = B94
 Procured capacity = B95
 Used capacity = B96
 Estimated costs = B97
 Estimated benefits = B98
 Load Shedding = B99
 Remaining Capacity = C01
 Indicator of generation capacity adequacy = C02
 Income from price divergence without congestions = C03
 Push-button = C04
 Intertripping = C05
 Emergency instruction = C06
 Ramp management = C07
 Profile smoothing = C08
 Emergency reallocation deselection = C09
 SO-SO-trade = C10
 Production reduction = C11
 Maximum power exchange = C12
 Maximum power exchange after remedial actions = C13
 Network constraint situation that cannot limit the market = C14
 Flat participation for all generators or loads = C15
 Proportional to installed capacity of generators = C16
 Market price and total volume = C17
 Import price = C18
 Capacity allocated (excluding price) = C19
 Common Grid Model Equipment = C20

Exchanged balancing reserve capacity = C21
 Shared balancing reserve capacity = C22
 Share of reserve capacity = C23
 Actual reserve capacity = C24
 K-factor = C25
 Frequency Containment Reserve–Normal (FCR–N) = C26
 Frequency Containment Reserve–Disturbance (FCR–D) = C27
 Internal trade difference = C28
 Small scale production = C29
 System price = C30
 Wind gust = C31
 Area imbalance = C32
 Unintended energy price = C33
 Frequency containment process energy = C34
 Frequency containment process energy price = C35
 Ramping period energy = C36
 Ramping period energy price = C37
 Frequency deviation = C38
 Day-Ahead market price = C39
 Conditional bid = C40
 Thermal limit = C41
 Frequency Limit = C42
 Voltage limit = C43
 Current limit = C44
 Short circuit current limit = C45
 Dynamic stability limit = C46
 Disconnection = C47
 Intended energy with positive price = C48
 Intended energy with negative price = C49
 Decoupling = C50
 Resource capacity unit = C51
 Resource entry capacity data = C52
 Resource capacity obligation data = C53
 Available energy = C54
 Production curtailment = C55
 Rounding error = C56
 Metered frequency = C57
 Adjusted TTC to the nominal criteria = C58
 Adjusted TTC to the nominal criteria with TSOs limitation = C59
 Frequency deviation larger than standard deviation = C60
 Frequency deviation larger than maximum deviation = C61
 Frequency deviation not returned to 50% = C62
 Frequency deviation not returned to restoration range = C63
 Frequency deviation outside recovery range = C64
 Frequency = C65
 Mean value = C66
 Standard deviation = C67
 Percentile = C68
 Measured frequency resolution = C69
 Accuracy = C70
 FRCE outside level 1 range = C71
 FRCE outside level 2 range = C72
 FRCE exceeded 60% of FRR capacity = C73
 FRCE exceeded steady state deviation = C74
 FRCE calculation and accuracy descriptor = C75
 Forecasted capacity = C76
 Minimum available capacity = C77
 Average available capacity = C78
 Maximum available capacity = C79
 Frequency and accuracy descriptor = C80
 Long-Term internal redispatch = C81
 Other unavailability = C82
 Faster than standard FAT = C83
 Faster than standard deactivation time = C84
 Slower than standard FAT = C85
 Remedial action cost summary = C86
 Settlement result = C87
 Reserved cross zonal capacity = C88
 Energy reserves = C89
 Combined dynamic constraint = C90
 Anonymised constraint = C91



```

Total_Active_Energy_Consumed_kWh = 0
Total_Active_Energy_Produced_kWh = 1
Instantaneous_Active_Power_Consumption_kW = 2
Instantaneous_Active_Power_Generation_kW = 3
Instantaneous_Voltage_V_in_phase_L1 = 4
Instantaneous_Voltage_V_in_phase_L2 = 5
Instantaneous_Voltage_V_in_phase_L3 = 6
Instantaneous_Current_A_in_phase_L1 = 7
Instantaneous_Current_A_in_phase_L2 = 8
Instantaneous_Current_A_in_phase_L3 = 9
Instantaneous_PowerFactor = 10
Total_Active_Energy_Consumed_kWh_in_phase_L1 = 11
Total_Active_Energy_Consumed_kWh_in_phase_L2 = 12
Total_Active_Energy_Consumed_kWh_in_phase_L3 = 13
Total_Active_Energy_Produced_kWh_in_phase_L1 = 14
Total_Active_Energy_Produced_kWh_in_phase_L2 = 15
Total_Active_Energy_Produced_kWh_in_phase_L3 = 16
Instantaneous_Active_Power_Consumption_kW_in phase_L1 = 17
Instantaneous_Active_Power_Consumption_kW_in phase_L2 = 18
Instantaneous_Active_Power_Consumption_kW_in phase_L3 = 19
Instantaneous_Reactive_Power_Consumption_kvar = 20
Instantaneous_Reactive_Power_Consumption_kvar_in phase_L1 = 21
Instantaneous_Reactive_Power_Consumption_kvar_in phase_L2 = 22
Instantaneous_Reactive_Power_Consumption_kvar_in phase_L3 = 23
Instantaneous_Reactive_Power_Generation_kvar = 24
Instantaneous_Voltage_V = 25
Instantaneous_Current_A = 26
Instantaneous_Current_A_in_phase_neutral = 27
Maximum_Current_A = 28
Maximum_Current_A_in_phase_L1 = 29
Maximum_Current_A_in_phase_L2 = 30
Maximum_Current_A_in_phase_L3 = 31
Instantaneous_Power_Factor_in_phase_L1 = 32
Instantaneous_Power_Factor_in_phase_L2 = 33
Instantaneous_Power_Factor_in_phase_L3 = 34
Frequency_Hz = 35

```

«Compound»
ActivePowerChangeRate

- + multiplier: UnitMultiplier [0..1]
- + unit: UnitSymbol [0..1] = WPers {readOnly}
- + value: ESMP_Float [0..1]

class CEDDS_ESMP.Enums**«enumeration,CodeList»**
AccumulationKind

literals

```
none = 0
bulkQuantity = 1
continuousCumulative = 2
cumulative = 3
deltaData = 4
indicating = 6
summation = 9
timeDelay = 10
instantaneous = 12
latchingQuantity = 13
boundedQuantity = 14
```

«enumeration,CodeList»
CommodityKind

literals

```
none = 0
electricitySecondaryMetered = 1
electricityPrimaryMetered = 2
communication = 3
air = 4
insulativeGas = 5
insulativeOil = 6
naturalGas = 7
propane = 8
potableWater = 9
steam = 10
wasteWater = 11
heatingFluid = 12
coolingFluid = 13
nonpotableWater = 14
nox = 15
so2 = 16
ch4 = 17
co2 = 18
carbon = 19
hch = 20
pfc = 21
sf6 = 22
tvLicence = 23
internet = 24
refuse = 25
«enum, EDDIE»
H2 = 26
```

«enumeration,CodeList»
AggregateKind

literals

```
none = 0
average = 2
excess = 4
highThreshold = 5
lowThreshold = 7
maximum = 8
minimum = 9
nominal = 11
normal = 12
secondMaximum = 16
secondMinimum = 17
thirdMaximum = 23
fourthMaximum = 24
fifthMaximum = 25
sum = 26
```

