CpML for eSM

Version 3 (3.5)

Created by Energy Traders Europe

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# Introduction to eSM

eSM stands for “electronic Settlement Matching”. The eSM business process concerns the exchange and comparison (matching) of electronic documents that describe counterparty settlement data.

The eSM process has been clearly defined and agreed. A workflow was established that defines how two trading parties interact to compare their settlement data. In total, the eSM standard consists of the following:

* Definitions of the exact message flow, message content and message structure
* Matching criteria and rules for the information exchanged in the eSM process

The eSM Project Workgroup has structured the eSM process on a bilateral or peer-to-peer style of interaction building on the approach developed for electronic Confirmation Matching (eCM). The style of interaction involves a buyer and a seller as participants in the settlement process, regardless of whether the process runs in a peer-to-peer environment, a centralised environment or a distributed ledger environment. The eSM process description is agnostic of the technical implementation layer so that future implementations can be built on various technologies that respect the eSM standard. This way, interoperability between implementations is guaranteed.

The structure of the eSM messages, and — to some extent — the content of the messages, reuse elements that were developed by Energy Traders Europe for other standards, such as electronic Confirmation Matching or electronic Regulatory Reporting (eRR). The corresponding data definitions and technical specifications are defined as an extension to the XML standard called Commodity Product Markup Language, or CpML® for short, which is also developed by Energy Traders Europe. Wherever possible, existing elements and data types are reused.

## Standardization at Energy Traders Europe

Energy Traders Europe has decided on a prioritised approach to develop standards covering the various business processes in the commodity trading industry to facilitate the rapid deployment of the systems and infrastructure required to implement working services. The eSM Project Workgroup has been tasked with focusing on one part of the overall information exchange, building on the standardisation work for centralised and peer-to-peer communication developed first by the electronic Confirmation Matching (eCM) project workgroup. Developing standards for a specific business processes rather than attempting to cover all processes simultaneously will enable the production of measurable benefits throughout the overall standardisation process. The settlement process has grown substantially over time whilst still relying on a non-standardised process. Therefore, it was logical decision to for the standardisation bodies within Energy Traders Europe to focus on eSM.

The standards eCM and eRR, as well as the CpML® reference documentation act as an important foundation for the eSM standard, which continues to demonstrate Energy Traders Europe’s strategic aim of developing global standards covering the complete business requirements of traders.

# About this Document

## Revision History

|  |  |  |
| --- | --- | --- |
| Version | Date | Changes |
| 1.0 | 22 March 2019 | First version published |
| 2.0 | 11 October 2019 | Update for Phase 2:* Addition of netting statements:
	+ New sections added.
	+ Business rules changed for existing fields.
	+ Aggregation key fields made repeatable.
* New process fields added:
	+ ‘DocumentID’, ‘DocumentVersion’, ‘SenderID’, ‘ReceiverID’, DocumentUsage
* New invoice data fields and sections added:
	+ ‘PurchaseOrderNumber’, ‘ServiceProvider’, ‘OtherAddressDetails’
* New invoice line item fields and sections added:
	+ ‘TransactionType’, ‘IndexName’, ‘LineItemDetails’ (modified to allow entering of leg 1 and 2), ‘NetAmount’ (aggregated value of legs 1 and 2),
* More commodities supported.
* Some fields moved.
* Information about matching fields added.
* Introductory sections added.
* Typos fixed and other corrections.
 |
| 2.0.1 | 09 January 2020 | Description of ‘OtherAddressDetails’ added.  |
| 2.0.2 | 07 February 2020 | * Repeatable fields in aggregation keys have unique values.
* Ordering of legs for float/float swaps determined.
 |
| 2.0.3 | 12 February 2020 | * Business rules changed for the following fields to clarify who supplies invoice ID or purchase order number, as well as supplier and customer trade ID:
	+ ‘InvoiceData’: ‘InvoiceID’, ‘InvoiceDate’ and ‘PurchaseOrderNumber’
	+ ‘LineItems/LineItem’: ‘SupplierTradeID’ and ‘CustomerTradeID’
 |
| 2.0.4 | 16 April 2020 | * Patterns for ‘VATIDType’ and ‘SSDSIDType’ adjusted in schema to allow for Swiss VAT IDs.
* Pattern for IBANType adjusted in schema
* Selfbilling:
	+ Business rules for ‘InvoiceId’, ‘SupplierTradeId’ and ‘CustomerTradeId’ changed.
	+ ‘PurchaseOrderNumber’ renamed to ‘PurchaseOrSalesOrderNumber’ and rules changed.
 |
| 2.0.5 | 30 June 2020  | * ‘StreetNumber’ is optional.
* ‘Regulatory­Wording’ is optional.
* Description of ‘MasterAgreementVersion’ updated.
 |
| 2.0.6 | 15 December 2020 | * Description of ‘MasterAgreementVersion’ refined.
* ‘VATJuris­dict­ionCurrency’, ‘Company­Registry­Number’, ‘Company­Registry­Name’, ‘CompanyRegistryCity’, ‘Company­RegistryCountry’: Fields are optional for shadow document issuers.
* ‘Delivery­PointOr­Zone’: Emissions Commodities excluded.
* ‘SupplierInvoiceID’ and ‘CustomerInvoiceID’ only to be filled by payor or payee, respectively.
* Add new value “FixedAndFloating” to ‘FixedOrFloating’ field.
* Allow only unsigned prices, use type “UnsignedPriceType” for the following fields: ‘TotalAmount’, ‘VATAmount’, ‘VATAmountDomestic’, ‘Price’
* Change type of ‘VATRate’ and ‘FXRate’ from “QuantityType” to “Unsigned­Price­Type”.
* Allow only unsigned quantities, use type “UnsignedQuantityType” for the following fields: ‘TotalVolume’ and ‘SettlementVolume’
* Business rules for ‘IndexName’ updated.
 |
| 2.0.7 | 22 January 2021 | * Added explanation to determine payor and payee for the fields ‘SupplierInvoiceID’ and ‘CustomerInvoiceID’ for netting statement line items.
 |
| 2.0.8 | 19 May 2021 | * Added explanation for usage of value “FixedAndFloating”.
* Extend definition of ‘Agreement’ field to allow for 110 characters instead of 35.
 |
| 3.0.0 | 24 Aug 2021 | * Added treatment of fees and premiums (fee invoices) for physical and financial trades:
	+ Generalization of data structures in ‘LineItems’ to cover all types of transactions as well as fees.
	+ Introduction of generic explanatory and documentation fields at line-item level.
* ‘PaymentDate’ moved to ‘AggregationKeys’ and removed from ‘InvoiceData’ and ‘NettingStatement’.
* Changes to ‘LineItemsMatching’, now uses strict and non-strict matching.
* Business rules of ‘SenderID’ and ‘ReceiverID’ corrected (supplier > customer).
 |
| 3.1.0 | 21 October 2022 | * ‘NatureOfPrice’: Price must be positive or zero for financial invoices because a differential has no negative unit price.
* ‘TransactionType’ is optional.
* Extended usage description of ‘FixedOrFloating’. Define order of legs for fixed swaps.
* ‘IndexName’: No index name for fees or premiums.
* Update business rules for ‘IndexName’ based on order of legs in ‘LineItemDetails’.
* Remove ‘VATRate’ from line item details for invoices.
* Change type of ‘VATRate’ to ‘DecimalPercentageType’ to enforce an unsigned decimal value.
* Schema-only update: Missing value 'PHYS\_FEE' added to 'ESMTransactionType'.
 |
| 3.2.0 | 04 April 2023 | * Undo non-backwards-compatible change from 3.1:
	+ Re-add ‘VATRate’ to line item details for invoices.
	+ All 'VATRate' fields use the type “UnsignedPriceType” again instead of “DecimalPercentageType”. Add business rule for inputting VAT rates in All ‘VATRate’ fields.
* Add field ‘BranchInformation’ in ‘InvoiceData/Customer’ and ‘NettingStatement/Customer’.
 |
| 3.3.0 | July 2023 | * No changes to CpML specification, changes to eSM standard only.
 |
| 3.4.0 | 20 December 2023 | * For financial invoices, allow signed values in line items and line item details so that multiple transactions can be grouped in one invoice document.
* ‘MarketInformation’ field: Added additional value “ALL” and rule to determine which market comes first.
* ‘NatureOfPrice’ field: Added additional value “NotApplicable”  for all financial invoices, except if split is chosen.
* Clarification: Add type definition for ‘PriceType’ to clarify that positive prices shall not have a plus sign.
* Bug fix (schema only): Re-add type "AlphanumericType" for field ‘NettingStatement/Supplier/BranchInformation’.
 |
| 3.5 | 11 July 2024 | * The following fields in ‘InvoiceData/Supplier’ are now matching fields: ‘VATID’, ‘LegalName’ and ‘BankingDetails/IBAN’
* Bug fix: Values “EUAPhase4”, “ERU”, “AAU” and “UKA” added to ‘Commodity’ field.
 |

## Purpose and Scope

This document is an extension of the specification of the CpML standard.

The CpML standard defines the vocabulary for exchanging standardized messages for commodity trading and reporting processes and is growing according to increased coverage of post-trade services like eCM (electronic Confirmations Matching) and eRR (electronic Regulatory Reporting). The extension as covered by this document adds document structures to exchange and validate invoices and netting statements in the energy sector (electronic Settlement Matching).

The CpML specification corresponds to the underlying XML schemas, which implement this specification. The XML schemas corresponding to this extension of the CpML standard define the data structures and rules for the following document types:

* ESMDocument: Market participants generate messages with invoice information.

The CpML specification defines a generic vocabulary that can be applied to different business processes. Process-relevant information is described in the corresponding process specifications, in this case, the eSM standard.

## Target Audience

This document is for business analysts and IT professionals in the commodity trading business who want to provide standardized trade information in the CpML format for post-trade data processing in the electronic Settlement Matching process.

For example, this can be:

* Software engineers and data architects who implement CPML interfaces
* Business analysts who develop process interfaces

The following knowledge is assumed:

* Familiarity with the terms and processes used in the commodity trading industry
* Know-how regarding the structure and functionality of XML schemas

## Additional Information

This section lists web sites or documents with additional information related to the CpML standard.

| Ref ID | Description | Source |
| --- | --- | --- |
| 1.
 | eSM on energytraderseurope.org | https://www.energytraderseurope.org/data-standard-overview/esm-electronic-settlement-matching-1 |
| 1.
 | Core CpML Standard |  |
| 1.
 |  |  |
| 1.
 |  |  |

## Conventions

### Use of Modal Verbs

For compliance with the CPML standard, implementers need to be able to distinguish between mandatory requirements, recommendations and permissions, as well as possibilities and capabilities. This is supported by the following rules for using modal verbs.

The key words “must”, “must not”, “required”, “should”, “should not”, “recommended”, “may” and “optional” in this document are to be interpreted as follows:

| Key word | Description |
| --- | --- |
| Must | Indicates an absolute requirement. Requirements must be followed strictly in order to conform to the standard. Deviations are not allowed.Alternative expression: required, is mandatory |
| Must not | Indicates an absolute prohibition. This phrase means that the provision must not be used in any implementation of the CPML standard.Alternative expression: must be omitted |
| Should | Indicates a recommendation. Among several possibilities, one is recommended as particularly suitable, without mentioning or excluding others. There may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.Alternative expression: recommended |
| May | Indicates a permission. This word means that an item is truly optional within the limits of CPML. One data supplier may choose to include the item because a particular transaction requires it or because the data supplier feels that it enhances the document while another data supplier may omit the same item.Alternative expression: optional |
| Should not | This phrase means that there may exist valid reasons in particular circumstances when the particular behaviour is acceptable or even useful, but the full implications should be understood, and the case carefully weighed before implementing any behavior described with this label.Alternative expression: “not recommended” |

### Typographical Conventions

This documentation uses the following typographical conventions:

* ‘AgentID’: Single quotation marks are used to indicate field names.
* “trader”: Double quotation marks are used to indicate field values.
* Reporting/Europe: Slashes are used to indicate paths or nested nodes within the schema, for example, ….
* TotalVolumeUnit: Field names and values as well as attributes are consistently written with camel case spelling, as in the schema. There are no spaces between words and each new word starts with an uppercase letter.

### Notation of Schema

The CpML schema reference is a flat representation of the tree structure in the corresponding XSD schema.

For each main node in the schema, there is a separate section with a table that contains the sections and fields in that node. The fields are listed in the same order as in the schema.

Subsections are indicated with a gray background. The start and end of each section is clearly indicated. Subsections are nested within each other.

For each field, you find information about the usage type and the business rules. These rules determine the dependencies on other fields or values, where applicable.

Fields and value types are reused in different locations of the schema. Fields and types that are already present in standard CpML are described in the CpML standard. New fields and types that were introduced for eSM are described in this document in separate sections, see “Description of New CpML Field Names” and “Description of New CpML Field Types”.

### Information on Field Usage

Information on mandatory or optional use of a field is specified in column “Usage”:

* **O = Optional**. These fields are logically optional and not required by business rules. The information may be present in the ESMDocument.
* **O = Optional with condition**. These fields are logically optional but must be omitted if specified conditions are met.
* **C = Conditional**. These fields are logically conditional, meaning the field must be provided if and only if the specified conditions are met.
* **M = Mandatory**. Mandatory fields are logically required and must always be present, unless the parent field may be omitted.
* **M+C = Mandatory with condition**. Fields with this condition are logically required. According to the business rules, specific values must be set if the specified conditions are met.
* **M+CH = Mandatory, but part of a choice**. One of the fields in an XSD choice section must be provided. Thus, all fields within the choice are marked as mandatory in the schema.

### Information on Field Occurrence

If nothing else is stated for a field, the following rules apply with regard to the minimum or maximum occurrence of the field:

* Conditional or optional fields: (0-1)
These fields can be absent or occur exactly once within the given context.
* Mandatory fields: (1-1)
These fields must occur exactly once within the given context.

In all other cases, the allowed number of repetitions is clearly indicated. Examples: (0-n) or (1‑4).

## ESMDocument IDs

To provide a common syntax for ESMDocuments that is comprehensible and maintains uniqueness, the ID in the ‘DocumentID’ field must be unique. It is recommended to use the following syntax:

1. Document type abbreviation, for example, “ESM”
2. Date code (8 characters, in yyyymmdd format)
3. Locally and daily unique transaction identifier of the sender
4. @
5. Sender identification, i.e. domain name or party code of the sender

Example: ESM\_20190610\_1234567890@rwe.com

**Important:** The document ID must not exceed a total length of 50 characters.

**Important:** Once created, the document ID must not be changed any more. To retransmit information about the same transaction, the document version must be changed instead.

# CpML for eSM Schema Reference

The ESMDocument extends the basic trade description structure of CpML to include support for settlement of energy transactions according to the eSM Standard Phase 1. The introductory sections ‘Processing’ and ‘AggregationKeys’ are used to control the eSM process. These sections are followed by an ‘InvoiceData’ section, which may be followed by a ‘LineItems’ section, or by a ‘NettingStatement section, which may be followed by a ‘NettingStatementLineItems’ section.

**Note:** For more information about the notation of the schema, see “Notation of Schema”.

## ESMDocument Root

At root level, an ESMDocument has the following sections:

* ‘ProcessInformation’
* ‘AggregationKeys’
* Choice of:
	+ ‘InvoiceData’ and, optionally, ‘LineItems’
	+ ‘NettingStatement’ and ‘NettingStatementLineItems’

## ProcessInformation

| Name | Usage | Type | Business Rule |
| --- | --- | --- | --- |
| ESMDocument/ProcessInformation: mandatory section |
| LineItemsIncluded | M | TrueFalseType | Indicates whether the invoice contains line items. |
| LineItemsMatching | C | LineItems­Matching­Type | Indicates whether line items are used for matching the invoice. In case of strict matching, all line items have to match before the information at invoice level is evaluated. In this case, a match at invoice (header) level explicitly means that all line items match individually as well. In case of non-strict matching, any discrepancies at line-item level are ignored as long as there is a match result at invoice level, that is, the invoice headers match.**Occurrence:*** If ‘LineItemsIncluded’ is set to “True”, then this field is mandatory.
* If ‘LineItemsIncluded’ is set to “False”, then this field must be omitted.

**Values:*** If the ESMDocuments are to be matched at line-item level, then this field is set to “Strict”.
* If the ESMDocuments are to be matched at invoice level only, then this field is set to “NonStrict”.
 |
| SenderRole | M | Sender­Role­Type | Indicates which party is sending the document: the official document issuer or the shadow document issuer.In case of selfbilling, the official document issuer is the customer, in other cases it is the supplier.**Values:*** If the ‘InvoiceData’ section is present, then the value “Official­Document­Issuer” or “Shadow­Document­Issuer” must be used.
* If the ‘NettingStatement’ section is present, then the value “DocumentIssuer” or “ReverseDocumentIssuer” must be used.
 |
| DocumentID | M | Identification­Type | The sender assigns a unique identification to each ESMDocument, see “ESMDocument IDs”. |
| DocumentVersion | M | Version­Type | Version of the ESMDocument. The version number is always associated with the ‘DocumentID’. It is used to distinguish and order the initial ESMDocument and all its amendments over time. **Important:** ESMDocuments may only be amended for processing reasons, for examples, in case of transmission failures. If the details of an invoice or netting statement change, a new ESMDocument with a different document ID must be sent.The default value is 1. |
| SenderID | M | SSDSIDType | The counterparty that is sending the ESMDocument.**Values:*** If the ESMDocument is sent by the supplier, then this must be the party code that is used in ‘SupplierSSDSID’.
* If the ESMDocument is sent by the customer, then this must be the party code that is used in ‘CustomerSSDSID’.
 |
| ReceiverID | M | SSDSIDType | The other counterparty of the invoice or netting statement.**Values:*** If the ESMDocument is sent by the supplier, then this must be the party code that is used in ‘CustomerSSDSID’.
* If the ESMDocument is sent by the customer, then this must be the party code that is used in ‘SupplierSSDSID’.
 |
| DocumentUsage | M | UsageType | Indicates whether the ESMDocument is a test message or a live message. |
| End of **ProcessInformation** |

## AggregationKeys

The AggregationKeys section contains crucial information about an invoice or netting statement. The data from this section allows to identify the type of the invoice or netting statement.

| Name | Usage | Type | Business Rule |
| --- | --- | --- | --- |
| ESMDocument/AggregationKeys: mandatory section**Repetition of aggregation keys for netting statements:**For invoices, each aggregation key may only have one value. For netting statements, multiple values may be required for some of the fields. For each aggregation key field, it is clearly indicated whether the field may be present multiple times in a netting statement. Repeated fields may not contain duplicated values, that is, no value may appear twice in one enumeration. For example, there may be a ‘Commodity’ field set to ‘Power’ and another ‘Commodity’ field set to “Gas”, but there may not be two ‘Commodity’ fields set to “Power”.  |
| Supplier­SSDSID | M | SSDSIDType | Unique identifier of supplier from System Static Data Standard.Matching field. |
| CustomerSSDSID | M | SSDSIDType | Unique identifier of customer from System Static Data Standard.Matching field. |
| Commodity | M | ESMEnergy­Product­Type | Only repeatable in case of netting statement: (1-n)Subject of the trading relationship, for example, referring to power (electricity), gas (natural gas), freight, time charter or renewables (CO2 certificates). Matching field.**Values:*** If the ESMDocument describes a netting statement and there are multiple instances of this field, each instance must contain a different value.
 |
| Delivery­PointOr­Zone | C | AreaType | Only repeatable in case of netting statement: (0‑n)Location where the commodity is physically delivered. Delivery locations are mostly defined by Energy Identification Codes (EIC), indicating the physical location on national or regional gas or electricity grids.Matching field.**Occurrence:*** If ‘AggregationKeys/PhysicalOrFinancial’ is set to “Physical” and the underlying transaction is not an Emissions Commodity, then this field is mandatory. Current values for Emissions Commodities are: “EUAPhase\_3”, “EUAPhase\_4”, “CER”, “ERU” or “AAU”.
* Else, this field must be omitted.

**Values:*** If the ESMDocument describes a netting statement and there are multiple instances of this field, each instance must contain a different value.
 |
| MarketInformation | C | MarketInformation­Type | Only repeatable in case of netting statement: (0‑n)Country or pair of countries (border) where the financial transaction is executed.Matching field.**Occurrence:**Section ‘InvoiceData’ is present:* If ‘AggregationKeys/PhysicalOrFinancial’ is set to “Financial” or “FinancialFeeOrPremium”, then this field is mandatory.
* Else, this field must be omitted.

Section ‘NettingStatement’ is present:* For each ‘AggregationKeys/PhysicalOrFinancial’ that is set to “Financial” or “FinancialFeeOrPremium”, one ‘MarketInformation’ field must be present.

**Values:*** The value “ALL” is used if the relevant market information values are to be bundled into one aggregated value.
* Else, a country or a pair of country is reported. The following applies additionally:
	+ Gas only: The first country of the pair indicates the side of the border where the last measuring point before the border is located.
	+ Float/float swaps and options on float/float swaps: The markets are described in alphabetical order, where the market corresponds to the country where the index is based.
* If the ESMDocument describes a netting statement and there are multiple instances of this field, each instance must contain a different value.
 |
| TotalVolumeUnit | M | ESMUnitOfMeasure­Type | Only repeatable in case of netting statement: (1-n)Unit of measure in which the total volume is expressed.Matching field.**Values:*** If the ESMDocument describes a netting statement and there are multiple instances of this field, each instance must contain a different value.
 |
| Currency | M | ESMCurrency­Code­Type | Only repeatable in case of netting statement: (1-n)Currency applied to the settlement of the transactions of the invoice or netting statement. Often related to the commodity and the delivery location.Matching field.**Values:*** If the ESMDocument describes a netting statement and there are multiple instances of this field, each instance must contain a different value.
 |
| InvoicePeriod­Start | M | DateType | Start of the period during which deliveries are to be settled. For monthly invoices, this is the first day of the month by default.Matching field. |
| InvoicePeriod­End | M | DateType | End of the period during which deliveries are to be settled. For monthly invoices, this is the last day of the month by default.Matching field. |
| FixedOrFloating | M | FixedOrFloatingType | Only repeatable in case of netting statement: (1-n)Indicates the price relation of the transactions that make up the invoice or netting statement. Invoices for fixed swaps are set to “Fixed”, whereas invoices for float swaps are set to “Floating”. **Important:** The value “FixedAndFloating” is only used if one of the counterparties is not able to differentiate between “Fixed” or “Floating”. In all other cases, the values “Fixed” or “Floating” should be used, respecting the lowest level of granularity.Matching field.**Values:*** If the ESMDocument describes a netting statement and there are multiple instances of this field, each instance must contain a different value.
 |
| PhysicalOrFinancial | M | PhysicalOrFinancial­Type | Only repeatable in case of netting statement: (1-n)Indication of the nature of transactions that make up the invoice or netting statement. Matching field. |
| NatureOfPrice | M+C | NatureOfPrice­Type | Only repeatable in case of netting statement: (1-n)Indicates whether the transaction has a positive or zero price or has a negative price. Negative prices often require a specific treatment, both on the accounting and on the financial settlement side.Matching field.**Values:*** If ‘PhysicalOrFinancial’ is set to “Financial” and the invoice is a split invoice, then this field may/must be set to “PositiveOrZero”. This represents the standard way of treating physical invoices.
* If ‘PhysicalOrFinancial’ is set to “Financial” and the invoice is a single invoice, then this field is set to “NotApplicable”.

**Note:** For a definition of single vs. split financial invoices, see the eSM standard.* If the ESMDocument describes a netting statement and there are multiple instances of this field, each instance must contain a different value.
 |
| AggregationKeys/AgreementDetails: mandatory, repeatable section (1-n)Per master agreement, one ‘AgreementDetails’ section must be provided. |
| Agreement | M | ESMAgreementType | Indicates the legal framework that determines general terms and conditions applicable to the traded instruments. The master agreement specifically determines the settlement rules and conditions that apply to the transactions that make up the invoice. Matching field. |
| MasterAgreement­Version | M | Master­Agreement­Version­Type | Year of publication of the master agreement version.Matching field. |
| End of **AgreementDetails** |
| Payment­Date | M | DateType | Date when the invoice or netting statement is due.Matching field.  |
| End of **AggregationKeys** |

## InvoiceData

| Name | Usage | Type | Business Rule |
| --- | --- | --- | --- |
| ESMDocument/InvoiceData: mandatory section**Occurrence:*** If the ESMDocument describes an invoice for a physical delivery, a financial delivery or a fee or premium, then the ‘InvoiceData’ section is mandatory.
* If the ESMDocument describes a netting statement, then this section must be omitted and the ‘NettingStatement’ section must be used instead.
 |
| InvoiceID | C | Identification­Type | Unique identifier of the invoice document, often issued and/or adopted by the sender’s ERP system.**Occurrence:*** If ‘ProcessInformation/SenderRole’ is set to “Official­Document­Issuer”, then this field is mandatory.
* Else, this field must be omitted.
 |
| InvoiceDate | C | DateType | Date of issue of the invoice.**Occurrence:*** If ‘InvoiceID’ is present, then this field is mandatory.
* Else, this field must be omitted.
 |
| PurchaseOrSales­Order­­Number | C | Identification­Type | Unique identifier of the purchase or sales order related to this invoice in the sender’s ERP system.**Occurrence:*** If ‘ProcessInformation/SenderRole’ is set to “Shadow­Document­Issuer”, then this field is mandatory.
* Else, this field must be omitted.

**Values:*** If ‘InvoiceData/Selfbilling’ is set to “False”, then this field represents the purchase order number.
* If ‘InvoiceData/Selfbilling’ is set to “True”, then this field represents the sales order number.
 |
| InvoiceData/Supplier: mandatory section |
| VATID | M | VATIDType | VAT number as identifier used by the supplier’s national tax authority.Matching field. |
| VAT­Representative | O | AlphanumericType | Person/organisation acting as the supplier’s tax representative. |
| ­VAT­Jurisdiction­Currency | C | ESMCurrency­Code­Type | Currency applicable within the jurisdiction of the supplier.**Occurrence:*** If ‘ProcessInformation/SenderRole’ is set to “OfficialDocumentIssuer”, then this field is mandatory.
* Else, this field is optional.
 |
| TaxPoint | O | DateType | The tax point refers to the last day of delivery of the commodity, in this case the last day of the month. This field is only required where the date of supply for VAT purposes is different to the invoice date. |
| LegalName | M | Alphanumeric­Type | Legal name identifying the supplier in a national or regional company register.Matching field. |
| IdentifierCode | M+C | ESM­Identifier­Code­Type | Supplier **identifier code as currently applied in different official registries.****Values:*** If ‘TypeOfIdentifierCode’ is set to “EIC”, then this field must contain a valid EIC.
* If ‘TypeOfIdentifierCode’ is set to “LEI”, then this field must contain a valid LEI.
* If ‘TypeOfIdentifierCode’ is set to “ACERCode”, then this field must contain a valid ACER code.
 |
| TypeOfIdentifier­Code | M | TypeOfESMIdentifier­CodeType | Type of code detailing the nature of the supplier **identifier code**. |
| Company­Registry­Number | C | AlphanumericType | Number of the register where the supplier is registered.**Occurrence:*** If ‘ProcessInformation/SenderRole’ is set to “OfficialDocumentIssuer”, then this field is mandatory.
* Else, this field is optional.
 |
| Company­Registry­Name | C | AlphanumericType | Name of the register where the supplier is registered.**Occurrence:*** If ‘ProcessInformation/SenderRole’ is set to “OfficialDocumentIssuer”, then this field is mandatory.
* Else, this field is optional.
 |
| Company­RegistryCity | C | AlphanumericType | City of the register where the supplier is registered.**Occurrence:*** If ‘ProcessInformation/SenderRole’ is set to “OfficialDocumentIssuer”, then this field is optional.
* Else, this field is optional.
 |
| Company­Registry­Country | C | CountryCodeType | Country of the register where the supplier is registered.**Occurrence:*** If ‘ProcessInformation/SenderRole’ is set to “OfficialDocumentIssuer”, then this field is mandatory.
* Else, this field is optional.
 |
| ­Branch­Information | O | AlphanumericType | Information about the specific supplier branch acting as the party in this invoice. |
| ServiceProvider | M | AlphanumericType | Name of the eSM service provider that is used by the supplier. Valid values are provided as eSM static data.  |
| Supplier/LegalAddressDetails: mandatory section |
| Street | M | Alphanumeric­Type | Street name of the supplier’s legal address. |
| StreetNumber | O | Alphanumeric­Type | Street number of the supplier’s legal address. |
| City | M | Alphanumeric­Type | City of the supplier’s legal address. |
| PostalCode | M | Postal­Code­Type | Postal code of the supplier’s legal address. |
| Country | M | CountryCodeType | Country of the supplier’s legal address, expressed as ISO code. |
| End of **LegalAddressDetails** |
| Supplier/OtherAddressDetails: optional sectionThe other address can be used for invoicing and settlements service centers that are physically hosted at another address. |
| Street | M | Alphanumeric­Type | Street name of the supplier’s other address. |
| StreetNumber | O | Alphanumeric­Type | Street number of the supplier’s other address. |
| City | M | Alphanumeric­Type | City of the supplier’s other address. |
| PostalCode | M | Postal­Code­Type | Postal code of the supplier’s other address. |
| Country | M | CountryCodeType | Country of the supplier’s other address, expressed as ISO code. |
| End of **OtherAddressDetails** |
| Supplier/ContactDetails: mandatory section |
| FirstName | O | AlphanumericType | First name of supplier contact. |
| FamilyName | O | AlphanumericType | Family name of supplier contact. |
| PhoneNumber | O | PhoneNumberType | Phone number of supplier contact. |
| Email | M | EmailType | E-mail address of supplier contact. |
| End of **ContactDetails** |
| Supplier/BankingDetails: mandatory section |
| IBAN | M | IBANType | IBAN code of supplier banking details.Matching field. |
| BIC | M | BICType | BIC of supplier banking details. |
| AccountHolder | O | AlphanumericType | Account holder of supplier banking details. |
| End of BankingDetails |
| End of **Supplier** |
| InvoiceData/Customer: mandatory section |
| VATID | O | VATIDType | VAT number as identifier used by the customer’s national tax authority. |
| LegalName | M | Alphanumeric­Type | Legal name identifying the customer in a national or regional company register. |
| IdentifierCode | M+C | ESM­IdentifierCode­Type | Customer **identifier code as currently applied in different official registries.****Values:*** If ‘TypeOfIdentifierCode’ is set to “EIC”, then this field must contain a valid EIC.
* If ‘TypeOfIdentifierCode’ is set to “LEI”, then this field must contain a valid LEI.
* If ‘TypeOfIdentifierCode’ is set to “ACERCode”, then this field must contain a valid ACER code.
 |
| TypeOfIdentifier­Code | M | TypeOfESMIdentifier­CodeType | Type of code detailing the nature of the supplier **identifier code**. |
| ­Branch­Information | O | AlphanumericType | Information about the specific customer branch acting as the party in this invoice. |
| ServiceProvider | M | AlphanumericType | Name of the eSM service provider that is used by the supplier. Valid values are provided as eSM static data.  |
| Customer/LegalAddressDetails: mandatory section |
| Street | M | Alphanumeric­Type | Street name of the customer’s legal address. |
| StreetNumber | O | Alphanumeric­Type | Street number of the customer’s legal address. |
| City | M | Alphanumeric­Type | City of the customer’s legal address. |
| PostalCode | M | Postal­Code­Type | Postal code of the customer’s legal address. |
| Country | M | CountryCodeType | Country of the customer’s legal address, expressed as ISO code. |
| End of **LegalAddressDetails** |
| Customer/OtherAddressDetails: optional sectionThe other address can be used for invoicing and settlements service centers that are physically hosted at another address. |
| Street | M | Alphanumeric­Type | Street name of the customer’s other address. |
| StreetNumber | O | Alphanumeric­Type | Street number of the customer’s other address. |
| City | M | Alphanumeric­Type | City of the customer’s other address. |
| PostalCode | M | Postal­Code­Type | Postal code of the customer’s other address. |
| Country | M | CountryCodeType | Country of the customer’s other address, expressed as ISO code. |
| End of **OtherAddressDetails** |
| Customer/ContactDetails: mandatory section |
| FirstName | O | AlphanumericType | First name of customer contact. |
| FamilyName | O | AlphanumericType | Family name of customer contact. |
| PhoneNumber | O | PhoneNumberType | Phone number of customer contact. |
| Email | M | EmailType | E-mail address of customer contact. |
| End of **ContactDetails** |
| End of **Customer** |
| InvoiceData/NetAmount: mandatory section |
| TotalAmount | M | UnsignedPriceType | Total settlement amount that is due according to the transactions in the scope of the invoice document.Matching field. |
| TotalAmountCurrency | M | ESMCurrency­Code­Type | Currency in which the total net amount is expressed.Matching field. |
| End of **NetAmount** |
| TotalVolume | M | UnsignedQuantityType | Total settlement volume which is due according to the transactions in the scope of the invoice document.Matching field. |
| InvoiceData/VATDetails: mandatory section |
| VATRate | M | Unsigned­Price­Type | VAT rate applicable to the invoice document.Numerical representation of percentage as a decimal value. Each invoice represents transactions that apply the same VAT rate.Matching field.**Values:*** VAT rates are reported using a leading 0 before the decimal point and with a maximum of three digits after the decimal point. Examples: “0.19” for 19% or “0.175” for 17.5%.
 |
| VATAmount | M | UnsignedPriceType | VAT amount, total net amount multiplied by VAT rate.Matching field. |
| VATAmountCurrency | M | ESMCurrency­Code­Type | Currency in which the VAT amount is expressed.Matching field. |
| VATAmountDomestic | C | UnsignedPriceType | VAT amount expressed in the currency of the domestic country.**Occurrence:*** If ‘VATAmount­Domestic­Currency’ differs from ‘VATAmountCurrency’, then this field is mandatory.
* If ‘VATAmount­Domestic­Currency’ is identical to ‘VATAmountCurrency’, then this field must be omitted.
 |
| VATAmount­Domestic­Currency | M | ESMCurrency­Code­Type | Currency in which the VAT amount is expressed in the corresponding country. |
| TaxStatement | M | Alphanumeric­Type | General text description of the applicable tax regime. |
| FXRate | O | UnsignedPriceType | FX rate applied to convert the VAT amount into the domestic VAT amount. |
| FXCurrencyPair | O | FXCurrencyPairType | Pair of VAT amount currency and domestic VAT amount currency.**Occurrence:*** If ‘VATAmount­Domestic­Currency’ differs from ‘VATAmountCurrency’, then this field is mandatory.
* If ‘VATAmount­Domestic­Currency’ is identical to ‘VATAmountCurrency’, then this field must be omitted.

**Values:*** The currencies in this field must correspond to the currencies in ‘VATAmountCurrency’ and ‘VATAmountDomesticCurrency’.

**Note:** In the future, this data may be derived automatically by the process. |
| FXReference | O | FXReference­Type | Link to officially published fixing value for the FX rate. |
| ExciseTaxInformation | O | AlphanumericType | Indirect tax applied by the local government of the supplier to the specific commodity embedded in the invoice. |
| End of **VATDetails** |
| InvoiceData/GrossAmount: mandatory section |
| TotalAmount | M | UnsignedPriceType | Sum of the total net amount and the VAT amount.Matching field. |
| TotalAmount­Currency | M | ESMCurrency­Code­Type | Currency in which the total net amount is expressed.Matching field. |
| End of **GrossAmount** |
| SelfBilling | M | TrueFalseType | Indicates whether this document is part of a selfbilling process.In case of selfbilling, both the invoice and the shadow document must be produced by the trader who undertakes the selfbilling. The trader produces the invoice or shadow document from their perspective as normal with ‘SelfBilling’ set to “False”. In addition, the trader produces their counterparty’s invoice or shadow document as if it were raised by the counterparty with ‘SelfBilling’ set to “True”. The matching engines will operate matching as usual. |
| Regulatory­Wording | O | AlphanumericType | Information on the regulatory context of the invoice. |
| End of **InvoiceData** |

## LineItems

| Name | Usage | Type | Business Rule |
| --- | --- | --- | --- |
| ESMDocument/LineItems: optional section**Occurrence:*** If the ‘InvoiceData’ section is present and ‘LineItemsMatching’ is set to “Strict”, then the ‘LineItems’ section is mandatory.
* If the ‘InvoiceData’ section is present and ‘LineItemsMatching’ is set to “NonStrict”, then the ‘LineItems’ section is optional.
* **If the ‘NettingStatement’ section is present, then the ‘LineItems’ section must be omitted.**
 |
| LineItems/LineItem: mandatory, repeatable section (1-n)A line item can describe a physical transaction, a financial transaction or the fees or premiums associated with a physical or financial transaction. Prices for financials can be signed to allow grouping of all transactions under one invoice.**Repetition:*** For each line item, one ‘LineItem’ section is provided.
* Each ESMDocument may only contain ‘LineItem’ sections of the same type that describe the underlying transactions, for example, only line items for physical transactions or only line items for fees or premiums.
 |
| SupplierTradeID | C | TradeIDType | Unique reference number of the transaction according to the supplier’s ETRM system.**Occurrence:*** If ‘ProcessInformation/SenderRole’ is set to “Official­Document­Issuer” and ‘InvoiceData/­Selfbilling’ is set to “False”, then this field is mandatory.
* If ‘ProcessInformation/SenderRole’ is set to “Shadow­Document­Issuer” and ‘InvoiceData/­Selfbilling’ is set to “True”, then this field is mandatory.
* Else, this field must be omitted.
 |
| CustomerTradeID | C | TradeIDType | Unique reference number of the transaction according to the customer’s ETRM system.**Occurrence:*** If ‘ProcessInformation/SenderRole’ is set to “Shadow­Document­Issuer” and ‘InvoiceData/­Selfbilling’ is set to “False”, then this field is mandatory.
* If ‘ProcessInformation/SenderRole’ is set to “Official­Document­Issuer” and ‘InvoiceData/­Selfbilling’ is set to “True”, then this field is mandatory.
* Else, this field must be omitted.
 |
| UTI | O | UTIType | Unique Trade Identifier (UTI) acting as unique reference for the transaction, shared between supplier and customer. |
| SettlementVolume | M | UnsignedQuantityType | Total settlement volume of the transaction which is due according the scope of the line item.Matching field. |
| Settlement­Volume­Unit | M | ESMUnitOfMeasure­Type | Unit of measure in which the volume of the line item is expressed.Matching field. |
| Description | O | AlphanumericType | Descriptive text on additional specifications of the transaction described by this line item, for example, to reflect the name of the strategy it belongs to or the type of a fee or premium. |
| TransactionType | O+C | ESMTransactionType | **Values:*** If the transaction is a fixed swap, then set this field to “FXD\_SWP”.
* If the transaction is a float swap, then set this field to “FLT\_SWP”.
* If the transaction is a fee or premium for a physical transaction, then set this field to “DAH\_FEE”, “IND\_FEE”, “FOR\_FEE”, “PHYS\_FEE”, “GASCAPPRI\_FEE” or “GASCAPSEC\_FEE”.
 |
| LineItem/LineItemDetails: mandatory, repeatable section (1-2) **Occurrence and Values:*** If ‘AggregationKeys/PhysicalOrFinancial’ is set to “Physical”, “PhysicalFeeOrPremium” or “FinancialFeeOrPremium”, then one ‘LineItemDetails’ section must be provided, which contains the details about the line item.
* If ‘AggregationKeys/PhysicalOrFinancial’ is set to “Financial”, then two ‘LineItemDetails’ sections must be provided as follows:
	+ For fixed swaps, the first ‘LineItemDetails’ section contains the details of the fixed leg of the transaction, and the second ‘LineItemDetails’ section contains the details of the floating leg of the transaction.
	+ For float/float swaps the ordering of the legs is determined as follows: The first leg must correspond to the SSDSID that comes first when the supplier and the customer SSDSIDs are ordered.
 |
| Price | M | PriceType | Price of the physical transaction or the price of a fee or premium or the price of leg 1 or leg 2 of the transaction expressed per unit of measure.For financials, the price can be positive or negative depending on whether the price of the leg is owed or received from the perspective of the sender.Matching field.**Values:*** If ‘AggregationKeys/PhysicalOrFinancial’ is set to “Financial”, then the value of this field can be positive or negative.
* If ‘AggregationKeys/PhysicalOrFinancial’ is set to “Physical”, then the value of this field must be positive.
 |
| Price­Currency | M | ESMCurrency­Code­Type | Currency in which the price of the line item or the price of leg 1 or leg 2 of the transaction is expressed.Matching field. |
| IndexName | C | IndexNameType | Index name that is used if ISIN or standardized name exists, including its term. For examples, please refer to <https://www.energytraderseurope.org/data-standard-overview/static--data>.**Occurrence and Values:**‘AggregationKeys/PhysicalOrFinancial’ is set to “Physical”: * If ‘FixedOrFloating’ is set to “Fixed”, then this field must be omitted.
* If ‘FixedOrFloating’ is set to “Floating”, then this field is mandatory.
* If ‘FixedOrFloating’ is set to “FixedAndFloating”, then this field is optional.

‘AggregationKeys/PhysicalOrFinancial’ is set to “Financial”: * If ‘FixedOrFloating’ is set to “Fixed”, then the following applies:
	+ If this is the first ‘LineItemDetails’ section, then this field must be omitted.
	+ If this is the second ‘LineItemDetails’ section, then this field is mandatory.
* If ‘FixedOrFloating’ is set to “Floating”, then this field is mandatory.
* If ‘FixedOrFloating’ is set to “FixedAndFloating”, then this field is optional.

‘AggregationKeys/PhysicalOrFinancial’ is set to “PhysicalFeeOr­Premium” or “FinancialFeeOr­Premium”:* This field must be omitted.
 |
| LineItemDetails/NetAmount: mandatory section |
| TotalAmount | M | PriceType | For a physical transaction, the total settlement amount that is due according to the transactions comprised in the scope of the line item.For a financial transaction, the total settlement amount that is due according to the transactions that leg 1 or leg 2 comprises. The value can be positive or negative depending on whether the total amount is owed or received from the perspective of the sender. For a fee or premium, the total settlement amount that is due.Matching field.**Values:*** If ‘AggregationKeys/PhysicalOrFinancial’ is set to “Financial”, then the value of this field can be positive or negative.
* If ‘AggregationKeys/PhysicalOrFinancial’ is set to “Physical”, then the value of this field must be positive.
 |
| TotalAmountCurrency | M | ESMCurrency­Code­Type | Currency in which the total net amount is expressed.Matching field. |
| End of **NetAmount** |
| DeliveryStartDate | M | DateType | Start of the period during which deliveries are to be settled within the scope of this line item.The delivery start date must be on or after the ‘DeliveryStartDate’ in the ‘InvoiceData’ section.Matching field. |
| DeliveryEndDate | M | DateType | End of the period during which deliveries are to be settled within the scope of this line item.The delivery end date must be before or on the ‘DeliveryEndDate’ in the ‘InvoiceData’ section.Matching field.**Note:** For the Gas Day, the delivery end date is the day on which the last Gas Day within the delivery period starts, not the day on which the delivery actually ends. Example: For a monthly delivery in January, the delivery end date is January 31.  |
| End of **LineItemDetails** |
| LineItem/NetAmount: conditional section**Occurrence:*** If two ‘LineItemDetails’ sections are present, then this section is mandatory.
* Else, this section must be omitted.
 |
| TotalAmount | M | PriceType | Total settlement amount that is due according to the transactions comprised in leg 1 and leg 2 of this line item.The value can be positive or negative depending on whether the total amount is owed or received from the perspective of the sender.Matching field. |
| TotalAmountCurrency | M | ESMCurrency­Code­Type | Currency in which the total net amount is expressed.Matching field. |
| End of **NetAmount** |
| VATRate | O | UnsignedPriceType | VAT rate applicable to the transaction.Numerical representation of percentage as a decimal value.**Values:*** VAT rates are reported using a leading 0 before the decimal point and with a maximum of three digits after the decimal point. Examples: “0.19” for 19% or “0.175” for 17.5%.
 |
| VATAmount | O | PriceType | VAT amount, total net amount multiplied by VAT rate.Value can be positive or negative depending on the nature of the total amount.**Values:*** The value of this field must have the same sign as ‘LineItems/LineItem/NetAmount/TotalAmount’.
 |
| TradeDate | M | DateType | Date the transaction took place.Matching field. |
| DateOfFirstDelivery | M | DateType | First delivery date of the transaction.Matching field. |
| DateOfLastDelivery | M | DateType | Last delivery date of the transaction.Matching field. |
| End of **LineItem** |
| End of **LineItems** |

## NettingStatement

| Name | Usage | Type | Business Rule |
| --- | --- | --- | --- |
| ESMDocument/NettingStatement: conditional section**Occurrence:*** If the ESMDocument describes a netting statement, then the ‘NettingStatement’ section is mandatory.
* If the ESMDocument describes an invoice, then this section must be omitted and the ‘InvoiceData’ section is used instead.
 |
| NettingStatement­Date | M | DateType | Issue date of the netting statement. |
| NettingStatementID | M | Identification­Type | Unique identifier of the netting statement, often issued and/or adopted by the sender’s ERP system. |
| NettingStatement/Supplier: mandatory section |
| VATID | M | VATIDType | VAT number as identifier used by the supplier’s national tax authority. |
| VAT­Representative | O | AlphanumericType | Person/organisation acting as the supplier’s tax representative. |
| LegalName | M | Alphanumeric­Type | Legal name identifying the supplier in a national or regional company register. |
| IdentifierCode | M+C | ESM­Identifier­Code­Type | Supplier **identifier code as currently applied in different official registries.****Values:*** If ‘TypeOfIdentifierCode’ is set to “EIC”, then this field must contain a valid EIC.
* If ‘TypeOfIdentifierCode’ is set to “LEI”, then this field must contain a valid LEI.
* If ‘TypeOfIdentifierCode’ is set to “ACERCode”, then this field must contain a valid ACER code.
 |
| TypeOfIdentifier­Code | M | TypeOfESMIdentifier­CodeType | Type of code detailing the nature of the supplier **identifier code**. |
| Company­Registry­Number | M | AlphanumericType | Number of the register where the supplier is registered. |
| Company­Registry­Name | M | AlphanumericType | Name of the register where the supplier is registered. |
| Company­RegistryCity | M | AlphanumericType | City of the register where the supplier is registered. |
| Company­Registry­Country | M | CountryCodeType | Country of the register where the supplier is registered. |
| ­Branch­Information | O | AlphanumericType | Information about the specific supplier branch acting as the party in this invoice. |
| ServiceProvider | M | AlphanumericType | Name of the eSM service provider that is used by the supplier. Valid values are provided as eSM static data.  |
| Supplier/LegalAddressDetails: mandatory section |
| Street | M | Alphanumeric­Type | Street name of the supplier’s legal address. |
| StreetNumber | O | Alphanumeric­Type | Street number of the supplier’s legal address. |
| City | M | Alphanumeric­Type | City of the supplier’s legal address. |
| PostalCode | M | Postal­Code­Type | Postal code of the supplier’s legal address. |
| Country | M | CountryCodeType | Country of the supplier’s legal address, expressed as ISO code. |
| End of **LegalAddressDetails** |
| Supplier/OtherAddressDetails: optional sectionThe other address can be used for invoicing and settlements service centers that are physically hosted at another address. |
| Street | M | Alphanumeric­Type | Street name of the supplier’s other address. |
| StreetNumber | O | Alphanumeric­Type | Street number of the supplier’s other address. |
| City | M | Alphanumeric­Type | City of the supplier’s other address. |
| PostalCode | M | Postal­Code­Type | Postal code of the supplier’s other address. |
| Country | M | CountryCodeType | Country of the supplier’s other address, expressed as ISO code. |
| End of **OtherAddressDetails** |
| Supplier/ContactDetails: mandatory section |
| FirstName | O | AlphanumericType | First name of supplier contact. |
| FamilyName | O | AlphanumericType | Family name of supplier contact. |
| PhoneNumber | O | PhoneNumberType | Phone number of supplier contact. |
| Email | M | EmailType | E-mail address of supplier contact. |
| End of **ContactDetails** |
| Supplier/BankingDetails: mandatory section |
| IBAN | M | IBANType | IBAN code of supplier banking details. |
| BIC | M | BICType | BIC of supplier banking details. |
| AccountHolder | O | AlphanumericType | Account holder of supplier banking details. |
| End of BankingDetails |
| End of **Supplier** |
| NettingStatement/Customer: mandatory section |
| VATID | O | VATIDType | VAT number as identifier used by the customer’s national tax authority. |
| LegalName | M | Alphanumeric­Type | Legal name identifying the customer in a national or regional company register. |
| IdentifierCode | M+C | ESM­IdentifierCode­Type | Customer **identifier code as currently applied in different official registries.****Values:*** If ‘TypeOfIdentifierCode’ is set to “EIC”, then this field must contain a valid EIC.
* If ‘TypeOfIdentifierCode’ is set to “LEI”, then this field must contain a valid LEI.
* If ‘TypeOfIdentifierCode’ is set to “ACERCode”, then this field must contain a valid ACER code.
 |
| TypeOfIdentifier­Code | M | TypeOfESMIdentifier­CodeType | Type of code detailing the nature of the supplier **identifier code**. |
| ­Branch­Information | O | AlphanumericType | Information about the specific customer branch acting as the party in this netting statement. |
| ServiceProvider | M | AlphanumericType | Name of the eSM service provider that is used by the supplier. Valid values are provided as eSM static data.  |
| Customer/LegalAddressDetails: mandatory section |
| Street | M | Alphanumeric­Type | Street name of the customer’s legal address. |
| StreetNumber | O | Alphanumeric­Type | Street number of the customer’s legal address. |
| City | M | Alphanumeric­Type | City of the customer’s legal address. |
| PostalCode | M | Postal­Code­Type | Postal code of the customer’s legal address. |
| Country | M | CountryCodeType | Country of the customer’s legal address, expressed as ISO code. |
| End of **LegalAddressDetails** |
| Customer/OtherAddressDetails: optional sectionThe other address can be used for invoicing and settlements service centers that are physically hosted at another address. |
| Street | M | Alphanumeric­Type | Street name of the customer’s other address. |
| StreetNumber | O | Alphanumeric­Type | Street number of the customer’s other address. |
| City | M | Alphanumeric­Type | City of the customer’s other address. |
| PostalCode | M | Postal­Code­Type | Postal code of the customer’s other address. |
| Country | M | CountryCodeType | Country of the customer’s other address, expressed as ISO code. |
| End of **OtherAddressDetails** |
| Customer/ContactDetails: mandatory section |
| FirstName | O | AlphanumericType | First name of customer contact. |
| FamilyName | O | AlphanumericType | Family name of customer contact. |
| PhoneNumber | O | PhoneNumberType | Phone number of customer contact. |
| Email | M | EmailType | E-mail address of customer contact. |
| End of **ContactDetails** |
| End of **Customer** |
| NettingStatement/NetAmount: mandatory section |
| TotalAmount | M | UnsignedPriceType | Total settlement amount that is due according to the transactions in the scope of the invoice document.Matching field. |
| TotalAmountCurrency | M | ESMCurrency­Code­Type | Currency in which the total net amount is expressed.Matching field. |
| End of **NetAmount** |
| NettingStatement/VATDetails: mandatory section |
| VATAmount | M | UnsignedPriceType | VAT amount, total net amount multiplied by VAT rate.Matching field. |
| VATAmountCurrency | M | ESMCurrency­Code­Type | Currency in which the VAT amount is expressed.Matching field. |
| End of **VATDetails** |
| NettingStatement/GrossAmount: mandatory section |
| TotalAmount | M | UnsignedPriceType | Sum of the total net amount and the VAT amount.Matching field. |
| TotalAmount­Currency | M | ESMCurrency­Code­Type | Currency in which the total net amount is expressed.Matching field. |
| End of **GrossAmount** |
| Regulatory­Wording | O | AlphanumericType | Information on the regulatory context of the netting statement. |
| End of **NettingStatement** |

## NettingStatementLineItems

| Name | Usage | Type | Business Rule |
| --- | --- | --- | --- |
| ESMDocument/NettingStatementLineItems: mandatory section |
| LineItems/LineItem: mandatory, repeating section**Repetition:*** For each line item that is to be matched, one ‘LineItem’ section is provided.
 |
| SupplierInvoiceID | C | IdentificationType | Unique reference number of the invoice according to the supplier’s ETRM/ERP system.**Occurrence:*** If the sender is the payor, then this field is mandatory.
* If the sender is the payee, then this field must be omitted.

**Important:** Regardless of the sender role on netting statement level, the sender shall determine for each netting statement line item separately whether they are the payor or payee, based on the processing of the fields ‘SenderRole’ and ‘Selfbilling’ that would apply if the corresponding invoice were submitted individually to the eSM process. |
| CustomerInvoiceID | C | IdentificationType | Unique reference number of the invoice according to the customer’s ETRM/ERP system.**Occurrence:*** If the sender is the payee, then this field is mandatory.
* If the sender is the payor, then this field must be omitted.

**Important:** Regardless of the sender role on netting statement level, the sender shall determine for each netting statement line item separately whether they are the payor or payee, based on the processing of the fields ‘SenderRole’ and ‘Selfbilling’ that would apply if the corresponding invoice were submitted individually to the eSM process. |
| InvoiceDate | M | DateType | Date of issue of the invoice. |
| LineItem/NetAmount: mandatory section |
| TotalAmount | M | UnsignedPriceType | The total settlement amount that is due according to the scope of the invoice document corresponding to this line item. Matching field. |
| TotalAmountCurrency | M | ESMCurrency­Code­Type | Currency in which the total net amount is expressed.Matching field. |
| End of **NetAmount** |
| LineItem/VATDetails: mandatory section |
| VATRate | M | Unsigned­Price­Type | VAT rate applicable to the netting statement line item.Numerical representation of percentage as a decimal value.Matching field.**Values:**VAT rates are reported using a leading 0 before the decimal point and with a maximum of three digits after the decimal point. Examples: “0.19” for 19% or “0.175” for 17.5%. |
| VATAmount | M | UnsignedPriceType | VAT amount, total net amount multiplied by VAT rate.* Matching field.
 |
| VATAmountCurrency | M | ESMCurrency­Code­Type | Currency in which the VAT amount is expressed.Matching field. |
| End of **VATDetails** |
| LineItem/GrossAmount: mandatory section |
| TotalAmount | M | UnsignedPriceType | Sum of the total net amount and the VAT amount.* Matching field.
 |
| TotalAmount­Currency | M | ESMCurrency­Code­Type | Currency in which the total gross amount is expressed.Matching field. |
| End of **GrossAmount** |
| End of **LineItem** |
| End of **LineItems** |

# Description of New CpML Field Names

The following tables list all new CpML field names in alphabetical order. The valid values derived from the types are listed in the field type descriptions.

## A–D

|  |  |  |
| --- | --- | --- |
| Field name | Definition | Based on type  |
| AccountHolder | Name of banking account holder. | AlphanumericType |
| Agreement | The master trading agreement under which the transaction is conducted.  | ESMAgreementType |
| BIC | Bank identifier code as defined by ISO 9362. | BICType |
| Branch­Information | Supplier branch acting as invoice party or customer branch acting as shadow invoice party. | AlphanumericType |
| City | Name of a city. | Alphanumeric­Type |
| Company­RegistryCity | City of the register where a company is listed. | AlphanumericType |
| Company­Registry­Country | Country of the register where a company is listed. | CountryCodeType |
| Company­Registry­Name | Number of the register where a company is listed. | AlphanumericType |
| Company­Registry­Number | Number of the register where a company is listed. | AlphanumericType |
| Country | Country name, represented as ISO 3166-1 alpha-2 code. | CountryCodeType |
| CustomerInvoiceID | Unique identifier of an invoice as supplied by the customer. | IdentificationType |
| CustomerSSDSID | Unique customer identifier, as defined by the System Static Data Standard. | SSDSIDType |
| CustomerTradeID | Unique transaction reference number according to the customer’s ETRM system. | TradeIDType |
| Description | Text that describes additional transaction specifications. | AlphanumericType |

## E–L

| Field name | Definition | Based on type  |
| --- | --- | --- |
| Email | E-mail address. | EmailType |
| ExciseTaxInformation | Indirect tax applied by the local government. | AlphanumericType |
| FamilyName | A person’s family name. | AlphanumericType |
| FirstName | A person’s first name. | AlphanumericType |
| FixedOrFloating | Price relation of the transactions that make up an invoice. | FixedOrFloatingType |
| FXCurrencyPair | Pair of VAT amount currency and domestic VAT amount currency. | FXCurrencyPairType |
| FXRate | FX rate that is applied to convert an amount in one currency to another currency. | UnsignedPriceType |
| IBAN | International bank account number as defined by ISO 13616:2007. | IBANType |
| IdentifierCode | **Identifier code of a supplier or customer of an invoice as currently applied in different official registries, for example, an EIC.** | ESMIdentifierCode­Type |
| IdentifierCode | **Identifier code of a supplier or customer of an invoice as currently applied in different official registries, for example, an EIC.** | ESMIdentifierCode­Type |
| InvoiceDate | Date of issue of an invoice. | DateType |
| InvoiceID | Unique identifier of an invoice document. | IdentificationType |
| InvoicePeriod­End | End date of the settlement period for deliveries. | DateType |
| InvoicePeriod­Start | Start date of the settlement period for deliveries. | DateType |
| LegalName | Legal identifier of a company in a national or regional company register. | Alphanumeric­Type |
| LineItemsIncluded | Indicates whether an invoice contains line items. | TrueFalseType |
| LineItemsMatching | Indicates whether line items are used for matching an invoice. | LineItems­Matching­Type |

## M–R

| Field name | Definition | Based on type  |
| --- | --- | --- |
| Market­Information | Indicates a country or pair of countries (border) where a financial transaction is executed. | Market­Information­Type |
| NatureOfPrice | Indicates whether a transaction has a positive or zero price or a negative price. | NatureOfPrice­Type  |
| NettingStatementDate | Delivery date of the last transaction in a netting statement. | DateType |
| NettingStatementID | Unique identifier of a netting statement. | Identification­Type |
| PaymentDate | Due date of an amount. | DateType |
| PhoneNumber | Phone number with international prefix. | PhoneNumberType |
| PhysicalOrFinancial | Indicates the nature of the transactions that make up an invoice.  | PhysicalOrFinancial­Type  |
| PostalCode | Postal code in country-specific format. | PostalCodeType |
| PriceCurrency | Currency in which a price is expressed. | CurrencyCodeType |
| PurchaseOrSalesOrder­Number | Unique identifier of a purchase or sales order. | IdentificationType |
| RegulatoryWording | Information on the regulatory context of an invoice. | AlphanumericType |

## S–Z

| Field name | Definition | Based on type  |
| --- | --- | --- |
| SelfBilling | Indicates whether an invoice is part of a selfbilling process. | TrueFalseType |
| SenderRole | Indicates the sender of a document: the official document issuer or the shadow document issuer. | Sender­Role­Type |
| ServiceProvider | Name of a valid eSM service provider as provided by eSM static data. | AlphanumericType |
| SettlementVolume | Total settlement volume that is due according to the scope of an invoice document. | UnsignedQuantityType |
| Settlement­Volume­Unit | Unit of measure in which the settlement volume is expressed. | ESMUnitOfMeasure­Type  |
| Street | Street name without street number. | AlphanumericType |
| StreetNumber | Street number, which may contain letters and digits. | AlphanumericType |
| SupplierInvoiceID | Unique identifier of an invoice as supplied by the supplier. | IdentificationType |
| SupplierSSDSID | Unique identifier of a company, as defined by the System Static Data Standard. | SSDSIDType |
| SupplierTradeID | Unique transaction reference number based on the supplier’s ETRM system. | TradeIDType |
| TaxPoint | The last day of the month in which the last delivery occurs according to the contract. | DateType |
| TaxStatement | General text description of the applicable tax regime. | AlphanumericType |
| TotalAmount | Total settlement amount that is due according to the scope of an invoice document. | PriceType/Unsigned­PriceType |
| TypeOfIdentifier­Code | Type of an **identifier code.** | TypeOfESMIdentifier­CodeType |
| VATAmount | VAT amount, total net amount multiplied by VAT rate. | PriceType/Unsigned­PriceType |
| VATAmountCurrency | Currency in which the VAT amount is expressed. | Currency­Code­Type |
| VATAmountDomestic | VAT amount expressed in the domestic currency. | UnsignedPriceType |
| VATAmount­Domestic­Currency | Currency in which the domestic VAT amount is expressed. | Currency­Code­Type |
| VATID | VAT number as identifier used by the company’s national tax authority. | VATIDType |
| VAT­Jurisdiction­Currency | Currency that applies in the jurisdiction of the supplier. | Currency­Code­Type |
| VATRate | VAT rate that applies to an invoice document or a transaction.VAT rates are reported using a leading 0 before the decimal point and with a maximum of three digits after the decimal point. Examples: “0.19” for 19% or “0.175” for 17.5%. | Unsigned­Price­Type |
| VAT­Representative | Person/organisation acting as tax representative. | AlphanumericType |

# Description of New CpML Field Types

The following tables list all new CpML field types in alphabetical order. Where applicable, valid values are described. The Length column describes the maximum string length, where applicable. If nothing else is stated, the minimum string length is 1.

## A-D

|  |  |  |  |
| --- | --- | --- | --- |
| Field Type  | Definition | Base Type | Length |
| Alphanumeric­Type | Generic type to describe strings containing letters, digits, blanks, and special characters such as slashes or dots.No trailing or leading whitespace is allowed. | String |  |
| BICType | Text string representing a BIC, using 8 or 11 characters:* 4 letters or digits: business party prefix
* 2 letters: country code according to ISO 3166-1
* 2 letters or digits: business party suffix
* 3 letters or digits: optional branch identifier

Example: DEUTDE2HXXX | string | 8 or 11 |
| DecimalPercentageType | Numerical value representing a percentage as a decimal value. Requires exactly two digits after the decimal point. Pattern: 0\.[0-9]{2}Example: 0.19 represents 19%. Note: Type is currently not in use. | Decimal | 4 |

## E–L

|  |  |  |  |
| --- | --- | --- | --- |
| Field Type  | Definition | Base Type | Length |
| EmailType | String representing an e-mail address. Must include a local part (user name) followed by @ and a domain part.  | String |  |
| ESMAgreement­Type | Contract ID of a master agreement.  | String | 110 |
| ESMCurrency­Code­Type | ISO 4217 3 alpha code identifying a currency unit. Only uppercase letters are allowed. | String | 3-3 |
| ESMEnergyProductType | The identification of the nature of an energy product such as Power, gas, oil, active power, reactive power, coal etc.Values:* Gas
* Power
* Oil
* Coal
* Bullion
* Metal
* Agriculturals
* Paper

The identification of the nature of an EUA vintages defined by the European Directive and Certified Emissions Reductions (CERs) as well as equivalent UK legislation:* EUAPhase\_3
* EUAPhase\_4
* CER
* ERU
* AAU
* UKA (UK Allowance)

These values will be referred to collectively as ‘Emissions Commodity’ for the purpose of defining related business rule within the document. | NMTOKEN |  |
| ESM­Identifier­Code­Type | Identifier code of the customer or supplier of an invoice, represented as EIC, LEI or ACER code. | String | 1-20 |
| ESMTransaction­Type | The following transaction types are collectively termed Physical Transactions:* FOR: Physical Forward that settles against a fixed price.
* OPT: Option on a physical forward.
* PHYS\_INX: Physical forward that settles against an index.
* OPT\_PHYS\_INX: Option on a physical forward that settles against an index.

The following transaction types are collectively termed Financial Transactions:* FXD\_SWP: Fixed/float swap
* FLT\_SWP: Float/float swap
* OPT\_FXD\_SWP: Fixed/float swaption
* OPT\_FLT\_SWP: Float/float swaption
* OPT\_FIN\_INX: Option on an index.

The following transaction types are related to fees and premiums:* DAH\_FEE: Fee or premium for a day-ahead trade
* IND\_FEE: Fee or premium for an index trade.
* FOR\_FEE: Fee or premium for a forward trade.
* PHYS\_FEE: Fee or premium for a physical trade.
* GASCAPPRI\_FEE: Fee or premium for a primary gas capacity trade.
* GASCAPSEC\_FEE: Fee or premium for a secondary gas capacity trade.
 | NMTOKEN |  |
| ESMUnitOf­Measure­Type | The unit of measure that is applied to a quantity. The following values are allowed: * 100MJ, 100MJPerDay
* AAU
* Bag, BBL, BCF, BF, BSH, BTU, BTUPerDay
* CBU, Celsius, CER, cwt
* Day, DTH
* EUA, EUAA
* Fahrenheit, Fee
* g, GAL, GJ, GJPerDay, GW, GWh, GwhPerDay
* hL
* in, Ingot
* KG, kL, KM3, KW, KWh, KwhPerDay
* L, LB, LEC
* M3, M3PerDay, MCM, MCMPerDay, MJ, MJPerDay, MMBTU, MMBTUPerDay, MMJ, MMJPerDay, MT, MW, MWh, MwhPerDay
* NM3
* OBU, ozt
* ROC
* SBU, SM3, st
* t, Therm, ThermPerDay
* UKA
* Vega
* WBU

The following values are present in the current CpML specification, but not implemented in the 6.4.3 schemas. For completeness, they are also listed, but not yet implement for eSM either:* BBLPerMonth, DayPerMonth, ERU, Ktherm, KthermPerDay, MTPerMonth

**Important:** The valid value for Emissions (EUA and CER) Trade Confirmations is “EUA”. **Important:** 1 EUA = 1 tonne of CO2. | NMTOKEN |  |
| FixedOrFloating­Type | The following values are allowed:* Fixed
* Floating
* FixedAndFloating
 | string |  |
| FXCurrencyPair­Type | Two alphabetic currency codes according to ISO 4217, separated by a slash. Example: EUR/GBP | string | 7-7 |
| IBANType | String representing an IBAN according to ISO 13616:2007:* 2-letter country code according to ISO 3166-1
* 2-digit checksum
* Country-specific bank account number with up to 30 alphanumeric characters

Example: DE91100000000123456789 | string | 5-34 |
| LineItems­Matching­Type | The following values are allowed:* Strict
* NonStrict
 | string |  |

## M–R

| Field Type  | Definition | Base Type | Length |
| --- | --- | --- | --- |
| Market­Information­Type | String representing a country or pair of countries using 2-letter country codes according to ISO 3166-1. If two countries are indicated, they are separated by a slash.Example: DE/NLAdditional value = “ALL” can be used instead of a country codes. | string | 2, 3 or 5 |
| NatureOfPrice­Type | The following values are allowed:* PositiveOrZero
* Negative
* NotApplicable
 | string |  |
| PhoneNumberType | String representing an international phone number, starting with + and followed by numbers.Zeros for local prefixes should not be indicated. Special characters such as brackets, hyphens, blanks, or slashes are not allowed.Example: +4930987654321 | string | ≥6 |
| PhysicalOrFinancial­Type | The following values are allowed:* Physical
* Financial
* PhysicalFeeOrPremium
* FinancialFeeOrPremium
 | string |  |
| Postal­Code­Type | String representing a postal code in the format of the corresponding country. Only capital letters, digits, and blanks are allowed. | string | 1-10 |
| PriceType | The price in some currency. Positive and negative values are permitted. Positive quantities shall not have a sign.  | Decimal | 25 |

## S–Z

| Field Type  | Definition | Base Type | Length |
| --- | --- | --- | --- |
| Sender­Role­Type | Indicates the sender of a document. The following values are allowed for invoices:* OfficialDocumentIssuer
* ShadowDocumentIssuer

The following values are allowed for netting statements:* DocumentIssuer
* ReverseDocumentIssuer
 | string |  |
| SSDSIDType | String that combines a VAT ID with an EIC, separated by an underscore.Example: GB684966762\_21X000000001022V | string |  |
| TypeOfESM­Identifier­Code­Type | The following values are allowed:* EIC
* LEI
* ACERCode
 | string |  |
| UnsignedPrice­Type | A price or amount in some currency or percentage thereof. Only unsigned values are permitted. | decimal |  |
| UnsignedQuantity­Type | A quantity in some quantity unit. Only unsigned values are permitted. | decimal |  |
| VATIDType | String representing a VAT ID, a country code followed by 2 to 13 letters or numerical digits. | string | 4-16 |

1. Glossary of Terms

|  |  |
| --- | --- |
| ****Term**** | ****Description**** |
| BIC | Business Identifier Code |
| ETRM system | Energy Trading and Risk Management system |
| EIC | Energy Identification Code |
| IBAN | International Bank Account Number |
| ISIN | International Securities Identification Number |
| LEI | Legal Entity Identifier |
| SSDS | System Static Data Standard |
| UTI | Unique Trade Identifier |
| VAT | Value-added Tax |