

# AQ eReporting Guide

Schema version: 5.02 – June 2026

Reporting guide version: R3\_v502\_AQ\_Reporting\_guide\_v2 – June 2026

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Welcome to the AQ eReporting Guide.

This guide provides structured documentation for the Reportnet 3 air quality reporting tables, their attributes, identifiers, relationships and examples.



## Introduction

Scope, purpose and general principles of the guide.



## Diagram

Overview of the reporting structure and table relationships.



## Tables

Detailed documentation of reporting tables and attributes.



## Identifiers

Reference information on identifiers, keys and links.



## Table relationships

Physical and logical relationships between reporting tables.

# Introduction

## Re-Submission and submission control through legacy/reference data

The data will be provided within 4 data flows:

comprehensive AQ data flow working in 'continuous' (re)submission mode (ex all data flows),

compliance validation with deadline of 30 of September (ex B to G data flows),

AQ plans validation with deadline of 31 of December (ex H to K data flows),

confirmation of provisional assessment regimes with deadline of 31 of December (ex pB and pC data flows).

## Comprehensive AQ data flow working in 'continuous' (re)submission mode

This is the only data flow where the actual reporting of data takes place.

All data should be allowed for submissions at any time, providing that they passed QC. The same applies for resubmissions.

The countries have to submit well in advance all data necessary for validation and confirmation at deadlines. This is to allow for data processing at the EEA, so that the tools provided by the Agency for the purpose of the validation and/or confirmation are ready on time.

The data submission should allow 'management by change', i.e. only reporting data which is new.

## Validation and confirmation at deadlines

The idea is that this will not be 'real' reporting data flow but will only require the country to validate/confirm what EEA concludes from data submitted within the 'Comprehensive AQ data flow'.

All tables will be pre-filled, based on information collected so far and countries will be asked to validate it by releasing.

The pre-filled tables will not be editable.

The pre-filling could be happening 'real time' and be visible for countries as they deliver data in the 'Comprehensive AQ data flow' - with particular emphasis on [ComplianceAssessmentMethod](#) and [CompliancePlanLink](#) tables. However, the validation/confirmation data flows will open for release for period of 30 - 45 days before the deadline. This will also allow countries to validate/confirm their resubmissions.

The validation/confirmation at deadlines will be allowed (Technical Acceptance) only if [ComplianceAssessmentMethod](#) and [CompliancePlanLink](#) tables are complete or if their incompleteness does not originate from technical issues with data.

There will be other tools (outside R3) provided for countries for assessing completeness and quality of their data (re)submitted in the 'Comprehensive AQ data flow'.

These external tools as well as the pre-filling will be fed from EEA's data base collecting data (re)submitted in the 'Comprehensive AQ data flow' and integrating it with the historical information.

EEA will have a parallel database with a snapshot of the legacy/reference data set taken at each deadline. It will serve as the main source of data for products as well as reference to compare with data processed after resubmissions. The resubmitted data will be allowed for validation/confirmation only if they do not affect previous compliance status.

## Reference data set

The reference data set will be wider than legacy data from AQ e-Reporting, it will include:

legacy data from AQ e-Reporting,

vocabularies,

gridded NUTS regions (100m) - to be generated by the EEA,

gridded AQ zones (100/1000 m) - to be generated by the EEA (and a process to automatically grid new zone geometries should be established),

gridded E1b results from the current e-Reporting system - to be generated by the EEA,

gridded sampling point locations - to be generated by the EEA,

gridded SRs - European coverage (100m) - to be generated by the EEA.

## Legacy data cleansing for the reference data flow

The legacy data collected within the current system will have to be reviewed and cleaned before it can be used for QC as reference.

The best way to achieve clean and consistent data set will be following these steps:

complete work on QC rules, iteratively improving the set of QCs (EEA)

generate full set of legacy data per country and run through the QCs (EEA)

ask country reporters to fix critical issues and upload the corrected legacy data to R3 to run through the QC rules

once this is done successfully, clean and consistent data set should be established for each country

## Maintenance of spatial coherence using common grid

The spatial coherence of the data will be maintained through common grid approach.

The common grid approach is understood as use of the EEA INSPIRE grid in Europe LAEA (SRID 3035) projection and recommended resolution steps (10, 100, 1000, 10000 m) for:

locations of sampling points,

zone geometries (reported by countries as polygons and gridded by the EEA),

exceedance extents,

modelling results (to be reported by countries on common grid),

SRs (although harmonised European SRs may be provided by the EEA, it can be overwritten by countries - reporting their own results on common grid).

Reporting in other resolutions will be allowed, fulfilling these conditions:

For resolutions < 100 m: integer multiple of 10, e.g.: 20, 30, 40, 50 m, etc.

For resolutions > 100 m: integer multiple of 100, e.g.: 200, 300, 400, ... , 2500 m, 5000 m, etc.

## **The benefits of using the common grid approach**

harmonised spatial reference for several elements: sampling points, representativeness areas, modelling results, exceedance extent (also AQ zones can be represented as grid),

simplified reporting of modelling results (flat table, geometry not needed),

efficient processing of reported data, e.g.: locations of sampling points (in zones, countries, NUTS regions), compliance statistics from modelling results, MQI calculations (sampling points vs modelling results), etc.

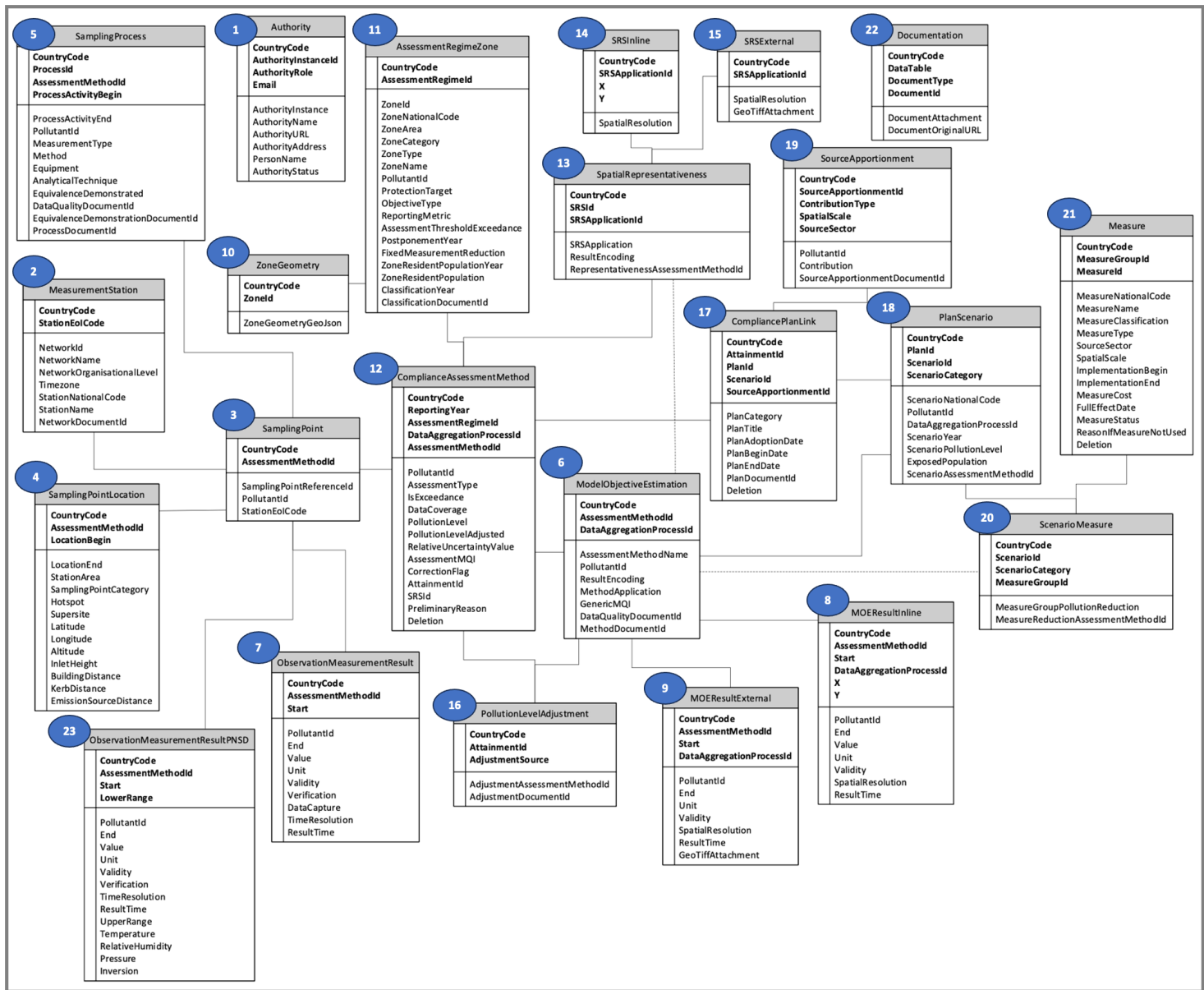
extending operational capacity of AQ e-Reporting, e.g.: processing of data reported for adjustments (natural sources, WSS), possibly - also from scenario modelling,

direct link to EEA's assessments: common grid with EEA's data on environmental burden of disease from air pollution, population data, AQ maps,

readiness for products: much less processing efforts needed to deliver products (online viewers, maps, etc).

# Data model diagram

The following diagram provides an overview of the Reportnet air quality reporting data model (v502).



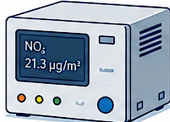
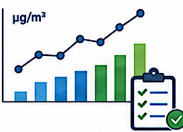
## Tables shown in the diagram

| No | Table                 |
|----|-----------------------|
| 1  | Authority             |
| 2  | MeasurementStation    |
| 3  | SamplingPoint         |
| 4  | SamplingPointLocation |
| 5  | SamplingProcess       |

| No | Table                            |
|----|----------------------------------|
| 6  | ModelObjectiveEstimation         |
| 7  | ObservationMeasurementResult     |
| 8  | MOEResultInline                  |
| 9  | MOEResultExternal                |
| 10 | ZoneGeometry                     |
| 11 | AssessmentRegimeZone             |
| 12 | ComplianceAssessmentMethod       |
| 13 | SpatialRepresentativeness        |
| 14 | SRSInline                        |
| 15 | SRSExternal                      |
| 16 | PollutionLevelAdjustment         |
| 17 | CompliancePlanLink               |
| 18 | PlanScenario                     |
| 19 | SourceApportionment              |
| 20 | ScenarioMeasure                  |
| 21 | Measure                          |
| 22 | Documentation                    |
| 23 | ObservationMeasurementResultPNSD |

# Tables

Select a reporting table below to view its structure, attributes and examples.

|                                                                                                                                     |                                                                                                                            |                                                                                                                           |                                                                                                                                     |                                                                                                                                              |                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <div>Authority</div> <div></div>                    | <div>MeasurementStation</div> <div></div> | <div>SamplingPoint</div> <div></div>     | <div>SamplingPointLocation</div> <div></div>      | <div>SamplingProcess</div> <div></div>                    | <div>ModelObjectiveEstimation</div> <div></div>   |
| <div>ObservationMeasurementResult</div> <div></div> | <div>MOEResultInline</div> <div></div>    | <div>MOEResultExternal</div> <div></div> | <div>AssessmentRegimeZone</div> <div></div>       | <div>ZoneGeometry</div> <div></div>                       | <div>ComplianceAssessmentMethod</div> <div></div> |
| <div>SpatialRepresentativeness</div> <div></div>  | <div>SRSInline</div> <div></div>        | <div>SRSExternal</div> <div></div>     | <div>PollutionLevelAdjustment</div> <div></div> | <div>CompliancePlanLink</div> <div></div>               | <div>PlanScenario</div> <div></div>             |
| <div>SourceApportionment</div> <div></div>       | <div>ScenarioMeasure</div> <div></div>  | <div>Measure</div> <div></div>         | <div>Documentation</div> <div></div>            | <div>ObservationMeasurementResultPNSD</div> <div></div> |                                                                                                                                      |

# Authority



Description

EEA extensions

Data management rules

Attributes

Attribute details

AUT\_01 – CountryCode

AUT\_02 – AuthorityInstanceId

AUT\_03 – AuthorityRole

AUT\_04 – Email

AUT\_05 – AuthorityInstance

AUT\_06 – AuthorityName

AUT\_07 – AuthorityURL

AUT\_08 – AuthorityAddress

AUT\_09 – PersonName

AUT\_10 – AuthorityStatus

Example

## Description

The purpose of the Authority table is to communicate the contact details of the responsible authorities. It describes the authorities and their area of responsibility (AuthorityRole).

Authority table has to be reported whenever new information or an update of existing information is available.

Attributes which create unique identifier of each record: CountryCode, AuthorityInstancelId, AuthorityRole and Email.

Updates of the Authority table will be managed using reference/legacy data, where each addition and modification will be stamped with ReportingTime:

addition of new record is understood as addition of new combination of values for the attributes creating unique identifier,

modification of existing record is understood as modification of a value for any other attribute. Validity of the new record will be tested using QC rules to be established, e.g. cross-checking AuthorityInstancelId against Zone table or MeasurementStation table.

Valid modifications of existing record in this table are almost all allowed, only correction of AuthorityInstance may be restricted as it depends on AuthorityInstancelId. Validity of the modifications of existing record will be tested using QC rules to be established. Allowed modifications are not supposed to affect outcomes of compliance analysis and/or assessments.

Data products for public will present the records with active AuthorityStatus and the latest ReportingTime for distinct combination of CountryCode, AuthorityInstancelId, AuthorityRole and AuthorityName so that PersonName and Email can be omitted.

Data products for reporters will present the records with active AuthorityStatus and the latest ReportingTime for each unique combination of CountryCode, AuthorityInstancelId, AuthorityRole and Email, including PersonName.

## EEA extensions

Authority table will be extended by EEA by several attributes:

Country (for convenience), based on ISO2 country codes,

ReportingTime, registering time of the latest reporting or modification for each record.

# Data management rules

Records in Authority table which have AuthorityStatus as inactive for 3 consecutive years will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name      | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                               | Related table(s) |
|----------------|---------------------|------------------|----------------------|------------|-----------------------------------------|------------------|
| AUT_01         | CountryCode         | varchar(2)       | string               | PK         | <a href="#">countries</a>               |                  |
| AUT_02         | AuthorityInstanceId | varchar(50)      | string               | PK         |                                         |                  |
| AUT_03         | AuthorityRole       | varchar(50)      | string               | PK         | <a href="#">authorityobject</a>         |                  |
| AUT_04         | Email               | varchar(50)      | string               | PK         |                                         |                  |
| AUT_05         | AuthorityInstance   | varchar(20)      | string               |            | <a href="#">authorityinstance</a>       |                  |
| AUT_06         | AuthorityName       | varchar(150)     | string               |            |                                         |                  |
| AUT_07         | AuthorityURL        | varchar(150)     | string               |            |                                         |                  |
| AUT_08         | AuthorityAddress    | varchar(150)     | string               |            |                                         |                  |
| AUT_09         | PersonName          | varchar(150)     | string               |            |                                         |                  |
| AUT_10         | AuthorityStatus     | varchar(10)      | string               |            | <a href="#">aq/authoritystatus</a><br>/ |                  |

## Attribute details

### AUT\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### AUT\_02 – AuthorityInstanceId

#### Reference

[View reference attribute](#) **Content**

Unique identifier depending on authority instance, e.g. Zoneld or NUTS code.

## Remarks

If AuthorityInstance is zone then AuthorityInstanceid is a Zoneid, if nuts then nuts code, if network - network id, etc.

It will be cross-checked against ARZ, STA, SPO or MOD table depending on the instance level.

## AUT\_03 – AuthorityRole

### Reference

[View reference attribute](#) **Content**

A general object identifier or classification (topic e.g. reporting, assessment etc.).

## AUT\_04 – Email

### Reference

[View reference attribute](#) **Content**

Email address of the contact person.

## Remarks

Email have to be filled in but reporting details on person's email are necessary only for reporters who need access to the ReportNet3.

An informed consent statement will be attached clarifying that this data will be used for establishing access rights and filling it in means both access request and consent for data use.

In other cases the attribute should be filled in as "Not Reported" or with organisation generic email address.

## AUT\_05 – AuthorityInstance

### Reference

[View reference attribute](#) **Content**

Name of the authority instance: zone, network, nuts0, nuts1, nuts2, nuts3, station, SPO, etc.

## AUT\_06 – AuthorityName

### Reference

[View reference attribute](#) **Content**

Name of the institute or organization.

## AUT\_07 – AuthorityURL

### Reference

[View reference attribute](#) **Content**

Website URL of the institute.

## AUT\_08 – AuthorityAddress

### Reference

[View reference attribute](#) **Content**

Address of the institute.

## AUT\_09 – PersonName

### Reference

[View reference attribute](#) **Content**

Name of the contact person in the authority or institute.

### Remarks

PersonName have to be filled in but reporting details on person's name are necessary only for reporters who need access to the ReportNet3.

An informed consent statement will be attached clarifying that this data will be used for establishing access rights and filling it in means both access request and consent for data use.

In other cases the attribute should be filled in as "Not Reported".

## AUT\_10 – AuthorityStatus

### Reference

[View reference attribute](#) **Content**

Status or classification of the authority (e.g. active/inactive).

### Example

| Attribute Code | Attribute Name       | Example                                                       | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|----------------------|---------------------------------------------------------------|------------------|----------------------|----|----|
| AUT_01         | CountryCode          | DU                                                            | varchar(2)       | string               | ✓  | ✓  |
| AUT_02         | AuthorityInstancelId | DU                                                            | varchar(50)      | string               | ✓  |    |
| AUT_03         | AuthorityRole        | 1                                                             | varchar(50)      | string               | ✓  | ✓  |
| AUT_04         | Email                | eve.bot@dema.dus                                              | varchar(50)      | string               | ✓  |    |
| AUT_05         | AuthorityInstance    | nuts0                                                         | varchar(20)      | string               |    | ✓  |
| AUT_06         | AuthorityName        | Dustovia Environmental Agency<br>(DEA) – Air Quality Division | varchar(150)     | string               |    |    |
| AUT_07         | AuthorityURL         | www.dea.dustovia.dus                                          | varchar(150)     | string               |    |    |
| AUT_08         | AuthorityAddress     | 42 CleanAir St, Terminalgrad,<br>Dustovia (DUS-4242)          | varchar(150)     | string               |    |    |
| AUT_09         | PersonName           | E.V.E. Bot                                                    | varchar(150)     | string               |    |    |
| AUT_10         | AuthorityStatus      | active                                                        | varchar(10)      | string               |    | ✓  |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet [Authority](#).

[Download complete examples workbook](#)

# MeasurementStation



Description

EEA extensions

Data management rules

Attributes

Attribute details

STA\_01 – CountryCode

STA\_02 – StationEolCode

STA\_03 – NetworkId

STA\_04 – NetworkName

STA\_05 – NetworkOrganisationalLevel

STA\_06 – Timezone

STA\_07 – StationNationalCode

STA\_08 – StationName

STA\_09 – NetworkDocumentId

Example

## Description

The purpose of the MeasurementStation table is to collect data on air quality measuring stations. It includes their Eol codes, names, as well as air quality networks they belong to and time zone in which the networks operate.

MeasurementStation table has to be reported whenever new information or an update of existing information is available. Attributes which create unique identifier of each record: CountryCode and StationEolCode.

Updates of the MeasurementStation table will be managed using reference/legacy data, where each addition and modification will be stamped with ReportingTime:

addition of new record is understood as addition of new combination of values for the attributes creating unique identifier,

modification of existing record is understood as modification of a value for any other attribute. Validity of the new record will be tested using QC rules to be established, e.g. testing validity of Eol codes.

Valid modifications of existing record in this table are minor corrections, e.g. of NetworkName, StationNationalCode, StationName or Timezone, which are not considered as station re-location into new conditions. Validity of the modifications of existing record will be tested using QC rules to be established. Allowed modifications are not supposed to affect outcomes of compliance analysis and/or assessments.

Data products will present the records with the latest ReportingTime for each unique combination of CountryCode and StationEolCode.

## EEA extensions

MeasurementStation table will be extended by EEA by several attributes:

Country (for convenience), based on ISO2 country codes,

City and CityCode, based on intersection of station location with city geometry,

ReportingTime, registering time of the latest reporting or modification for each record.

## Data management rules

For traceability purposes it is not allowed to change StationEolCode even in case of significant relocation.

It is recommended not to change NetworkDocumentId in case of documentation update related to the same station/network. Instead, a new attachment should be uploaded in Documentation table re-using the same DocumentId. Previous versions of documentation will be kept in reference data. In case where the same NetworkDocumentId was used for all stations and there is a need to modify documentation only for one specific station, it is recommended to create a new NetworkDocumentId for

that record in MeasurementStation table. Then report old network-specific and new station-specific documents as attachments for that new NetworkDocumentId in the Documentation table in a subsequent manner.

Station without active sampling points will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name             | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                           | Related table(s)              |
|----------------|----------------------------|------------------|----------------------|------------|-------------------------------------|-------------------------------|
| STA_01         | CountryCode                | varchar(2)       | string               | PK         | <a href="#">countries</a>           |                               |
| STA_02         | StationEolCode             | varchar(10)      | string               | PK         |                                     | <a href="#">SamplingPoint</a> |
| STA_03         | NetworkId                  | varchar(50)      | string               |            |                                     |                               |
| STA_04         | NetworkName                | varchar(150)     | string               |            |                                     |                               |
| STA_05         | NetworkOrganisationalLevel | varchar(20)      | string               |            | <a href="#">administrativelevel</a> |                               |
| STA_06         | Timezone                   | varchar(20)      | string               |            | <a href="#">timezone</a>            |                               |
| STA_07         | StationNationalCode        | varchar(50)      | string               |            |                                     |                               |
| STA_08         | StationName                | varchar(50)      | string               |            |                                     |                               |
| STA_09         | NetworkDocumentId          | varchar(150)     | string               |            |                                     | <a href="#">Documentation</a> |

## Attribute details

### STA\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### STA\_02 – StationEolCode

#### Reference

[View reference attribute](#) **Content**

Eol (Exchange of Information) code of the air quality measurement station, as in AirBase, either re-used or given by data provider following strict rules.

## Code list / reference

There will be no specific code list in Data Dictionary but the Station table in reference data flow will serve as code list for AirQualityStationEolCode values.

## Remarks

StationEolCode must be always provided and cannot be modified.

Station will become inactive if all sampling points in that station are inactive.

The same Station can become active again if there are new active sampling points or existing sampling points become active again.

## STA\_03 – NetworkId

### Reference

[View reference attribute](#) **Content**

Identifier of the air quality network, given by data provider.

## STA\_04 – NetworkName

### Reference

[View reference attribute](#) **Content**

Name of the air quality measurement network, given by data provider.

## STA\_05 – NetworkOrganisationalLevel

### Reference

[View reference attribute](#) **Content**

Level of administration or organization responsible for the air quality network (national, regional, local).

## STA\_06 – Timezone

### Reference

[View reference attribute](#) **Content**

Time zone in which air quality measurements and statistics are recorded.

Remarks

TimeZone must be provided and will be used for calculations of AQ statistics.

If TimeZone is modified, all statistics will be recalculated accordingly.

STA\_07 – StationNationalCode

Reference

[View reference attribute](#) **Content**

National code of the air quality measurement station, given by data provider.

STA\_08 – StationName

Reference

[View reference attribute](#) **Content**

Name of the air quality measurement station.

STA\_09 – NetworkDocumentId

Reference

[View reference attribute](#) **Content**

Identifier of the documentation on network and station.

Example

| Attribute Code | Attribute Name             | Example          | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|----------------------------|------------------|------------------|----------------------|----|----|
| STA_01         | CountryCode                | DU               | varchar(2)       | string               | ✓  | ✓  |
| STA_02         | StationEolCode             | DU0001           | varchar(10)      | string               | ✓  |    |
| STA_03         | NetworkId                  | NET_DU01         | varchar(50)      | string               |    |    |
| STA_04         | NetworkName                | Dustovia Capital | varchar(150)     | string               |    |    |
| STA_05         | NetworkOrganisationalLevel | regional         | varchar(20)      | string               |    | ✓  |

| Attribute Code | Attribute Name      | Example        | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|---------------------|----------------|------------------|----------------------|----|----|
| STA_06         | Timezone            | UTC-1          | varchar(20)      | string               |    | ✓  |
| STA_07         | StationNationalCode | DU01_01        | varchar(50)      | string               |    |    |
| STA_08         | StationName         | Rivny-Suburb-A | varchar(50)      | string               |    |    |
| STA_09         | NetworkDocumentId   | DOC_NET_DU01   | varchar(150)     | string               |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet MeasurementStation.

[Download complete examples workbook](#)

# SamplingPoint



Description

EEA extensions

Data management rules

Attributes

Attribute details

SPO\_01 – CountryCode

SPO\_02 – AssessmentMethodId

SPO\_03 – SamplingPointReferenceId

SPO\_04 – PollutantId

SPO\_05 – StationEoiCode

Example

## Description

The purpose of the SamplingPoint table is to ensure the link between the AssessmentMethodId, the SamplingPointReferenceId and the StationEoiCode.

Attributes which create unique identifier of each record: CountryCode and AssessmentMethodId.

Updates of the SamplingPoint table will be managed using reference/legacy data, where each addition and modification will be stamped with ReportingTime:

addition of new record is understood as addition of new combination of values for the attributes creating unique identifier,

modification of existing record is understood as modification of a value for any other attribute. Validity of the new record and modifications will be tested using QC (rules to be established) - e.g. cross checking against existing records in Station table. Allowed modifications are not supposed to affect outcomes of compliance analysis and/or assessments.

## EEA extensions

SamplingPoint table will be extended by EEA by several attributes:

Country (for convenience), based on ISO2 country codes,

Pollutant (for convenience), based on code list,

SamplingPointStatus, based on values in SamplingProcess.ProcessActivityEnd (if all ProcessId have ProcessActivityEnd populated the SamplingPointStatus is 'inactive', otherwise it is 'active'),

ReportingTime, registering time of the latest reporting or modification for each record.

## Data management rules

At the time of creating the first version of reference data, the EEA will establish list of values of SamplingPointReferenceId corresponding to AssessmentMethodIds using rule:

'SP0' + EoI code + pollutant code + ordering index

(see Identifiers worksheet). From that moment, countries should generate the SamplingPointReferenceId for all new sampling points/AssessmentMethodId.

**SamplingPointReferenceId cannot be modified and cannot be re-used (e.g. after deletion of a sampling point).**

SamplingPointReferenceId serves as reference/mapping identifier for situations when a country or a network changes the naming convention for all its measurements (sampling point identifiers); in such cases, the new identifiers (AssessmentMethodIds) should be mapped by reporting authorities to SamplingPointReferenceId corresponding to the same sampling points. The reference data flow will keep both the old and the new identifiers but it will be able to maintain and present continuity of measurement configurations. Situation of changes in naming convention is different from cases when sampling point needs to be closed due to its relocation or changes in air quality conditions (e.g. city sprawl). In such cases all processes within the sampling point should be ended and no new measurement results should be reported for that AssessmentMethodId. The sampling point will be set as 'inactive' in the reference data flow and this will apply as well to the SamplingPointReferenceId. The reporting authority should then create a new sampling point with a new SamplingPointReferenceId.

It is up to the reporting authority to decide when the changes in surrounding conditions are significant enough to inactivate and create sampling points.

SamplingPoint without both active SamplingProcess active SamplingPointLocation and without any ObservationMeasurementResult records with valid values will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name           | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list | Related table(s)                                                                                       |
|----------------|--------------------------|------------------|----------------------|------------|-----------|--------------------------------------------------------------------------------------------------------|
| SPO_01         | CountryCode              | varchar(2)       | string               | PK         |           |                                                                                                        |
| SPO_02         | AssessmentMethodId       | varchar(100)     | string               | PK         |           | ComplianceAssessmentMethod<br>SamplingProcess<br>SamplingPointLocation<br>ObservationMeasurementResult |
| SPO_03         | SamplingPointReferenceId | varchar(32)      | string               |            |           |                                                                                                        |
| SPO_04         | PollutantId              | int              | numeric              |            | pollutant |                                                                                                        |
| SPO_05         | StationEolCode           | varchar(10)      | string               |            |           | MeasurementStation                                                                                     |

## Attribute details

### SPO\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### SPO\_02 – AssessmentMethodId

#### Reference

[View reference attribute](#) **Content**

Identifier of the assessment method (sampling point), given by data provider.

#### Remarks

A sampling point (AssessmentMethodId) can be closed (set as inactive) by ending the ProcessId (specifying ProcessActivityEnd).

The same sampling point (AssessmentMethodId) can be re-open (also with the same ProcessId) by adding new record with new ProcessActivityBegin.

## SPO\_03 – SamplingPointReferenceId

### Reference

[View reference attribute](#) **Content**

Reference identifier of the assessment method (sampling point), either re-used or given by data provider following strict rules.

### Remarks

Following rules of SPO reference code, unique within CountryCode reported and it can serve as reference code list.

## SPO\_04 – PollutantId

### Reference

[View reference attribute](#) **Content**

Code of the air pollutant being measured, as per Data Dictionary standards.

### Remarks

Only one for the same AssessmentMethodId/SamplingPointReferenceId.

## SPO\_05 – StationEolCode

### Reference

[View reference attribute](#) **Content**

Eol (Exchange of Information) code of the air quality measurement station, as in AirBase, either re-used or given by data provider following strict rules.

### Code list / reference

There will be no specific code list in Data Dictionary but the Station table in reference data flow will serve as code list for AirQualityStationEolCode values.

Remarks

StationEolCode must be always provided and cannot be modified.

Station will become inactive if all sampling points in that station are inactive.

The same Station can become active again if there are new active sampling points or existing sampling points become active again.

It will be cross-checked against Station table.

Example

| Attribute Code | Attribute Name           | Example              | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|--------------------------|----------------------|------------------|----------------------|----|----|
| SPO_01         | CountryCode              | DU                   | varchar(2)       | string               | ✓  | ✓  |
| SPO_02         | AssessmentMethodId       | SPO_DU0001_0005_100  | varchar(100)     | string               | ✓  |    |
| SPO_03         | SamplingPointReferenceId | SPOref_DU0001_0005_1 | varchar(32)      | string               |    |    |
| SPO_04         | PollutantId              | 5                    | int              | numeric              |    | ✓  |
| SPO_05         | StationEolCode           | DU0001               | varchar(10)      | string               |    |    |

Legend: PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet SamplingPoint.

[Download complete examples workbook](#)

# SamplingPointLocation



Description

EEA extensions

Data management rules

Attributes

Attribute details

SPL\_01 – CountryCode

SPL\_02 – AssessmentMethodId

SPL\_03 – LocationBegin

SPL\_04 – LocationEnd

SPL\_05 – StationArea

SPL\_06 – SamplingPointCategory

SPL\_07 – Hotspot

SPL\_08 – Supersite

SPL\_09 – Latitude

SPL\_10 – Longitude

SPL\_11 – Altitude

SPL\_12 – InletHeight

SPL\_13 – BuildingDistance

## Example

# Description

The purpose of the SamplingPoint table is to collect data on air quality sampling locations. It describes their identifiers, coordinates and other area and location characteristics. The table includes corresponding times of location characteristic effectiveness.

SamplingPointLocation table has to be reported whenever new information or an update of existing information is available. Attributes which create unique identifier of each record: CountryCode, AssessmentMethodId and LocationBegin.

Updates of the SamplingLocation table will not be time stamped, i.e. each update generates the only version of the table in reference/legacy data:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute, e.g. entering end date. Validity of the new record will be tested using QC rules to be established, e.g. cross-checking relation between the code listed values.

Valid modifications of existing record in this table are minor corrections, e.g. of building distance or coordinates, or altitude, which are not considered as SamplingPoint re-location into new conditions. Validity of the modifications of existing record will be tested using QC rules to be established. Allowed modifications are not supposed to affect outcomes of compliance analysis and/or assessments.

Data products will present all records related to SamplingPoints reported recently for the UTD purpose.

## EEA extensions

SamplingPointLocation table will be extended by EEA by several attributes:

Country, for convenience, based on ISO2 country codes,

Pollutant, for convenience, based on code list,

SamplingPointStatus, based on values in SamplingLocation.LocationEnd (if all AssessmentMethodId have LocationEnd populated the SamplingPointStatus is 'inactive', otherwise it is 'active'),,

X and Y, based on coordinates re-projected to SRID3035,

grid number identifiers, based on X and Y in SRID3035,

SamplingPointType, following the previous version of sampling point type classification (traffic, background, industrial); the new type SamplingPointCategory for closed/inactive sampling points will be mapped to the older types using road traffic, background and industry categories, unless countries re-submit meta-data for these sampling points and set their own values; countries should set their own values of SamplingPointCategory for all active sampling points.

## Data management rules

In case where the LocationBegin was reported wrongly and/or the corresponding record needs to be deleted, the same value should be reported for LocationEnd. Records where LocationBegin = LocationEnd will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name        | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                          | Related table(s)                                                                                                                                               |
|----------------|-----------------------|------------------|----------------------|------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPL_01         | CountryCode           | varchar(2)       | string               | PK         |                                    |                                                                                                                                                                |
| SPL_02         | AssessmentMethodId    | varchar(100)     | string               | PK         |                                    | <a href="#">ComplianceAssessmentMethod</a><br><a href="#">SamplingPoint</a><br><a href="#">SamplingProcess</a><br><a href="#">ObservationMeasurementResult</a> |
| SPL_03         | LocationBegin         | datetime         | datetime             | PK         |                                    |                                                                                                                                                                |
| SPL_04         | LocationEnd           | datetime         | datetime             |            |                                    |                                                                                                                                                                |
| SPL_05         | StationArea           | varchar(100)     | string               |            | <a href="#">areaclassification</a> |                                                                                                                                                                |
| SPL_06         | SamplingPointCategory | varchar(50)      | string               |            | Code list to be developed          |                                                                                                                                                                |
| SPL_07         | Hotspot               | bit              | boolean              |            |                                    |                                                                                                                                                                |
| SPL_08         | Supersite             | bit              | boolean              |            |                                    |                                                                                                                                                                |
| SPL_09         | Latitude              | decimal(8,4)     | numeric              |            |                                    |                                                                                                                                                                |
| SPL_10         | Longitude             | decimal(8,4)     | numeric              |            |                                    |                                                                                                                                                                |
| SPL_11         | Altitude              | decimal(10,1)    | numeric              |            |                                    |                                                                                                                                                                |
| SPL_12         | InletHeight           | decimal(10,1)    | numeric              |            |                                    |                                                                                                                                                                |
| SPL_13         | BuildingDistance      | decimal(10,1)    | numeric              |            |                                    |                                                                                                                                                                |

| Attribute Code | Attribute Name         | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list | Related table(s) |
|----------------|------------------------|------------------|----------------------|------------|-----------|------------------|
| SPL_14         | KerbDistance           | decimal(10,1)    | numeric              |            |           |                  |
| SPL_15         | EmissionSourceDistance | decimal(10,1)    | numeric              |            |           |                  |

## Note

Attributes with ReportNet3 data type `date` or `datetime` shall use the ISO 8601 format. Date-time values may include a local UTC offset.

## Attribute details

### SPL\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### SPL\_02 – AssessmentMethodId

#### Reference

[View reference attribute](#) **Content**

Identifier of the assessment method (sampling point), given by data provider.

### SPL\_03 – LocationBegin

#### Reference

[View reference attribute](#) **Content**

Start time of the location characteristic(s).

#### Remarks

The permissible modifications in the location characteristics will be verified by adequate QC.

### SPL\_04 – LocationEnd

#### Reference

[View reference attribute](#) **Content**

End time of the location characteristic(s).

## **SPL\_05 – StationArea**

### **Reference**

[View reference attribute](#) **Content**

Classification of the air quality measurement station's area (urban, suburban, rural, etc.).

### **Remarks**

A change in station area implies closing the associated sampling points by ending the SamplingProcess, declaring a new station and the associated new sampling points.

## **SPL\_06 – SamplingPointCategory**

### **Reference**

[View reference attribute](#) **Content**

Intention or reason for placing sampling point.

### **Code list / reference**

Code list to be developed.

### **Remarks**

Potential categories: traffic, background, industrial, port, airport, residential heating, multisource.

## **SPL\_07 – Hotspot**

### **Reference**

[View reference attribute](#) **Content**

Indicator if the measurement site is considered as a hotspot.

### **Remarks**

Y/N.

Hotspot relates to the provisions of the recasted Air Quality Directive 2024/2881, Article 4(27) and others.

**SPL\_08 – Supersite**

**Reference**

[View reference attribute](#) **Content**

Indicator if the measurement site is classified as a “Super Site” for advanced monitoring.

**Remarks**

Y/N.

**SPL\_09 – Latitude**

**Reference**

[View reference attribute](#) **Content**

Latitude coordinate of the air quality station location (decimal degrees).

**SPL\_10 – Longitude**

**Reference**

[View reference attribute](#) **Content**

Longitude coordinate of the air quality station location (decimal degrees).

**SPL\_11 – Altitude**

**Reference**

[View reference attribute](#) **Content**

Altitude of the air quality station location in meters above sea level.

**SPL\_12 – InletHeight**

**Reference**

[View reference attribute](#) **Content**

Height of the sampling inlet where air quality measurements are taken, in meters.

## SPL\_13 – BuildingDistance

### Reference

[View reference attribute](#) **Content**

Horizontal distance from the sampling inlet to the nearest building, in meters.

## SPL\_14 – KerbDistance

### Reference

[View reference attribute](#) **Content**

Horizontal distance from the sampling inlet to the nearest road kerb, in meters.

## SPL\_15 – EmissionSourceDistance

### Reference

[View reference attribute](#) **Content**

Horizontal distance from the main emission source, in meters.

## Example

| Attribute Code | Attribute Name        | Example             | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|-----------------------|---------------------|------------------|----------------------|----|----|
| SPL_01         | CountryCode           | DU                  | varchar(2)       | string               | ✓  |    |
| SPL_02         | AssessmentMethodId    | SPO_DU0001_0005_100 | varchar(100)     | string               | ✓  |    |
| SPL_03         | LocationBegin         | 2013-06-25T00:00    | datetime         | datetime             | ✓  |    |
| SPL_04         | LocationEnd           | null                | datetime         | datetime             |    |    |
| SPL_05         | StationArea           | urban               | varchar(100)     | string               |    | ✓  |
| SPL_06         | SamplingPointCategory | background          | varchar(50)      | string               |    | ✓  |
| SPL_07         | Hotspot               | N                   | bit              | boolean              |    |    |

| Attribute Code | Attribute Name         | Example   | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|------------------------|-----------|------------------|----------------------|----|----|
| SPL_08         | Supersite              | N         | bit              | boolean              |    |    |
| SPL_09         | Latitude               | 43.60625  | decimal(8,4)     | numeric              |    |    |
| SPL_10         | Longitude              | 33.093242 | decimal(8,4)     | numeric              |    |    |
| SPL_11         | Altitude               | 21        | decimal(10,1)    | numeric              |    |    |
| SPL_12         | InletHeight            | 2         | decimal(10,1)    | numeric              |    |    |
| SPL_13         | BuildingDistance       | 10        | decimal(10,1)    | numeric              |    |    |
| SPL_14         | KerbDistance           | 5         | decimal(10,1)    | numeric              |    |    |
| SPL_15         | EmissionSourceDistance | 5         | decimal(10,1)    | numeric              |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet SamplingPointLocation.

[Download complete examples workbook](#)

# SamplingProcess



Description

EEA extensions

Data management rules

Attributes

Attribute details

SPP\_01 – CountryCode

SPP\_02 – ProcessId

SPP\_03 – AssessmentMethodId

SPP\_04 – ProcessActivityBegin

SPP\_05 – ProcessActivityEnd

SPP\_06 – PollutantId

SPP\_07 – MeasurementType

SPP\_08 – Method

SPP\_09 – Equipment

SPP\_10 – AnalyticalTechnique

SPP\_11 – EquivalenceDemonstrated

SPP\_12 – DataQualityDocumentId

SPP\_13 – EquivalenceDemonstrationDocumentId

## Example

## Description

The purpose of the SamplingProcess table is to collect data on measurement techniques and methodologies. It describes the specific configurations of equipment, mostly through code listed values, and includes information on quality of the measurements as well as further details about the methods through attached documentation. The table includes corresponding times of operation.

SamplingProcess table has to be reported whenever new information or an update of existing information is available. Attributes which create unique identifier of each record: CountryCode, ProcessId, AssessmentMethodId and ProcessActivityBegin.

Updates of the SamplingProcess table will not be time stamped, i.e. each update generates the only version of the table in reference/legacy data:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute, e.g. entering end date. Validity of the new record will be tested using QC rules to be established, e.g. cross-checking relation between the code listed values.

Valid modifications of existing record in this table are:

inserting ProcessActivityEnd,

attaching new/different documentation,

minor corrections, e.g. of wrong code list values. Validity of the modifications of existing record will be tested using QC rules to be established. Allowed modifications are not supposed to affect outcomes of compliance analysis and/or assessments.

Data products will present all records related to SamplingPoints reported recently for the UTD purpose.

## EEA extensions

SamplingProcess table will be extended by EEA by several attributes:

Country, for convenience, based on ISO2 country codes,

Pollutant, for convenience, based on code list,

SamplingPointReferenceId, based on SamplingPoint table.

## Data management rules

In case where the ProcessActivityBegin was reported wrongly and/or the corresponding record needs to be deleted, the same value should be reported for ProcessActivityEnd. Records where ProcessActivityBegin = ProcessActivityEnd will be flagged for deletion in the reference data flow.

It is recommended not to change DataQualityDocumentId, EquivalenceDemonstrationDocumentId or ProcessDocumentId in case of documentation update related to the same process. Instead, a new attachment should be uploaded in Document table re-using the same DocumentId. Previous versions of documentation will be kept in reference data. In case where the same, e.g. DataQualityDocumentId, was used for all records and there is a need to modify documentation only for one specific process, it is recommended to create a new DataQualityDocumentId for that record in the SamplingProcess table, and then report old non-process-specific and new process-specific documents as attachments for that new DataQualityDocumentId as DocumentId in the Document table in a subsequent manner.

## Attributes

| Attribute Code | Attribute Name          | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                               | Related table(s)                                                                                                                                                     |
|----------------|-------------------------|------------------|----------------------|------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPP_01         | CountryCode             | varchar(2)       | string               | PK         | <a href="#">countries</a>               |                                                                                                                                                                      |
| SPP_02         | ProcessId               | varchar(150)     | string               | PK         |                                         |                                                                                                                                                                      |
| SPP_03         | AssessmentMethodId      | varchar(100)     | string               | PK         |                                         | <a href="#">ComplianceAssessmentMethod</a><br><a href="#">SamplingPoint</a><br><a href="#">SamplingPointLocation</a><br><a href="#">ObservationMeasurementResult</a> |
| SPP_04         | ProcessActivityBegin    | datetime         | datetime             | PK         |                                         |                                                                                                                                                                      |
| SPP_05         | ProcessActivityEnd      | datetime         | datetime             |            |                                         |                                                                                                                                                                      |
| SPP_06         | PollutantId             | int              | numeric              |            | <a href="#">pollutant</a>               |                                                                                                                                                                      |
| SPP_07         | MeasurementType         | varchar(50)      | string               |            | <a href="#">measurementtype</a>         |                                                                                                                                                                      |
| SPP_08         | Method                  | varchar(50)      | string               |            | <a href="#">measurementmethod</a>       |                                                                                                                                                                      |
| SPP_09         | Equipment               | varchar(50)      | string               |            | <a href="#">measurementequipment</a>    |                                                                                                                                                                      |
| SPP_10         | AnalyticalTechnique     | varchar(50)      | string               |            | <a href="#">analyticaltechnique</a>     |                                                                                                                                                                      |
| SPP_11         | EquivalenceDemonstrated | varchar(50)      | string               |            | <a href="#">equivalencedemonstrated</a> |                                                                                                                                                                      |

| Attribute Code | Attribute Name                     | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list | Related table(s)              |
|----------------|------------------------------------|------------------|----------------------|------------|-----------|-------------------------------|
| SPP_12         | DataQualityDocumentId              | varchar(150)     | string               |            |           | <a href="#">Documentation</a> |
| SPP_13         | EquivalenceDemonstrationDocumentId | varchar(150)     | string               |            |           | <a href="#">Documentation</a> |
| SPP_14         | ProcessDocumentId                  | varchar(150)     | string               |            |           | <a href="#">Documentation</a> |

## Note

Attributes with ReportNet3 data type `date` or `datetime` shall use the ISO 8601 format. Date-time values may include a local UTC offset.

## Attribute details

### SPP\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### SPP\_02 – ProcessId

#### Reference

[View reference attribute](#) **Content**

Identifier of the sampling process, given by data provider.

#### Remarks

The same ProcessId can be re-used for the same equipment configurations under different sampling points (AssessmentMethodId).

### SPP\_03 – AssessmentMethodId

#### Reference

[View reference attribute](#) **Content**

Identifier of the assessment method (sampling point) given by data provider.

## Remarks

A sampling point (AssessmentMethodId) can be closed (set as inactive) by ending the ProcessId (specifying ProcessActivityEnd). The same sampling point can be re-opened, also with the same ProcessId, by adding new record with new ProcessActivityBegin.

## SPP\_04 – ProcessActivityBegin

### Reference

[View reference attribute](#) **Content**

Start time of the measurement process.

## Remarks

If there is more than one ProcessId within the same AssessmentMethodId, then ProcessActivityBegin - ProcessActivityEnd should not overlap within the same AssessmentMethodId.

## SPP\_05 – ProcessActivityEnd

### Reference

[View reference attribute](#) **Content**

End time of the measurement process.

## SPP\_06 – PollutantId

### Reference

[View reference attribute](#) **Content**

Code of the air pollutant being measured, as per Data Dictionary standards.

## SPP\_07 – MeasurementType

### Reference

[View reference attribute](#) **Content**

Classification of measurement methods into generic types.

## SPP\_08 – Method

### Reference

[View reference attribute](#) **Content**

Specific method used for measuring air pollutants.

## SPP\_09 – Equipment

### Reference

[View reference attribute](#) **Content**

Equipment used for air pollutant measurement.

## SPP\_10 – AnalyticalTechnique

### Reference

[View reference attribute](#) **Content**

Analytical technique used for measuring pollutants.

## SPP\_11 – EquivalenceDemonstrated

### Reference

[View reference attribute](#) **Content**

Status of equivalence demonstration according to regulatory requirements.

## SPP\_12 – DataQualityDocumentId

### Reference

[View reference attribute](#) **Content**

Identifier of the Quality Assurance report given by data provider.

## SPP\_13 – EquivalenceDemonstrationDocumentId

### Reference

## [View reference attribute](#) **Content**

Identifier of the Equivalence demonstration report given by data provider.

## **SPP\_14 – ProcessDocumentId**

### **Reference**

## [View reference attribute](#) **Content**

Identifier of the documentation on process and data quality given by data provider.

## **Example**

| Attribute Code | Attribute Name                     | Example             | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|------------------------------------|---------------------|------------------|----------------------|----|----|
| SPP_01         | CountryCode                        | DU                  | varchar(2)       | string               | ✓  | ✓  |
| SPP_02         | ProcessId                          | SPP_DU0001_0005_1   | varchar(150)     | string               | ✓  |    |
| SPP_03         | AssessmentMethodId                 | SPO_DU0001_0005_100 | varchar(100)     | string               | ✓  |    |
| SPP_04         | ProcessActivityBegin               | 2013-06-25T00:00    | datetime         | datetime             | ✓  |    |
| SPP_05         | ProcessActivityEnd                 | null                | datetime         | datetime             |    |    |
| SPP_06         | PollutantId                        | 5                   | int              | numeric              |    | ✓  |
| SPP_07         | MeasurementType                    | automatic           | varchar(50)      | string               |    | ✓  |
| SPP_08         | Method                             | BETA                | varchar(50)      | string               |    | ✓  |
| SPP_09         | Equipment                          | BETA1020            | varchar(50)      | string               |    | ✓  |
| SPP_10         | AnalyticalTechnique                | null                | varchar(50)      | string               |    | ✓  |
| SPP_11         | EquivalenceDemonstrated            | yes                 | varchar(50)      | string               |    | ✓  |
| SPP_12         | DataQualityDocumentId              | DOC_DQ_SPP_DU0005_1 | varchar(150)     | string               |    |    |
| SPP_13         | EquivalenceDemonstrationDocumentId | DOC_EQ_SPP_DU0005_1 | varchar(150)     | string               |    |    |
| SPP_14         | ProcessDocumentId                  | DOC_PR_SPP_DU0005_1 | varchar(150)     | string               |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet [SamplingProcess](#).

[Download complete examples workbook](#)

# ModelObjectiveEstimation



Description

EEA extensions

Data management rules

Attributes

Attribute details

MOE\_01 – CountryCode

MOE\_02 – AssessmentMethodId

MOE\_03 – DataAggregationProcessId

MOE\_04 – AssessmentMethodName

MOE\_05 – PollutantId

MOE\_06 – ResultEncoding

MOE\_07 – MethodApplication

MOE\_08 – GenericMQI

MOE\_09 – DataQualityDocumentId

MOE\_10 – MethodDocumentId

Example

## Description

The purpose of the ModelObjectiveEstimation table is to collect data on applications of modelling (MOD) or objective estimation (OBE) methodology. It describes the specific use of the model/OBE (assessments, adjustments, scenarios) and the way the modelling/OBE results are provided and should be interpreted (via ResultEncoding). It also includes information on MQI and the methodology itself through attached documentation.

ModelObjectiveEstimation (record) table has to be reported whenever a new information or an update of existing information is available. Attributes which create unique identifier of each record: CountryCode, AssessmentMethodId and DataAggregationProcessId.

Updates of the ModelObjectiveEstimation table will not be time stamped - i.e. each update generates the only version of the table in reference/legacy data:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against code lists.

Valid modifications of existing record in this table are:

attaching new/different documentation,

minor corrections e.g. of wrong code list values or MQI value. Validity of the modifications of existing record will be tested using QC (rules to be established). Allowed modifications are not supposed to affect outcomes of compliance analysis and/or assessments.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported recently, highlighting the differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

ModelObjectiveEstimation table will be extended by EEA by several attributes:

Country (for convenience), based on ISO2 country codes,

Pollutant (for convenience), based on code list,

DataAggregationProcess, based on DataAggregationProcessId.

## Data management rules

The ModelObjectiveEstimation table records may be kept relatively static, i.e. there is no need to report a new AssessmentMethodId every year if the model/OBE application does not change significantly.

Details regarding annual quality indicators or input data can be provided with new documentation attached to the same document Ids (see more clarification below). It is up to the reporting authorities to decide if the reporting of data from models require new entry in the ModelObjectiveEstimation table. Good practice is to check if it is possible to report MOEResult (Inline or External) with the same AssessmentMethodId without getting a BLOCKER error - usually if this works, then it is fine to keep the same record in the ModelObjectiveEstimation table.

The GenericMQI should be understood as MQI calculated for the reported model/OBE but not specific to the related results - e.g. MQI for models/OBE used for reporting adjustment (Saharan dust, etc.) or for reporting SRs (MQI would not necessarily reflect the uncertainty of the SR areas), or for reporting scenarios.

For the purpose of reporting a single value for air quality zone (usually from OBE), ResultEncoding = 'zone' should be used. Since the value is already reported in ComplianceAssessmentMethod table, no corresponding records in MOEResultInline neither in MOEResultExternal will be expected in such case.

It is recommended not to change ModelDocumentId or DataQualityDocumentId in case of documentation update related to the same modelling/OBE application. Instead, a new attachment should be uploaded in Document table re-using the same DocumentId. Previous versions of documentation will be kept in reference data. In case when the same e.g. DataQualityDocumentId was used for all records and there is a need to modify documentation only for one specific model/OBE, it is recommended to create a new DataQualityDocumentId for that record in ModelObjectiveEstimation table, and then report old (not model/OBE specific) and new (model/OBE specific) documents as attachments for that new DataQualityDocumentId (as DocumentId) in the Document table in a subsequent manner.

Records in ModelObjectiveEstimation table that do not have references in other tables and do not have any valid values in MOEResultInline nor in MOEResultExternal will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                 | Related table(s) |
|----------------|----------------|------------------|----------------------|------------|---------------------------|------------------|
| MOE_01         | CountryCode    | varchar(2)       | string               | PK         | <a href="#">countries</a> |                  |

| Attribute Code | Attribute Name           | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list          | Related table(s)                                                                                                                            |
|----------------|--------------------------|------------------|----------------------|------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| MOE_02         | AssessmentMethodId       | varchar(100)     | string               | PK         |                    | ComplianceAssessmentMethod<br>SpatialRepresentativeness<br>PollutionLevelAdjustment<br>PlanScenario<br>MOEResultInline<br>MOEResultExternal |
| MOE_03         | DataAggregationProcessId | varchar(50)      | string               | PK         | aggregationprocess | MOEResultInline<br>MOEResultExternal                                                                                                        |
| MOE_04         | AssessmentMethodName     | varchar(150)     | string               |            |                    |                                                                                                                                             |
| MOE_05         | PollutantId              | int              | numeric              |            | pollutant          |                                                                                                                                             |
| MOE_06         | ResultEncoding           | varchar(10)      | string               |            | resultencoding     |                                                                                                                                             |
| MOE_07         | MethodApplication        | varchar(20)      | string               |            | modelapplication   |                                                                                                                                             |
| MOE_08         | GenericMQI               | decimal(5,2)     | numeric              |            |                    |                                                                                                                                             |
| MOE_09         | DataQualityDocumentId    | varchar(150)     | string               |            |                    | Documentation                                                                                                                               |
| MOE_10         | MethodDocumentId         | varchar(150)     | string               |            |                    | Documentation                                                                                                                               |

## Attribute details

### MOE\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### MOE\_02 – AssessmentMethodId

#### Reference

[View reference attribute](#) **Content**

Identifier of the assessment method (model), given by data provider.

#### Remarks

AssessmentMethodId which is model or OBE identifier is understood as an application of modelling or estimation methodology. It may be re-used for different years if the methodology and data sources remain the same (for example when the same source of meteorological data is used with data from

different years).

---

## MOE\_03 – DataAggregationProcessId

### Reference

[View reference attribute](#) **Content**

Identifier for the process of data aggregation into statistical values.

### Remarks

Several different statistics may be generated by the same AssessmentMethodId (for example where time series are modelled and subsequently aggregated).

---

## MOE\_04 – AssessmentMethodName

### Reference

[View reference attribute](#) **Content**

Name of model or OBE which can be re-used with different AssessmentMethodId values.

### Remarks

Examples include model names such as 'CHIMERE', 'WRF-Chem', etc.

---

## MOE\_05 – PollutantId

### Reference

[View reference attribute](#) **Content**

Code of the air pollutant being measured, as per Data Dictionary standards.

### Remarks

Only one pollutant can be handled by a single AssessmentMethodId (model/OBE).

---

## MOE\_06 – ResultEncoding

### Reference

[View reference attribute](#) **Content**

Encoding method used for model results.

### Remarks

Allowed values include:

zone

inline

external

---

## MOE\_07 – MethodApplication

### Reference

[View reference attribute](#) **Content**

Purpose of the model application.

Examples include:

assessment

adjustment

scenario

spatial representativeness

### Remarks

The same Model/OBE identifier can only have one MethodApplication.

---

## MOE\_08 – GenericMQI

### Reference

[View reference attribute](#) **Content**

Modelling Quality Indicator.

### Remarks

MQI is reported here because it may originate from model or OBE validation exercises not directly related to the area for which modelling results are submitted within AQ e-Reporting. It is considered general information describing the quality of the modelling application used in the reporting.

---

## MOE\_09 – DataQualityDocumentId

### Reference

[View reference attribute](#) **Content**

Identifier of the report describing the model, given by the data provider.

---

## MOE\_10 – MethodDocumentId

### Reference

[View reference attribute](#) **Content**

Identifier of the report detailing the quality of the modelled data, given by the data provider.

## Example

| Attribute Code | Attribute Name           | Example    | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|--------------------------|------------|------------------|----------------------|----|----|
| MOE_01         | CountryCode              | DU         | varchar(2)       | string               | ✓  | ✓  |
| MOE_02         | AssessmentMethodId       | MOD_DU_NO2 | varchar(100)     | string               | ✓  |    |
| MOE_03         | DataAggregationProcessId | P1Y        | varchar(50)      | string               | ✓  | ✓  |
| MOE_04         | AssessmentMethodName     | null       | varchar(150)     | string               |    |    |
| MOE_05         | PollutantId              | 8          | int              | numeric              |    | ✓  |

| Attribute Code | Attribute Name        | Example               | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|-----------------------|-----------------------|------------------|----------------------|----|----|
| MOE_06         | ResultEncoding        | external              | varchar(10)      | string               |    | ✓  |
| MOE_07         | MethodApplication     | assessment            | varchar(20)      | string               |    | ✓  |
| MOE_08         | GenericMQI            | 0.8                   | decimal(5,2)     | numeric              |    |    |
| MOE_09         | DataQualityDocumentId | DOC_MOD_DQ_MOD_DU_NO2 | varchar(150)     | string               |    |    |
| MOE_10         | MethodDocumentId      | DOC_MOD_MR_MOD_DU_NO2 | varchar(150)     | string               |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet `ModelObjectiveEstimation`.

[Download complete examples workbook](#)

# ObservationMeasurementResult



Description

EEA extensions

Data management rules

Attributes

Attribute details

OMR\_01 – CountryCode

OMR\_02 – AssessmentMethodId

OMR\_03 – Start

OMR\_04 – PollutantId

OMR\_05 – End

OMR\_06 – Value

OMR\_07 – Unit

OMR\_08 – Validity

OMR\_09 – Verification

OMR\_10 – DataCapture

OMR\_11 – TimeResolution

OMR\_12 – ResultTime

Example

## Description

The purpose of the ObservationMeasurementResult table is to collect information on air quality measurement results. It describes the AQ values and time reference for each value. Location of each measurement can be identified through the SamplingPoint table.

ObservationMeasurementResult table has to be reported every year because new information is expected at each reporting cycle. Attributes which create unique identifier of each record: CountryCode, AssessmentMethodId and Start.

Updates of the ObservationMeasurementResult table will not be time stamped - i.e. each update generates the only version of the time series with AQ values that is stored at the EEA, as well as the only version of the AQ statistics stored in the reference/legacy data:

either as addition of a new record, understood as addition of a new combination of values for the attributes creating the unique identifier;

or modification of an existing record, understood as modification of a value for any other attribute. Validity of new records will be tested using QC procedures (rules to be established), including cross-checking against existing records in the SamplingPoint table.

Valid modifications of existing records are based on re-submission of time series for the existing set of attributes creating the unique identifier:

either to overwrite or correct values of other attributes;

or to modify the Validity flag to -1 for deletion purposes. Validity of modifications will be tested through QC procedures. Allowed modifications may affect outcomes of compliance analysis and/or assessments. Therefore, re-submissions for past years, for which compliance reporting has already been completed, will require additional tests against reference/legacy data before official release of such data is granted.

Data products for the public (download services for time series and aggregated values) will present records validated at the latest deadline. Data products for reporters will present records as most recently reported, highlighting differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

Reference data flow will contain two tables representing reporting of time series:

ObservationMeasurementInventory;

ObservationMeasurementStatistics.

ObservationMeasurementInventory will collect information about counts of values reported for each sampling point and year with specific settings (validity, verification, time resolution, etc.) and will contain a reference to the raw data file. ObservationMeasurementStatistics in the reference/legacy data flow will differ significantly from the reporting table because it will only contain aggregated values.

The scope of aggregations stored in that table remains to be agreed (P1D ?, P1M ?, annual only ?, etc.). SamplingPointReferenceId will be used in the reference/legacy data flow together with AssessmentMethodId in order to preserve continuity.

ObservationMeasurementStatistics will also be extended by attributes such as:

Pollutant (for convenience), based on code list;

DataCoverage, as a feature of aggregated data;

DataAggregationProcessId (P1Y, etc.);

DataAggregationProcess, based on DataAggregationProcessId;

SourceDataFlow (AirBase, R2 e-Reporting, R3 e-Reporting, UTD).

## Data management rules

Deletion of records from ObservationMeasurementResult can be achieved by re-submitting the same records with the Validity flag set to -1.

## Attributes

| Attribute Code | Attribute Name     | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                 | Related table(s)                                                                                                                                        |
|----------------|--------------------|------------------|----------------------|------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| OMR_01         | CountryCode        | varchar(2)       | string               | PK         | <a href="#">countries</a> |                                                                                                                                                         |
| OMR_02         | AssessmentMethodId | varchar(100)     | string               | PK         |                           | <a href="#">ComplianceAssessmentMethod</a><br><a href="#">SamplingPoint</a><br><a href="#">SamplingPointLocation</a><br><a href="#">SamplingProcess</a> |
| OMR_03         | Start              | datetime         | datetime             | PK         |                           |                                                                                                                                                         |
| OMR_04         | PollutantId        | int              | numeric              |            | <a href="#">pollutant</a> |                                                                                                                                                         |
| OMR_05         | End                | datetime         | datetime             |            |                           |                                                                                                                                                         |
| OMR_06         | Value              | decimal(10,2)    | numeric              |            |                           |                                                                                                                                                         |

| Attribute Code | Attribute Name | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list               | Related table(s) |
|----------------|----------------|------------------|----------------------|------------|-------------------------|------------------|
| OMR_07         | Unit           | varchar(10)      | string               |            | concentration           |                  |
| OMR_08         | Validity       | int              | numeric              |            | observationvalidity     |                  |
| OMR_09         | Verification   | int              | numeric              |            | observationverification |                  |
| OMR_10         | DataCapture    | decimal(5,2)     | numeric              |            |                         |                  |
| OMR_11         | TimeResolution | varchar(10)      | string               |            | primaryObservation      |                  |
| OMR_12         | ResultTime     | datetime         | datetime             |            |                         |                  |

## Note

Attributes with ReportNet3 data type `date` or `datetime` shall use the ISO 8601 format. Date-time values may include a local UTC offset.

## Attribute details

### OMR\_01 – CountryCode

#### Content

Country or territory ISO2 code.

### OMR\_02 – AssessmentMethodId

#### Content

Identifier of the assessment method (sampling point), given by data provider.

#### Remarks

It will be cross-checked against the SamplingPoint table.

### OMR\_03 – Start

#### Content

Start date and time of the measurement period.

#### Remarks

Start must be provided with time zone information. This information will be used for recalculation of all datetimes into UTC+1 for storage and analytical purposes.

## OMR\_04 – PollutantId

### Content

Code of the air pollutant being measured, as per Data Dictionary standards.

## OMR\_05 – End

### Content

End date and time of the measurement period.

### Remarks

End must be provided with time zone information. This information will be used for recalculation of all datetimes into UTC+1 for storage and analytical purposes.

## OMR\_06 – Value

### Content

Measured concentration or level of the air pollutant.

## OMR\_07 – Unit

### Content

Unit of measurement for the air pollution level (e.g.  $\mu\text{g}/\text{m}^3$ ).

### Remarks

Units must follow those recommended for AQD pollutants.

## OMR\_08 – Validity

### Content

Indicator of whether the measurement data is valid or not.

## OMR\_09 – Verification

Content

Information based on verification flags found in reported time series.

## OMR\_10 – DataCapture

Content

The proportion of valid measurement time relative to total measured time, expressed as a percentage.

## OMR\_11 – TimeResolution

Content

Time resolution of the reported measurement observations (e.g. hourly, daily).

Remarks

TimeResolution must be consistent with End minus Start and will be tested through QC procedures.

## OMR\_12 – ResultTime

Content

Time at which the result was generated or recorded.

## Example

OMR\_01 | CountryCode | DU | varchar(2) | string | ✓ | ✓ OMR\_02 | AssessmentMethodId | SPO\_DU0001\_0005\_100 | varchar(100) | string | ✓ | OMR\_03 | Start | 2024-01-01T00:00:00 | datetime | datetime | ✓ | OMR\_04 | PollutantId | 5 | int | numeric | | ✓ OMR\_05 | End | 2024-01-01T01:00:00 | datetime | datetime | | OMR\_06 | Value | 16.4 | decimal(10,2) | numeric | | OMR\_07 | Unit | ug/m3 | varchar(10) | string | | ✓ OMR\_08 | Validity | 1 | int | numeric | | ✓ OMR\_09 | Verification | 1 | int | numeric | | ✓ OMR\_10 | DataCapture | | decimal(5,2) | numeric | | OMR\_11 | TimeResolution | hour | varchar(10) | string | | ✓ OMR\_12 | ResultTime | 2025-09-28T16:12:36 | datetime | datetime | |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet

`ObservationMeasurementResult`.



# MOEResultInline



Description

EEA extensions

Data management rules

Attributes

Attribute details

MRI\_01 – CountryCode

MRI\_02 – AssessmentMethodId

MRI\_03 – Start

MRI\_04 – DataAggregationProcessId

MRI\_05 – X

MRI\_06 – Y

MRI\_07 – PollutantId

MRI\_08 – End

MRI\_09 – Value

MRI\_10 – Unit

MRI\_11 – Validity

MRI\_12 – SpatialResolution

## Example

# Description

The purpose of the MOEResultInline table is to collect information on (aggregated and gridded) results from air quality modelling applications. It describes the AQ values, time reference and the area of modelling in a set of grid cells following the common grid approach (see Introduction).

MOEResultInline table has to be reported every year (if models/OBE are declared for compliance) because new information is expected at each reporting cycle. Attributes which create unique identifier of each record: CountryCode, AssessmentMethodId, Start, DataAggregationProcessId, X and Y.

Updates of the MOEResultInline table will not be time stamped - i.e. each update generates the only version of the (gridded) AQ values that is stored at the EEA, as well - the only version of the corresponding table in reference/legacy data:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against existing records in ModelObjectiveEstimation table.

Valid modifications of existing record in this table are based on re-submission of the (gridded) AQ values for the existing set of attributes creating unique identifier:

either to overwrite/correct the values of other attributes,

or to modify Validity flag to -1 for deletion purpose. Validity of the modifications of existing record will be tested using QC (rules to be established). Allowed modifications may affect outcomes of compliance analysis and/or assessments, therefore re-submissions for past years, for which compliance reporting has been already done, will require additional tests vs reference/legacy data before official release of such data is granted.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported recently, highlighting the differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

Reference data flow will have two tables representing reporting of model/OBE results:

MOEResultInventory;

MOEResultGrid. MOEResultInventory will collect information about count of values reported for each model/OBE and year with certain settings (validity, verification, spatial resolution, etc.) and will contain a reference to raw data file.

MOEResultGrid table will differ from the reporting data flow however it will contain gridded AQ values in 3 layers:

2 Very High Resolution layers (10 and 100m - depending on original resolutions) for populated areas, traffic links and areas with values above thresholds,

1 High Resolution layer (1000m) for all areas.

MOEResultGrid table will be extended by several attributes:

Pollutant (for convenience), based on code list,

DataAggregationProcess, based on DataAggregationProcessId,

SourceDataFlow (R2 e-Reporting, R3 e-Reporting),

Verification,

Grid number identifiers, based on X,Y (SRID 3035).

## Data management rules

Results from modelling reported inline should point to record in ModelObjectiveEstimation table with ResultEncoding = 'inline'.

## Attributes

| Attribute Code | Attribute Name           | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                           | Related table(s)                                                                       |
|----------------|--------------------------|------------------|----------------------|------------|-------------------------------------|----------------------------------------------------------------------------------------|
| MRI_01         | CountryCode              | varchar(2)       | string               | PK         | <a href="#">countries</a>           |                                                                                        |
| MRI_02         | AssessmentMethodId       | varchar(100)     | string               | PK         |                                     | <a href="#">ComplianceAssessmentMethod</a><br><a href="#">ModelObjectiveEstimation</a> |
| MRI_03         | Start                    | datetime         | datetime             | PK         |                                     |                                                                                        |
| MRI_04         | DataAggregationProcessId | varchar(50)      | string               | PK         | <a href="#">aggregationprocesss</a> | <a href="#">ModelObjectiveEstimation</a>                                               |

| Attribute Code | Attribute Name    | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                           | Related table(s) |
|----------------|-------------------|------------------|----------------------|------------|-------------------------------------|------------------|
| MRI_05         | X                 | bigint           | numeric              | PK         |                                     |                  |
| MRI_06         | Y                 | bigint           | numeric              | PK         |                                     |                  |
| MRI_07         | PollutantId       | int              | numeric              |            | <a href="#">pollutant</a>           |                  |
| MRI_08         | End               | datetime         | datetime             |            |                                     |                  |
| MRI_09         | Value             | decimal(10,2)    | numeric              |            |                                     |                  |
| MRI_10         | Unit              | varchar(10)      | string               |            | <a href="#">concentration</a>       |                  |
| MRI_11         | Validity          | int              | numeric              |            | <a href="#">observationvalidity</a> |                  |
| MRI_12         | SpatialResolution | int              | numeric              |            | <a href="#">spatialresolution</a>   |                  |
| MRI_13         | ResultTime        | datetime         | datetime             |            |                                     |                  |

## Note

Attributes with ReportNet3 data type `date` or `datetime` shall use the ISO 8601 format. Date-time values may include a local UTC offset.

# Attribute details

## MRI\_01 – CountryCode

### Content

Country or territory ISO2 code.

## MRI\_02 – AssessmentMethodId

### Content

Identifier of the assessment method (model), given by provider.

### Remarks

It will be cross-checked against the Model table.

## MRI\_03 – Start

### Content

Start date and time of the model simulation period.

#### **Remarks**

Start must be provided with time zone. This information will be used for recalculation of all datetimes into UTC+1 for storage and analytical purposes.

### **MRI\_04 – DataAggregationProcessId**

#### **Content**

Identifier for the process of aggregating model data into statistical values.

### **MRI\_05 – X**

#### **Content**

X-coordinate of the modeled data point in a projected coordinate reference system.

#### **Remarks**

It must be using SRID 3035.

### **MRI\_06 – Y**

#### **Content**

Y-coordinate of the modeled data point in a projected coordinate reference system.

#### **Remarks**

It must be using SRID 3035.

### **MRI\_07 – PollutantId**

#### **Content**

Code of the air pollutant being modeled, as per Data Dictionary standards.

### **MRI\_08 – End**

#### **Content**

End date and time of the model simulation period.

## Remarks

End must be provided with time zone. This information will be used for recalculation of all datetimes into UTC+1 for storage and analytical purposes.

## MRI\_09 – Value

### Content

Modeled concentration or level of the air pollutant.

## MRI\_10 – Unit

### Content

Unit of measurement for the air pollution level (e.g.,  $\mu\text{g}/\text{m}^3$ ).

## Remarks

Units must follow those recommended unit for AQD pollutants.

## MRI\_11 – Validity

### Content

Indicator of whether the model data is valid or flagged.

## MRI\_12 – SpatialResolution

### Content

Description of the spatial resolution of the model output, indicating the level of detail.

## Remarks

SpatialResolution will be tested against code list for allowed values.

## MRI\_13 – ResultTime

### Content

Time at which the model results were generated or recorded.

## Example

| Attribute Code | Attribute Name           | Example                          | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|--------------------------|----------------------------------|------------------|----------------------|----|----|
| MRI_01         | CountryCode              | DU                               | varchar(2)       | string               | ✓  | ✓  |
| MRI_02         | AssessmentMethodId       | OBE_DU_SEASALT_PM10_H_LV_A<br>DJ | varchar(100)     | string               | ✓  |    |
| MRI_03         | Start                    | 2024-01-01T00:00:00              | datetime         | datetime             | ✓  |    |
| MRI_04         | DataAggregationProcessId | P1D                              | varchar(50)      | string               | ✓  | ✓  |
| MRI_05         | X                        | 3463000                          | bigint           | numeric              | ✓  |    |
| MRI_06         | Y                        | 2245000                          | bigint           | numeric              | ✓  |    |
| MRI_07         | PollutantId              | 5                                | int              | numeric              |    | ✓  |
| MRI_08         | End                      | 2024-01-02T00:00:00              | datetime         | datetime             |    |    |
| MRI_09         | Value                    | 1                                | decimal(10,2)    | numeric              |    |    |
| MRI_10         | Unit                     | ug/m3                            | varchar(10)      | string               |    | ✓  |
| MRI_11         | Validity                 | 1                                | int              | numeric              |    | ✓  |
| MRI_12         | SpatialResolution        | 1000                             | int              | numeric              |    | ✓  |
| MRI_13         | ResultTime               | 2025-09-14T10:19:44              | datetime         | datetime             |    |    |

**Legend:** PK = Primary Key; FK = Foreign Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet MOEResultInline.

[Download complete examples workbook](#)

# MOEResultExternal



Description

EEA extensions

Data management rules

Attributes

Attribute details

MRE\_01 – CountryCode

MRE\_02 – AssessmentMethodId

MRE\_03 – Start

MRE\_04 – DataAggregationProcessId

MRE\_05 – PollutantId

MRE\_06 – End

MRE\_07 – Unit

MRE\_08 – Validity

MRE\_09 – SpatialResolution

MRE\_10 – ResultTime

MRE\_11 – GeoTiffAttachment

Example

## Description

The purpose of the MOEResultExternal table is to collect information on results from air quality modelling applications. It is similar to the table MREResultInline except that here the results are submitted in attached GEOTIFF file, following the common grid approach (see Introduction).

MOEResultExternal table has to be reported every year (if models/OBE are declared for compliance) because new information is expected at each reporting cycle. Attributes which create unique identifier of each record: CountryCode, AssessmentMethodId, Start and DataAggregationProcessId.

Updates of the MOEResultExternal table will not be time stamped - i.e. each update generates the only version of the (gridded) AQ values that is stored at the EEA, as well - the only version of the corresponding table in reference/legacy data:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against existing records in ModelObjectiveEstimation table.

Valid modifications of existing record in this table are based on re-submission of a GEOTIFF file for the existing set of attributes creating unique identifier:

either to overwrite/correct the values of other attributes,

or to modify Validity flag to -1 for deletion purpose. Validity of the modifications will be tested using QC (rules to be established). Allowed modifications may affect outcomes of compliance analysis and/or assessments. Therefore, re-submissions for past years, for which compliance reporting has already been completed, will require additional tests against reference/legacy data before official release of such data is granted.

Data products for the public will present records validated at the latest deadline. Data products for reporters will present records as most recently reported, highlighting differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

Reference data flow will have two tables representing reporting of model/OBE results:

MOEResultInventory;

MOEResultGrid. MOEResultInventory will collect information about count of values reported for each model/OBE and year with certain settings (validity, verification, spatial resolution, etc.) and will contain a reference to raw data file. MOEResultGrid table will differ from the reporting data flow however it will contain gridded AQ values in 3 layers:

2 Very High Resolution layers (10 and 100m - depending on original resolutions) for populated areas, traffic links and areas with values above thresholds,

1 High Resolution layer (1000m) for all areas.

MOEResultGrid table will be extended by several attributes:

Pollutant (for convenience), based on code list,

DataAggregationProcess, based on DataAggregationProcessId,

SourceDataFlow (R2 e-Reporting, R3 e-Reporting),

Verification,

Grid number identifiers, based on X,Y (SRID 3035).

## Data management rules

Results from modelling reported through external files should point to a record in the ModelObjectiveEstimation table with:

```
ResultEncoding = 'external'
```

## Attributes

| Attribute Code | Attribute Name           | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                                                                                                                                         | Related table(s)                                       |
|----------------|--------------------------|------------------|----------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| MRE_01         | CountryCode              | varchar(2)       | string               | PK         | <a href="https://dd.eionet.europa.eu/vocabulary/common/countries">https://dd.eionet.europa.eu/vocabulary/common/countries</a>                     |                                                        |
| MRE_02         | AssessmentMethodId       | varchar(100)     | string               | PK         |                                                                                                                                                   | ComplianceAssessmentMethod<br>ModelObjectiveEstimation |
| MRE_03         | Start                    | datetime         | datetime             | PK         |                                                                                                                                                   |                                                        |
| MRE_04         | DataAggregationProcessId | varchar(50)      | string               | PK         | <a href="https://dd.eionet.europa.eu/vocabulary/aq/aggregationprocess/view">https://dd.eionet.europa.eu/vocabulary/aq/aggregationprocess/view</a> | ModelObjectiveEstimation                               |

| Attribute Code | Attribute Name    | SQL DB Data Type | ReportNet3 Data Type      | Properties | Code list                                                                                                                                     | Related table(s) |
|----------------|-------------------|------------------|---------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| MRE_05         | PollutantId       | int              | numeric                   |            | <a href="https://dd.eionet.europa.eu/vocabulary/aq/pollutant/view">https://dd.eionet.europa.eu/vocabulary/aq/pollutant/view</a>               |                  |
| MRE_06         | End               | datetime         | datetime                  |            |                                                                                                                                               |                  |
| MRE_07         | Unit              | varchar(10)      | string                    |            | <a href="https://dd.eionet.europa.eu/vocabulary/uom/concentration/">https://dd.eionet.europa.eu/vocabulary/uom/concentration/</a>             |                  |
| MRE_08         | Validity          | int              | numeric                   |            | <a href="https://dd.eionet.europa.eu/vocabulary/aq/observationality/view">https://dd.eionet.europa.eu/vocabulary/aq/observationality/view</a> |                  |
| MRE_09         | SpatialResolution | int              | numeric                   |            | <a href="https://dd.eionet.europa.eu/vocabulary/aq/spatialresolution">https://dd.eionet.europa.eu/vocabulary/aq/spatialresolution</a>         |                  |
| MRE_10         | ResultTime        | datetime         | datetime                  |            |                                                                                                                                               |                  |
| MRE_11         | GeoTiffAttachment | varchar(100)     | attachment (R3 data type) |            |                                                                                                                                               |                  |

## Note

Attributes with ReportNet3 data type `date` or `datetime` shall use the ISO 8601 format. Date-time values may include a local UTC offset.

## Attribute details

### MRE\_01 – CountryCode

#### Content

Country or territory ISO2 code.

### MRE\_02 – AssessmentMethodId

#### Content

Identifier of the assessment method (model), given by provider.

#### Remarks

It will be cross-checked against the Model table.

## MRE\_03 – Start

### Content

Start date and time of the model simulation period.

### Remarks

Start must be provided with time zone. This information will be used for recalculation of all datetimes into UTC+1 for storage and analytical purposes.

## MRE\_04 – DataAggregationProcessId

### Content

Identifier for the process of aggregating model data into statistical values.

## MRE\_05 – PollutantId

### Content

Code of the air pollutant being modeled, as per Data Dictionary standards.

## MRE\_06 – End

### Content

End date and time of the model simulation period.

### Remarks

End must be provided with time zone. This information will be used for recalculation of all datetimes into UTC+1 for storage and analytical purposes.

## MRE\_07 – Unit

### Content

Unit of measurement for the air pollution level (e.g.,  $\mu\text{g}/\text{m}^3$ ).

### Remarks

Units must follow those recommended unit for AQD pollutants.

## MRE\_08 – Validity

### Content

Indicator of whether the model data is valid or flagged.

## MRE\_09 – SpatialResolution

### Content

Description of the spatial resolution of the model output, indicating the level of detail - new code list.

### Remarks

SpatialResolution will be tested against the code list for allowed values.

## MRE\_10 – ResultTime

### Content

Time at which the model results were generated or recorded.

## MRE\_11 – GeoTiffAttachment

### Content

Attached GEOTIFF.

## Example

| Attribute Code | Attribute Name           | Example             | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|--------------------------|---------------------|------------------|----------------------|----|----|
| MRE_01         | CountryCode              | DU                  | varchar(2)       | string               | ✓  | ✓  |
| MRE_02         | AssessmentMethodId       | MOD_DU_PM10_NAT_SR  | varchar(100)     | string               | ✓  |    |
| MRE_03         | Start                    | 2021-01-01T00:00:00 | datetime         | datetime             | ✓  |    |
| MRE_04         | DataAggregationProcessId | P1Y                 | varchar(50)      | string               | ✓  | ✓  |
| MRE_05         | PollutantId              | 5                   | int              | numeric              |    | ✓  |
| MRE_06         | End                      | 2022-01-01T00:00:00 | datetime         | datetime             |    |    |
| MRE_07         | Unit                     | ug/m3               | varchar(10)      | string               |    | ✓  |

| Attribute Code | Attribute Name    | Example             | SQL DB Data Type | ReportNet3 Data Type      | PK | CL |
|----------------|-------------------|---------------------|------------------|---------------------------|----|----|
| MRE_08         | Validity          | 1                   | int              | numeric                   |    | ✓  |
| MRE_09         | SpatialResolution | 1000                | int              | numeric                   |    | ✓  |
| MRE_10         | ResultTime        | 2023-04-14T10:19:44 | datetime         | datetime                  |    |    |
| MRE_11         | GeoTiffAttachment |                     | varchar(100)     | attachment (R3 data type) |    |    |

**Legend:** PK = Primary Key; FK = Foreign Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet M0EResultExternal.

[Download complete examples workbook](#)

# AssessmentRegimeZone



Description

EEA extensions

Data management rules

Attributes

Attribute details

ARZ\_01 – CountryCode

ARZ\_02 – AssessmentRegimeId

ARZ\_03 – ZoneId

ARZ\_04 – ZoneNationalCode

ARZ\_05 – ZoneArea

ARZ\_06 – ZoneCategory

ARZ\_07 – ZoneType

ARZ\_08 – ZoneName

ARZ\_09 – PollutantId

ARZ\_10 – ProtectionTarget

ARZ\_11 – ObjectiveType

ARZ\_12 – ReportingMetric

ARZ\_13 – AssessmentThresholdExceedance

ARZ\_14 – PostponementYear

ARZ\_15 – FixedMeasurementReduction

ARZ\_16 – ZoneResidentPopulationYear

ARZ\_17 – ZoneResidentPopulation

ARZ\_18 – ClassificationYear

ARZ\_19 – ClassificationDocumentId

Example

## Description

The purpose of the AssessmentRegimeZone table is to collect information about air quality zones and related assessment regimes. It specifies zone details such as (geographical) name, area, code, category, type, population as well as zone level parameters of assessment regimes such as objective, target, pollutant, reporting metric, assessment threshold and characteristics of exemptions (postponement, SPO reduction).

AssessmentRegimeZone table has to be reported at least every 5 years or whenever a new information or an update of existing information is available. Attributes which create unique identifier of each record: CountryCode and AssessmentRegimeId.

Updates of the AssessmentRegimeZone table will not be time stamped, i.e. each update generates the only version of the assessment regimes that is stored at the EEA:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against aggregation code list, existing records in Zone table, etc.

Valid modifications of existing record in this table are:

correction of PostponementYear or FixedMeasurementReduction or AssessmentThresholdExceedance,

minor corrections e.g. of ZoneName or ZoneNationalCode, ZoneResidentPopulation and ZoneResidentPopulationYear. Validity of the modifications of existing record will be tested using QC (rules to be established). Allowed modifications may affect outcomes of compliance analysis and/or

assessments, therefore re-submissions for past years, for which compliance reporting has been already done, will require additional tests vs reference/legacy data before official release of such data is granted.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported recently, highlighting the differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

AssessmentRegimeZone table will be extended by EEA by several attributes in the reference data flow:

Country (for convenience), based on ISO2 country codes,

Pollutant (for convenience), based on code list,

DataAggregationProcess, based on DataAggregationProcessId,

ReportingYear, based on the corresponding records in ComplianceAssessmentMethod,

Required number of sampling points, based on the recasted Air Quality Directive 2024/2881,

Reported number of sampling points and modelling applications, based on data reported in ComplianceAssessmentMethod table,

SR areas coverage,

Modelling results coverage,

Assessment regime zone exceedance status,

Exceedance extent coverage,

Reported number of measures.

## Data management rules

It is recommended to report the AssessmentRegimeZone table only when a new classification is available (at least every 5 years).

If a NUTS region is used - the ZoneCategory should be reported as nuts and NUTS region id should be provided as Zoneld, geometry does not need to be reported. If a combination of NUTS regions is used, the area should be reported in the same way as a zone, i.e. ZoneCategory should be reported as

**aqzone**, Zoneld should be assigned (following the rule for Zonelds) and the zone geometry must be provided.

In case of reporting territorial units for AEI, the NUTS regions or combination of NUTS region may be used.

The new environmental objectives should be reported from the beginning of the new reporting in ReportNet3, to cover the needs for roadmaps.

Records in AssessmentRegimeZone table which do not have any correspondence to records in ComplianceAssessmentMethods table will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name                | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                                     | Related table(s)                           |
|----------------|-------------------------------|------------------|----------------------|------------|-----------------------------------------------|--------------------------------------------|
| ARZ_01         | CountryCode                   | varchar(2)       | string               | PK         | <a href="#">countries</a>                     |                                            |
| ARZ_02         | AssessmentRegimeld            | varchar(50)      | string               | PK         |                                               | <a href="#">ComplianceAssessmentMethod</a> |
| ARZ_03         | Zoneld                        | varchar(50)      | string               |            |                                               | <a href="#">ZoneGeometry</a>               |
| ARZ_04         | ZoneNationalCode              | varchar(50)      | string               |            |                                               |                                            |
| ARZ_05         | ZoneArea                      | decimal(10,2)    | numeric              |            |                                               |                                            |
| ARZ_06         | ZoneCategory                  | varchar(20)      | string               |            | <a href="#">zonecategory</a>                  |                                            |
| ARZ_07         | ZoneType                      | varchar(20)      | string               |            | <a href="#">zonetype</a>                      |                                            |
| ARZ_08         | ZoneName                      | varchar(150)     | string               |            |                                               |                                            |
| ARZ_09         | PollutantId                   | int              | numeric              |            | <a href="#">pollutant</a>                     |                                            |
| ARZ_10         | ProtectionTarget              | varchar(50)      | string               |            | <a href="#">protectiontarget</a>              |                                            |
| ARZ_11         | ObjectiveType                 | varchar(50)      | string               |            | <a href="#">objectivetype</a>                 |                                            |
| ARZ_12         | ReportingMetric               | varchar(50)      | string               |            | <a href="#">reportingmetric</a>               |                                            |
| ARZ_13         | AssessmentThresholdExceedance | varchar(20)      | string               |            | <a href="#">assessmentthresholdexceedance</a> |                                            |
| ARZ_14         | PostponementYear              | int              | numeric              |            |                                               |                                            |
| ARZ_15         | FixedMeasurementReduction     | bit              | boolean              |            |                                               |                                            |
| ARZ_16         | ZoneResidentPopulationYear    | int              | numeric              |            |                                               |                                            |
| ARZ_17         | ZoneResidentPopulation        | int              | numeric              |            |                                               |                                            |

| Attribute Code | Attribute Name           | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list | Related table(s)              |
|----------------|--------------------------|------------------|----------------------|------------|-----------|-------------------------------|
| ARZ_18         | ClassificationYear       | int              | numeric              |            |           |                               |
| ARZ_19         | ClassificationDocumentId | varchar(150)     | string               |            |           | <a href="#">Documentation</a> |

## Attribute details

### ARZ\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### ARZ\_02 – AssessmentRegimeId

#### Reference

[View reference attribute](#) **Content**

Identifier of the air quality assessment regime, given by data provider.

### ARZ\_03 – ZoneId

#### Reference

[View reference attribute](#) **Content**

Identifier of the air quality zone, given by data provider.

#### Remarks

It will be cross-checked against the ZoneGeometry table.

### ARZ\_04 – ZoneNationalCode

#### Reference

[View reference attribute](#) **Content**

Unique identifier of the air quality zone, given by data provider.

## ARZ\_05 – ZoneArea

### Reference

[View reference attribute](#) **Content**

Total area of the air quality zone.

## ARZ\_06 – ZoneCategory

### Reference

[View reference attribute](#) **Content**

Category of the air quality zone (aq zone or nuts) - new code list.

## ARZ\_07 – ZoneType

### Reference

[View reference attribute](#) **Content**

Type of air quality zone (e.g., agglomeration and non-agglomeration).

## ARZ\_08 – ZoneName

### Reference

[View reference attribute](#) **Content**

Geographical name of the air quality zone.

## ARZ\_09 – PollutantId

### Reference

[View reference attribute](#) **Content**

Code of the air pollutant for which the assessment is being conducted.

## ARZ\_10 – ProtectionTarget

### Reference

[View reference attribute](#) **Content**

Protection target for air quality (e.g., human health, vegetation).

## ARZ\_11 – ObjectiveType

### Reference

[View reference attribute](#) **Content**

Type of environmental objective related to air quality assessment.

## ARZ\_12 – ReportingMetric

### Reference

[View reference attribute](#) **Content**

Metric corresponding to the standard (objective type).

## ARZ\_13 – AssessmentThresholdExceedance

### Reference

[View reference attribute](#) **Content**

Status indicating whether an assessment threshold has been exceeded.

## ARZ\_14 – PostponementYear

### Reference

[View reference attribute](#) **Content**

Year of postponement applied to the air quality zone, pollutant, target, objective and metric/aggregation.

### Remarks

PostponementYear relates to the postponement of attainment deadline and exemption from the obligation to apply certain limit values foreseen in the recasted Air Quality Directive 2024/2881 art. 18. Leaving this attribute blank will mean that no postponement does apply.

# ARZ\_15 – FixedMeasurementReduction

## Reference

[View reference attribute](#) **Content**

Use of indicative measurements and/or modelling to reduce fixed measurement network.

## Remarks

Y/N.

FixedSPOReduction relates to the reduction of the number of sampling points for fixed measurements, which may be reduced by up to 50% under certain conditions as foreseen in the recasted Air Quality Directive 2024/2881 art. 9 §3.

# ARZ\_16 – ZoneResidentPopulationYear

## Reference

[View reference attribute](#) **Content**

Reference year for the resident population data in the zone.

# ARZ\_17 – ZoneResidentPopulation

## Reference

[View reference attribute](#) **Content**

Number of people residing within the air quality zone.

# ARZ\_18 – ClassificationYear

## Reference

[View reference attribute](#) **Content**

The year of the last classification of the pollution level in the zone.

# ARZ\_19 – ClassificationDocumentId

## Reference

Identifier of the report detailing the classification procedure given by data provider.

## Example

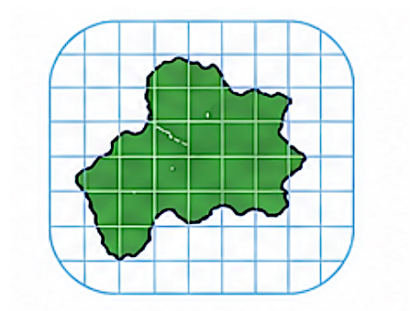
| Attribute Code | Attribute Name                | Example                               | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|-------------------------------|---------------------------------------|------------------|----------------------|----|----|
| ARZ_01         | CountryCode                   | DU                                    | varchar(2)       | string               | ✓  | ✓  |
| ARZ_02         | AssessmentRegimeId            | ARE_ZON_DU000A_0005_LV_H_aMean_2021_1 | varchar(50)      | string               | ✓  |    |
| ARZ_03         | ZoneId                        | ZON_DU000A                            | varchar(50)      | string               |    |    |
| ARZ_04         | ZoneNationalCode              | DU000A                                | varchar(50)      | string               |    |    |
| ARZ_05         | ZoneArea                      | 442.31                                | decimal(10,2)    | numeric              |    |    |
| ARZ_06         | ZoneCategory                  | zone                                  | varchar(20)      | string               |    | ✓  |
| ARZ_07         | ZoneType                      | agg                                   | varchar(20)      | string               |    | ✓  |
| ARZ_08         | ZoneName                      | EcoDome Heights                       | varchar(150)     | string               |    |    |
| ARZ_09         | PollutantId                   | 5                                     | int              | numeric              |    | ✓  |
| ARZ_10         | ProtectionTarget              | H                                     | varchar(50)      | string               |    | ✓  |
| ARZ_11         | ObjectiveType                 | LV                                    | varchar(50)      | string               |    | ✓  |
| ARZ_12         | ReportingMetric               | aMean                                 | varchar(50)      | string               |    | ✓  |
| ARZ_13         | AssessmentThresholdExceedance | aboveUAT                              | varchar(20)      | string               |    | ✓  |
| ARZ_14         | PostponementYear              | null                                  | int              | numeric              |    |    |
| ARZ_15         | FixedMeasurementReduction     | N                                     | bit              | boolean              |    |    |
| ARZ_16         | ZoneResidentPopulationYear    | 2020                                  | int              | numeric              |    |    |
| ARZ_17         | ZoneResidentPopulation        | 599159                                | int              | numeric              |    |    |
| ARZ_18         | ClassificationYear            | 2021                                  | int              | numeric              |    |    |
| ARZ_19         | ClassificationDocumentId      | DOC_ARE_ZON_DU_2021                   | varchar(150)     | string               |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet [AssessmentRegimeZone](#).



# ZoneGeometry



Description

EEA extensions

ZoneGeometryGrid

Data management rules

Attributes

Attribute details

ZGE\_01 – CountryCode

ZGE\_02 – Zoneld

ZGE\_03 – ZoneGeometryGeoJson

Example

## Description

The purpose of the ZoneGeometry table is to collect information on air quality geometries.

ZoneGeometry table has to be reported whenever new information or an update of existing information is available. Attributes which create unique identifier of each record: **CountryCode** and **Zoneld**.

Updates of the ZoneGeometry table will not be time stamped - i.e. each update generates the only version of the table in reference/legacy data:

either as addition of a new zone geometry;

or modification of an existing geometry. Validity of a new record will be tested using QC procedures (rules to be established), for example checking OGC compliance of the reported geometry.

Validity of modifications of existing geometries will also be tested through QC procedures. Allowed modifications are not supposed to affect outcomes of compliance analysis and/or assessments and will therefore be strictly limited to fulfil certain conditions (e.g. area difference thresholds).

Data products for the public will present records validated at the latest deadline. Data products for reporters will present records as most recently reported, highlighting differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

ZoneGeometry table will be extended by EEA in the reference/legacy data flow with a **Country** attribute.

In addition, a gridded version of the zones will be generated:

### ZoneGeometryGrid

ZoneGeometry table will be extended by EEA in the reference/legacy data flow with a 'Country' attribute. However, another, gridded version of the zones will be generated in there - ZoneGeometryGrid, which will contain gridded AQ values in 2 layers:

1 Very High Resolution layer (100m) for populated areas,

1 High Resolution layer (1000m) for all areas.

ZoneGeometryGrid will be extended by EEA with the following attributes:

CountryCode;

Zoneld;

X, Y coordinates (SRID 3035);

Grid number identifiers based on X and Y coordinates.

## Data management rules

It is recommended to report the ZoneGeometry table only for new zone geometries.

Zone geometries should be reported as geojson with SRID identifier and only the spatial data type "multipolygon" can be used. Expected projections are:

SRID3035,

SRID4258 or

SRID4326 (the only allowed for the French overseas areas).

Records in the ZoneGeometry table (and subsequently in ZoneGeometryGrid) which do not have any correspondence to records in the AssessmentRegimeZone table will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name      | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                 | Related table(s)                     |
|----------------|---------------------|------------------|----------------------|------------|---------------------------|--------------------------------------|
| ZGE_01         | CountryCode         | varchar(2)       | string               | PK         | <a href="#">countries</a> |                                      |
| ZGE_02         | Zoneld              | varchar(20)      | string               | PK         |                           | <a href="#">AssessmentRegimeZone</a> |
| ZGE_03         | ZoneGeometryGeoJson | varbinary        | geometry             |            |                           |                                      |

## Attribute details

### ZGE\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### ZGE\_02 – ZoneId

#### Reference

[View reference attribute](#) **Content**

Identifier of the air quality zone, given by data provider.

### ZGE\_03 – ZoneGeometryGeoJson

#### Reference

[View reference attribute](#) **Content**

Geospatial representation of the air quality zone (e.g. polygon geometry).

#### Remarks

It is allowed to report zone geometries in coordinate systems with the following EPSG codes:

3035,

4258,

## Example

| Attribute Code | Attribute Name      | Example                                                                                                                                                                                                                                                                                                                                                                              | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------|----|----|
| ZGE_01         | CountryCode         | DU                                                                                                                                                                                                                                                                                                                                                                                   | varchar(2)       | string               | ✓  | ✓  |
| ZGE_02         | Zoneld              | ZON_DU000A                                                                                                                                                                                                                                                                                                                                                                           | varchar(20)      | string               | ✓  |    |
| ZGE_03         | ZoneGeometryGeoJson | <pre>{   "type": "Feature",   "geometry": {     "type": "MultiPolygon",     "coordinates": [       [         [           [             [4.419074, 51.3040095],             [4.4181004999999995, 51.305457],             [4.3362534, 51.1730749],             [4.3367638, 51.1732234]           ]         ]       ]     ],     "properties": {       "srid": "4326"     }   } }</pre> | varbinary        | geometry             |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet ZoneGeometry.

[Download complete examples workbook](#)

# ComplianceAssessmentMethod



Description

EEA extensions

Data management rules

Attributes

Attribute details

CAM\_01 – CountryCode

CAM\_02 – ReportingYear

CAM\_03 – AssessmentRegimeId

CAM\_04 – DataAggregationProcessId

CAM\_05 – AssessmentMethodId

CAM\_06 – PollutantId

CAM\_07 – AssessmentType

CAM\_08 – IsExceedance

CAM\_09 – DataCoverage

CAM\_10 – PollutionLevel

CAM\_11 – PollutionLevelAdjusted

CAM\_12 – RelativeUncertaintyLimit

CAM\_13 – AssessmentMQI

CAM\_14 – CorrectionFlag

CAM\_15 – AttainmentId

CAM\_16 – SRSid

CAM\_17 – PreliminaryReason

CAM\_18 – Deletion

Example

## Description

The purpose of the ComplianceAssessmentMethod table is to collect information about assessment regimes and compliance situations on assessment method level. It specifies measured and/or modelled air quality values, aggregated in the context of the assessment regimes and allowed limits, provides uncertainty estimations for these values, describes some additional features of the air quality values (such as 'hotspot' and 'correction flag'), links to spatial representativeness areas (for sampling points and possibly - exceedance values) and gives preliminary description of reason for exceedance (based on code listed values) if such occurs.

ComplianceAssessmentMethod table has to be reported every year. Attributes which create unique identifier of each record: CountryCode, ReportingYear, AssessmentRegimeId, AssessmentMethodId and DataAggregationProcessId.

Updates of the ComplianceAssessmentMethod table will not be time stamped, i.e. each update generates the only version of the compliance situation that is stored at the EEA:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against aggregation code list, existing records in ModelObjectiveEstimation table, SamplingPoint table, SpatialRepresentativeness table and AssessmentRegimeZone table, as well as - indirectly - against ObservationMeasurementResult and MOEResult tables.

Valid modifications of existing record: beside the attributes which create unique identifier, AttainmentId, PollutantId and SRSid, modifications of value are in principle allowed for all other attributes. However, the degree of freedom for such modifications will be different, depending on data type and impact of

modification, e.g.:

CorrectionFlag, Hotspot - all changes may be allowed,

Uncertainties - changes within certain numeric ranges,

PollutionLevel(s) - must agree with EEA's aggregations,

PreliminaryReason - all changes may be allowed within AttainmentId, but split into more compliance situation (> 1 of AttainmentId) will require additional rules (impact on PollutionLevelAdjustment, CompliancePlanLink), etc.

Validity of the modifications of existing record will be tested using QC (rules to be established). Allowed modifications may affect outcomes of compliance analysis and/or assessments, therefore re-submissions for past years, for which compliance reporting has been already done, will require additional tests vs reference/legacy data before official release of such data is granted.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported recently, highlighting the differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

ComplianceAssessmentMethod table will be extended by EEA by several attributes:

Country (for convenience), based on ISO2 country codes,

Pollutant (for convenience), based on code list,

DataAggregationProcess, based on DataAggregationProcessId,

EEAAdjustmentEstimation, based on EEA's processing of information included in the PollutionLevelAdjustment table,

EEAExceedanceAssessment, based on EEAAdjustmentEstimation and allowed limit values,

EEAMQIestimation, based on EEA's interpretation of MOEResults vs. ObservationMeasurementResult.

## Data management rules

In case of reporting AEI, one record for each relevant AssessmentRegimeId should be reported, specifying the value of AEI under PollutionLevel attribute and an OBE method identifier under AssessmentMethodId. OBE method (averaging across territorial unit) should be described in

ModelObjectiveEstimation table with ResultEncoding ‘zone’.

The values related to the new environmental objectives should be reported from the beginning of the new reporting in ReportNet3. Exceedances of the new thresholds should be indicated via IsExceedance attribute in the same way as exceedances of the currently used threshold values. They cannot and will not be handled as legally binding exceedances, i.e. will not determine compliance status of zones but they will be used for identification of needs for the roadmaps.

Deletion of an existing record is possible via the Deletion attribute (by reporting value = 1).

## Attributes

| Attribute Code | Attribute Name           | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                          | Related table(s)                                                                                                                                                                                                                                                              |
|----------------|--------------------------|------------------|----------------------|------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAM_01         | CountryCode              | varchar(2)       | string               | PK         | <a href="#">countries</a>          |                                                                                                                                                                                                                                                                               |
| CAM_02         | ReportingYear            | int              | numeric              | PK         |                                    |                                                                                                                                                                                                                                                                               |
| CAM_03         | AssessmentRegimeId       | varchar(100)     | string               | PK         |                                    | <a href="#">AssessmentRegimeZone</a>                                                                                                                                                                                                                                          |
| CAM_04         | DataAggregationProcessId | varchar(50)      | string               | PK         | <a href="#">aggregationprocess</a> |                                                                                                                                                                                                                                                                               |
| CAM_05         | AssessmentMethodId       | varchar(100)     | string               | PK         |                                    | <a href="#">SamplingPoint</a><br><a href="#">SamplingProcess</a><br><a href="#">SamplingPointLocation</a><br><a href="#">ObservationMeasurementResult</a><br><a href="#">ModelObjectiveEstimation</a><br><a href="#">MOEResultInline</a><br><a href="#">MOEResultExternal</a> |
| CAM_06         | PollutantId              | int              | numeric              |            | <a href="#">pollutant</a>          |                                                                                                                                                                                                                                                                               |
| CAM_07         | AssessmentType           | varchar(50)      | string               |            | <a href="#">assessmenttype</a>     |                                                                                                                                                                                                                                                                               |
| CAM_08         | IsExceedance             | varchar(5)       | string               |            |                                    |                                                                                                                                                                                                                                                                               |
| CAM_09         | DataCoverage             | decimal(5,2)     | numeric              |            |                                    |                                                                                                                                                                                                                                                                               |
| CAM_10         | PollutionLevel           | decimal(10,3)    | numeric              |            |                                    |                                                                                                                                                                                                                                                                               |
| CAM_11         | PollutionLevelAdjusted   | decimal(10,3)    | numeric              |            |                                    |                                                                                                                                                                                                                                                                               |
| CAM_12         | RelativeUncertaintyLimit | decimal(10,2)    | numeric              |            |                                    |                                                                                                                                                                                                                                                                               |
| CAM_13         | AssessmentMQI            | decimal(5,2)     | numeric              |            |                                    |                                                                                                                                                                                                                                                                               |
| CAM_14         | CorrectionFlag           | bit              | boolean              |            |                                    |                                                                                                                                                                                                                                                                               |
| CAM_15         | AttainmentId             | varchar(50)      | string               |            |                                    | <a href="#">CompliancePlanLink</a><br><a href="#">PollutionLevelAdjustment</a>                                                                                                                                                                                                |
| CAM_16         | SRSId                    | varchar(50)      | string               |            |                                    | <a href="#">SpatialRepresentativeness</a>                                                                                                                                                                                                                                     |

| Attribute Code | Attribute Name    | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                        | Related table(s) |
|----------------|-------------------|------------------|----------------------|------------|----------------------------------|------------------|
| CAM_17         | PreliminaryReason | varchar(50)      | string               |            | <a href="#">exceedancereason</a> |                  |
| CAM_18         | Deletion          | bit              | boolean              |            |                                  |                  |

## Attribute details

### CAM\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### CAM\_02 – ReportingYear

#### Reference

[View reference attribute](#) **Content**

Year for which the data has been reported.

### CAM\_03 – AssessmentRegimeId

#### Reference

[View reference attribute](#) **Content**

Identifier of the air quality assessment regime, given by data provider.

#### Remarks

It will be cross-checked against the AssessmentRegimeZone table.

### CAM\_04 – DataAggregationProcessId

#### Reference

[View reference attribute](#) **Content**

Identifier of the process used for aggregating air quality data into statistical values.

## CAM\_05 – AssessmentMethodId

### Reference

[View reference attribute](#) **Content**

Identifier of the assessment method used for air quality evaluation, given by data provider.

### Remarks

Either SamplingPoint or Model/OBE, it will be cross-checked against the SamplingPoint table or the Model table, also - indirectly - against the ObservationMeasurementResult table and/or the ModellingResult tables.

## CAM\_06 – PollutantId

### Reference

[View reference attribute](#) **Content**

Code of the air pollutant for which the assessment is being conducted.

## CAM\_07 – AssessmentType

### Reference

[View reference attribute](#) **Content**

Classification of assessment methods into common types.

## CAM\_08 – IsExceedance

### Reference

[View reference attribute](#) **Content**

Statement indicating whether pollution levels exceed environmental objectives.

## CAM\_09 – DataCoverage

### Reference

[View reference attribute](#) **Content**

The proportion of the calendar year for which valid measurement data are available, expressed as a percentage.

**Remarks**

One element of DQO (see Directive 2024/2881 Section B).

**CAM\_10 – PollutionLevel**

**Reference**

[View reference attribute](#) **Content**

Measured or modeled concentration level of the air pollutant.

**Remarks**

AirPollutionLevel must be reported for every AssessmentMethodId.

**CAM\_11 – PollutionLevelAdjusted**

**Reference**

[View reference attribute](#) **Content**

Adjusted concentration level of the air pollutant, accounting for specific corrections.

**CAM\_12 – RelativeUncertaintyLimit**

**Reference**

[View reference attribute](#) **Content**

The maximum relative uncertaintyfor assessment method (given for measurement).

**Remarks**

RelativeUncertaintyLimit must be reported for every AssessmentMethodId which refer to sampling points.

**CAM\_13 – AssessmentMQI**

**Reference**

[View reference attribute](#) **Content**

Modelling Quality Indicator

## CAM\_14 – CorrectionFlag

### Reference

[View reference attribute](#) **Content**

Correction factor for measured values applied (Y/N)

### Remarks

Y/N. Correction is a string/boolean to be used in order to certify that, in case the SamplingProcess is equivalent to the reference method, the values have been corrected adequately (e.g. PM but also ozone with the cross section).

## CAM\_15 – AttainmentId

### Reference

[View reference attribute](#) **Content**

Identifier of the air quality compliance situation, given by data provider (preliminary reason level).

### Remarks

AttainmentId distinguishes each compliance situation. If there is no exceedance in the zone/assessment regime, there will be only one AttainmentId. If exceedance occurs, if it is caused (most probably) by the same reason and its extent (delineated by sampling point SRAs or modelling results) covers the whole zone, there will be also only one AttainmentId. However, if single exceedance (caused by the same reason) does not cover the whole zone, there will be 2 AttainmentIds - one for the exceedance situation and one for the non-exceedance situation in the same zone/assessment regime. Also - if the exceedances in the same zone/assessment regime are caused by different reasons, there will be more than 1 AttainmentIds.

## CAM\_16 – SRSId

### Reference

[View reference attribute](#) **Content**

Identifier of the area representing spatial representativeness.

Remarks

Identifier linking to either SPO representativeness or to exceedance extent.

CAM\_17 – PreliminaryReason

Reference

[View reference attribute](#) **Content**

Initial justification or reasoning for reported exceedance levels.

Remarks

This is crucial for distinguishing between different compliance situations in the same zone/assessment regime and pointing the relevant actions (air quality plans). It does not have to be precise at the first assessment of new exceedance and it can be changed from one year to another.

CAM\_18 – Deletion

Reference

[View reference attribute](#) **Content**

Flag to indicate that this element and all related information must be deleted.

Remarks

Y/N

Example

| Attribute Code | Attribute Name           | Example                                   | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|--------------------------|-------------------------------------------|------------------|----------------------|----|----|
| CAM_01         | CountryCode              | DU                                        | varchar(2)       | string               | ✓  | ✓  |
| CAM_02         | ReportingYear            | 2024                                      | int              | numeric              | ✓  |    |
| CAM_03         | AssessmentRegimeId       | ARE_ZON_DU000A_0005_LV_H_aM<br>ean_2021_1 | varchar(50)      | string               | ✓  |    |
| CAM_04         | DataAggregationProcessId | P1Y                                       | varchar(50)      | string               | ✓  | ✓  |

| Attribute Code | Attribute Name           | Example                                    | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|--------------------------|--------------------------------------------|------------------|----------------------|----|----|
| CAM_05         | AssessmentMethodId       | SPO_DU0001_0005_100                        | varchar(100)     | string               | ✓  |    |
| CAM_06         | PollutantId              | 5                                          | int              | numeric              |    | ✓  |
| CAM_07         | AssessmentType           | fixed                                      | varchar(50)      | string               |    | ✓  |
| CAM_08         | IsExceedance             | FALSE                                      | varchar(5)       | string               |    |    |
| CAM_09         | DataCoverage             | 85.78                                      | decimal(5,2)     | numeric              |    |    |
| CAM_10         | PollutionLevel           | 21                                         | decimal(10,3)    | numeric              |    |    |
| CAM_11         | PollutionLevelAdjusted   | null                                       | decimal(10,3)    | numeric              |    |    |
| CAM_12         | RelativeUncertaintyLimit | 0.2                                        | decimal(10,2)    | numeric              |    |    |
| CAM_13         | AssessmentMQI            | null                                       | decimal(5,2)     | numeric              |    |    |
| CAM_14         | CorrectionFlag           | Y                                          | bit              | boolean              |    |    |
| CAM_15         | AttainmentId             | ATT_ZON_DU000A_00005_LV_H_a<br>Mean_2024_1 | varchar(50)      | string               |    |    |
| CAM_16         | SRSId                    | SRS_ZON_DU000A_00005_1                     | varchar(50)      | string               |    |    |
| CAM_17         | PreliminaryReason        | null                                       | varchar(50)      | string               |    | ✓  |
| CAM_18         | Deletion                 | 0                                          | bit              | boolean              |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet

ComplianceAssessmentMethod.

[Download complete examples workbook](#)

# SpatialRepresentativeness



Description

EEA extensions

Data management rules

Attributes

Attribute details

SRS\_01 – CountryCode

SRS\_02 – SRSId

SRS\_03 – SRSApplicationId

SRS\_04 – SRSApplication

SRS\_05 – ResultEncoding

SRS\_06 – RepresentativenessAssessmentMethodId

Example

## Description

The purpose of the SpatialRepresentativeness table is to ensure the link between the coverage of the spatial representativeness area of a sampling point or exceedance extent, and the ComplianceAssessmentMethod table. It can also point to the method (model/OBE) used for the assessment of the SPO representativeness or the exceedance extent.

SpatialRepresentativeness table has to be reported whenever a new information or an update of existing information is available (at least every 5 years for the SPO representativeness and for each sampling point declared for compliance assessments). Attributes which create unique identifier of each record: CountryCode, SRSId and SRSApplicationId.

Updates of the SpatialRepresentativeness table will not be time stamped, i.e. each update generates the only version of the SpatialRepresentativeness that is stored at the EEA. Validity of a new record or modification will be tested using QC (rules to be established) - e.g. cross checking against existing records in ComplianceAssessmentMethod table, SRSInline and/or SRSEExternal tables.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported the most recently.

## EEA extensions

SpatialRepresentativeness table will be extended by EEA by:

Country (for convenience), based on ISO2 country codes.

## Data management rules

It is allowed to reuse SRSId within the same AQ zone and across the years. However, it is strongly recommended to set a new SRSId in ComplianceAssessmentMethod table and new record in SpatialRepresentativeness table with SRSApplication = `exc_sr`, whenever a new exceedance is reported (also by model/OBE). This practice enables reporting of exceedance extents after relevant plans are in place, without re-submitting records for ComplianceAssessmentMethod table (but simply by using the SRSId which is already there). SRSAssessmentMethodId can be used for pointing to AssessmentMethodId in the ModelObjectiveEstimation table for definition of the modelling/OBE method which generated the SR areas (either for sampling point or as exceedance extents). It is expected that in case of exceedance extents, the value in RepresentativenessAssessmentMethodId will be the same as value in ScenarioAssessmentMethodId in PlanScenario record referring to the same AttainmentId (because it is the same model/OBE).

Records in SpatialRepresentativeness table which do not have any correspondence to records in ComplianceAssessmentMethods table will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name   | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                      | Related table(s)                                          |
|----------------|------------------|------------------|----------------------|------------|--------------------------------|-----------------------------------------------------------|
| SRS_01         | CountryCode      | varchar(2)       | string               | PK         | <a href="#">countries</a>      |                                                           |
| SRS_02         | SRSId            | varchar(50)      | string               | PK         |                                | <a href="#">ComplianceAssessmentMethod</a>                |
| SRS_03         | SRSApplicationId | varchar(50)      | string               | PK         |                                | <a href="#">SRSInline</a><br><a href="#">SRSEExternal</a> |
| SRS_04         | SRSApplication   | varchar(50)      | string               |            | <a href="#">SRapplication</a>  |                                                           |
| SRS_05         | ResultEncoding   | varchar(10)      | string               |            | <a href="#">resultencoding</a> |                                                           |

| Attribute Code | Attribute Name                       | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list | Related table(s)                         |
|----------------|--------------------------------------|------------------|----------------------|------------|-----------|------------------------------------------|
| SRS_06         | RepresentativenessAssessmentMethodId | varchar(100)     | string               |            |           | <a href="#">ModelObjectiveEstimation</a> |

## Attribute details

### SRS\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### SRS\_02 – SRSId

#### Reference

[View reference attribute](#) **Content**

Identifier of the area representing the sampling point's measurement spatial coverage or the extent of the exceedance, given by data provider.

### SRS\_03 – SRSApplicationId

#### Reference

[View reference attribute](#) **Content**

Identifier pointing to the specific spatial representativeness given by data provider.

#### Remarks

The same SRSId can have several SRSApplication\_Id (e.g. one for the SPO representativeness area and one for the exceedance extent).

### SRS\_04 – SRSApplication

#### Reference

[View reference attribute](#) **Content**

Application of spatial representativeness (SPO representativeness or the exceedance extent).

## Remarks

New code list (SPO representativeness area, exceedance extent area).

## SRS\_05 – ResultEncoding

### Reference

[View reference attribute](#) **Content**

Encoding method used for model results ( `internal` or `external` ).

## SRS\_06 – RepresentativenessAssessmentMethodId

### Reference

[View reference attribute](#) **Content**

Identifier of the assessment method (model) used for defining the area (either representativeness or extent), given by data provider.

## Remarks

AssessmentMethodId is a model or OBE identifier that points to the method (model/OBE in the Model table) which was used for the assessments of the SPO representativeness area or the exceedance extent.

## Example

| Attribute Code | Attribute Name                       | Example                 | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|--------------------------------------|-------------------------|------------------|----------------------|----|----|
| SRS_01         | CountryCode                          | DU                      | varchar(2)       | string               | ✓  | ✓  |
| SRS_02         | SRSId                                | SRS_ZON_DU000A_00005_1  | varchar(50)      | string               | ✓  |    |
| SRS_03         | SRSApplicationId                     | SRS_SPO_DU0001_0005_100 | varchar(50)      | string               | ✓  |    |
| SRS_04         | SRSApplication                       | spo_sr                  | varchar(50)      | string               |    | ✓  |
| SRS_05         | ResultEncoding                       | inline                  | varchar(10)      | string               |    | ✓  |
| SRS_06         | RepresentativenessAssessmentMethodId | MOD_DU_PM10_NAT_SR      | varchar(100)     | string               |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet

[SpatialRepresentativeness](#).

[Download complete examples workbook](#)

# SRSInline



[Description](#)

[EEA extensions](#)

[Data management rules](#)

[Attributes](#)

[Attribute details](#)

[SRI\\_01 – CountryCode](#)

[SRI\\_02 – SRSAApplicationId](#)

[SRI\\_03 – X](#)

[SRI\\_04 – Y](#)

[SRI\\_05 – SpatialResolution](#)

[Example](#)

## Description

The purpose of the SRSInline table is to collect the representativeness area (either SPO representativeness or exceedance extent) as set of grid cells following the common grid approach (see Introduction), for each sampling point declared for compliance assessments.

Attributes which create unique identifier of each record: CountryCode, SRSAApplicationId, X and Y.

Updates of the SRSInline table will not be time stamped - i.e. each update generates the only version of the table in reference/legacy data. Validity of the modifications of existing record and or new record will be tested using QC (rules to be established).

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported the most recently.

## EEA extensions

Reference data flow will have two tables representing reporting of SR areas:

SRSInventory;

SRSGrid. SRSInventory will collect information about count of values reported for each SR area and will contain a reference to raw data file. SRSGrid table will differ from the reporting data flow however it will contain gridded AQ values in 3 layers:

2 Very High Resolution layers (10 and 100m - depending on original resolutions) for populated areas and traffic links;

1 High Resolution layer (1000m) for all areas.

SRSGrid table will be extended by several attributes:

Country (for convenience), based on ISO2 country codes;

Grid number identifiers, based on X,Y (SRID 3035).

## Data management rules

It is expected that SR areas for sampling points declared for compliance assessments will be reported together with attainment reports (when ComplianceAssessmentMethod table is reported). Exceedance extents are expected to be reported as soon as relevant air quality plans are in place.

Records in SRSInline table which do not have any correspondence to records in SpatialRepresentativeness table will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name   | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                 | Related table(s)                          |
|----------------|------------------|------------------|----------------------|------------|---------------------------|-------------------------------------------|
| SRI_01         | CountryCode      | varchar(2)       | string               | PK         | <a href="#">countries</a> |                                           |
| SRI_02         | SRSApplicationId | varchar(50)      | string               | PK         |                           | <a href="#">SpatialRepresentativeness</a> |
| SRI_03         | X                | bigint           | numeric              | PK         |                           |                                           |
| SRI_04         | Y                | bigint           | numeric              | PK         |                           |                                           |

| Attribute Code | Attribute Name    | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                         | Related table(s) |
|----------------|-------------------|------------------|----------------------|------------|-----------------------------------|------------------|
| SRI_05         | SpatialResolution | int              | numeric              |            | <a href="#">spatialresolution</a> |                  |

## Attribute details

### SRI\_01 – CountryCode

#### Content

Country or territory ISO2 code.

### SRI\_02 – SRSAApplicationId

#### Content

Identifier of the specific spatial representativeness given by data provider.

### SRI\_03 – X

#### Content

X-coordinate of grid cell belonging to SRA in a projected coordinate reference system.

#### Remarks

It must be using SRID 3035.

### SRI\_04 – Y

#### Content

Y-coordinate of grid cell belonging to SRA in a projected coordinate reference system.

#### Remarks

It must be using SRID 3035.

### SRI\_05 – SpatialResolution

#### Content

Description of the spatial resolution of the data, indicating the level of detail.

## Remarks

SpatialResolution will be tested against the code list for allowed values.

## Example

| Attribute Code | Attribute Name    | Example                 | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|-------------------|-------------------------|------------------|----------------------|----|----|
| SRI_01         | CountryCode       | DU                      | varchar(2)       | string               | ✓  | ✓  |
| SRI_02         | SRSApplicationId  | SRS_SPO_DU0001_0005_100 | varchar(50)      | string               | ✓  |    |
| SRI_03         | X                 | 3825000                 | bigint           | numeric              | ✓  |    |
| SRI_04         | Y                 | 2274000                 | bigint           | numeric              | ✓  |    |
| SRI_05         | SpatialResolution | 1000                    | int              | numeric              |    | ✓  |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet SRSInline.

[Download complete examples workbook](#)

# SRSExternal



Description

EEA extensions

Data management rules

Attributes

Attribute details

SRE\_01 – CountryCode

SRE\_02 – SRSApplicationId

SRE\_03 – SpatialResolution

SRE\_04 – GISAttachment

Example

## Description

The purpose of the SRSExternal table is to collect the representativeness area (either SPO representativeness or exceedance extent) as external GIS files, for each sampling point declared for compliance assessments.

Attributes which create unique identifier of each record: CountryCode and SRSApplicationId.

Updates of the SRSExternal table will not be time stamped - i.e. each update generates the only version of the table in reference/legacy data. Validity of the modifications of existing record and/or new record will be tested using QC (rules to be established).

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported the most recently.

## EEA extensions

Reference data flow will have two tables representing reporting of SR areas:

SRSInventory;

SRSGrid. SRSInventory will collect information about count of values reported for each SR area and will contain a reference to raw data file. SRSGrid table will differ from the reporting data flow however it will contain gridded AQ values in 3 layers:

2 Very High Resolution layers (10 and 100m - depending on original resolutions) for populated areas and traffic links;

1 High Resolution layer (1000m) for all areas.

SRSGrid table will be extended by several attributes:

Country (for convenience), based on ISO2 country codes;

Grid number identifiers, based on X,Y (SRID 3035).

## Data management rules

It is expected that SR areas for sampling points declared for compliance assessments will be reported together with attainment reports (when ComplianceAssessmentMethod table is reported).

Exceedance extents are expected to be reported as soon as relevant air quality plans are in place.

Records in SRSEExternal table which do not have any correspondence to records in SpatialRepresentativeness table will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name    | SQL DB Data Type | ReportNet3 Data Type      | Properties | Code list                         | Related table(s)                          |
|----------------|-------------------|------------------|---------------------------|------------|-----------------------------------|-------------------------------------------|
| SRE_01         | CountryCode       | varchar(2)       | string                    | PK         | <a href="#">countries</a>         |                                           |
| SRE_02         | SRSApplicationId  | varchar(50)      | string                    | PK         |                                   | <a href="#">SpatialRepresentativeness</a> |
| SRE_03         | SpatialResolution | int              | numeric                   |            | <a href="#">spatialresolution</a> |                                           |
| SRE_04         | GeoTiffAttachment | varchar(100)     | attachment (R3 data type) |            |                                   |                                           |

# Attribute details

## SRE\_01 – CountryCode

### Content

Country or territory ISO2 code.

## SRE\_02 – SRSApplicationId

### Content

Identifier of the specific spatial representativeness given by data provider.

## SRE\_03 – SpatialResolution

### Content

Description of the spatial resolution of the data, indicating the level of detail.

### Remarks

SpatialResolution will be tested against the code list for allowed values.

## SRE\_04 – GISAttachment

### Content

Attached GIS file containing the spatial representativeness area.

### Remarks

The attachment contains either:

sampling point representativeness area; or

exceedance extent area.

# Example

| Attribute Code | Attribute Name | Example | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|----------------|---------|------------------|----------------------|----|----|
| SRE_01         | CountryCode    | DU      | varchar(2)       | string               | ✓  | ✓  |

| Attribute Code | Attribute Name    | Example                 | SQL DB Data Type | ReportNet3 Data Type      | PK | CL |
|----------------|-------------------|-------------------------|------------------|---------------------------|----|----|
| SRE_02         | SRSApplicationId  | SRS_SPO_DU0001_0008_100 | varchar(50)      | string                    | ✓  |    |
| SRE_03         | SpatialResolution | 100                     | int              | numeric                   |    | ✓  |
| SRE_04         | GeoTiffAttachment |                         | varchar(100)     | attachment (R3 data type) |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet SRSExternal.

[Download complete examples workbook](#)

# PollutionLevelAdjustment



Description

EEA extensions

Data management rules

Attributes

Attribute details

ADJ\_01 – CountryCode

ADJ\_02 – AttainmentId

ADJ\_03 – AdjustmentSource

ADJ\_04 – AdjustmentAssessmentMethodId

ADJ\_05 – AdjustmentDocumentId

Example

## Description

The purpose of the PollutionLevelAdjustment table is to collect information on deductions (adjustments) due to natural sources or winter salting and sanding. It describes the adjustment source/type (using code listed values) as well as points to the method (model/OBE) used for the assessments.

PollutionLevelAdjustment (record) table has to be reported whenever a new information or an update of existing information is available. Attributes which create unique identifier of each record: CountryCode, AttainmentId and AdjustmentSource.

Updates of the PollutionLevelAdjustment table will not be time stamped - i.e. each update generates the only version of the table in reference/legacy data:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against existing records in ModelObjectiveEstimation table and ComplianceAssessmentMethod table, as well as - indirectly - against MOEResult tables.

Valid modifications of existing record in this table are: minor corrections e.g. of wrong code list values. Validity of the modifications of existing record will be tested using QC (rules to be established). Allowed modifications are not supposed to directly affect outcomes of compliance analysis and/or assessments.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported recently, highlighting the differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

PollutionLevelAdjustment table will be extended by:

Country (for convenience), based on ISO2 country codes.

## Data management rules

AdjustmentAssessmentMethodId must be used for pointing to AssessmentMethodId in the ModelObjectiveEstimation table for definition of the modelling/OBE method which generated the adjustment values.

AdjustmentAssessmentMethodId must be different for each AdjustmentSource so that it is possible to report adjustment values for each of them in the MOEResult tables.

Records in PollutionLevelAdjustment table which do not have any correspondence to records in ComplianceAssessmentMethods table will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name   | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                                 | Related table(s)                           |
|----------------|------------------|------------------|----------------------|------------|-------------------------------------------|--------------------------------------------|
| ADJ_01         | CountryCode      | varchar(2)       | string               | PK         | <a href="#">countries</a>                 |                                            |
| ADJ_02         | AttainmentId     | varchar(100)     | string               | PK         |                                           | <a href="#">ComplianceAssessmentMethod</a> |
| ADJ_03         | AdjustmentSource | varchar(50)      | string               | PK         | <a href="#">adjustmentsource<br/>type</a> |                                            |

| Attribute Code | Attribute Name               | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list | Related table(s)                         |
|----------------|------------------------------|------------------|----------------------|------------|-----------|------------------------------------------|
| ADJ_04         | AdjustmentAssessmentMethodId | varchar(100)     | string               |            |           | <a href="#">ModelObjectiveEstimation</a> |
| ADJ_05         | AdjustmentDocumentId         |                  |                      |            |           | <a href="#">Documentation</a>            |

## Attribute details

### ADJ\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### ADJ\_02 – AttainmentId

#### Reference

[View reference attribute](#) **Content**

Identifier of the air quality compliance situation, given by data provider.

#### Remarks

It will be cross-checked against the ComplianceAssessmentMethod table.

### ADJ\_03 – AdjustmentSource

#### Reference

[View reference attribute](#) **Content**

Description of the source being adjusted (e.g., sea spray, volcanic activity).

### ADJ\_04 – AdjustmentAssessmentMethodId

#### Reference

[View reference attribute](#) **Content**

Identifier of the method - model - used for deduction assessment, given by data provider.

Remarks

AdjAssessmentMethodId is a model or OBE identifier that points to the method (model/OBE in the Model table) which was used for the assessments of the deduction. If there are several different adjustment types/sources, different AdjAssessmentMethodIds must be used, so that it is possible to distinguish between corresponding adjustment values reported in the ModellingResult (Inline or External) table. It will be cross-checked against the Model table, also - indirectly - against the ModellingResult tables.

ADJ\_05 – AdjustmentDocumentId

Reference

[View reference attribute](#)

Example

| Attribute Code | Attribute Name               | Example                                    | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|------------------------------|--------------------------------------------|------------------|----------------------|----|----|
| ADJ_01         | CountryCode                  | DU                                         | varchar(2)       | string               | ✓  | ✓  |
| ADJ_02         | AttainmentId                 | ATT_ZON_DU000B_00005_LV_H_a<br>Mean_2024_1 | varchar(50)      | string               | ✓  |    |
| ADJ_03         | AdjustmentSource             | H                                          | varchar(50)      | string               | ✓  | ✓  |
| ADJ_04         | AdjustmentAssessmentMethodId | OBE_DU_SEASALT_PM10_H_LV_A<br>DJ           | varchar(100)     | string               |    |    |
| ADJ_05         | AdjustmentDocumentId         | null                                       |                  |                      |    |    |

**Legend:** PK = Primary Key; FK = Foreign Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet PollutionLevelAdjustment.

[Download complete examples workbook](#)

# CompliancePlanLink



Description

EEA extensions

Data management rules

Attributes

Attribute details

CPL\_01 – CountryCode

CPL\_02 – AttainmentId

CPL\_03 – PlanId

CPL\_04 – ScenarioId

CPL\_05 – SourceApportionmentId

CPL\_06 – PlanCategory

CPL\_07 – PlanTitle

CPL\_08 – PlanAdoptionDate

CPL\_09 – PlanBeginDate

CPL\_10 – PlanEndDate

CPL\_11 – PlanDocumentId

CPL\_12 – Deletion

Example

## Description

The purpose of the CompliancePlanLink table is to ensure the link between the AttainmentId as reported in the ComplianceAssessmentMethod table with the plan developed to tackle the exceedance (with source apportionment and relevant scenario).

CompliancePlanLink table has to be reported every year to maintain the link between exceedance situations (evolving through years) and the relevant plans. Attributes which create unique identifier of each record: CountryCode, AttainmentId, PlanId, ScenarioId and SourceApportionmentId.

Updates of the CompliancePlanLink table will not be time stamped, i.e. each update generates the only version of the CompliancePlanLink that is stored at the EEA. Since all the attributes create unique identifier of each record, the only update possible for this table is addition of a new record. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against existing records in ComplianceAssessmentMethod table, PlanScenario table and SourceApportionment table.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported recently, highlighting the differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

CompliancePlanLink table will be extended by:

Country (for convenience), based on ISO2 country codes,

ReportingYear (for convenience), based on ComplianceAssessmentMethod (year of AttainmentId).

## Data management rules

All AttainmentIds which refer to exceedance indicated in ComplianceAssessmentMethod must be covered by plan developed to tackle the exceedance (with source apportionment and relevant scenario). There can be only one unique combination of PlanId, ScenarioId and SourceApportionmentId for each AttainmentId. However, there can be many AttainmentIds (describing either one or many compliance situations evolving across years) for each unique combination of PlanId, ScenarioId and SourceApportionmentId.

It is recommended not to change PlanDocumentId in case of documentation update related to the same plan/scenario. Instead, a new attachment should be uploaded in Document table re-using the same DocumentId. Previous versions of documentation will be kept in reference data. In case when the same PlanDocumentId was used for all records and there is a need to modify documentation e.g. only for one specific scenario, it is recommended to create a new PlanDocumentId for that record in

CompliancePlanLink table, and then report old (plan specific) and new (e.g. scenario specific) documents as attachments for that new PlandocumentId (as DocumentId) in the Document table in a subsequent manner.

Records in CompliancePlanLink table which do not have any correspondence to records in ComplianceAssessmentMethods table will be flagged for deletion in the reference data flow.

Deletion of an existing record will be also possible via the Deletion attribute (by reporting value = 1).

## Attributes

| Attribute Code | Attribute Name        | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                    | Related table(s)                           |
|----------------|-----------------------|------------------|----------------------|------------|------------------------------|--------------------------------------------|
| CPL_01         | CountryCode           | varchar(2)       | string               | PK         | <a href="#">countries</a>    |                                            |
| CPL_02         | AttainmentId          | varchar(50)      | string               | PK         |                              | <a href="#">ComplianceAssessmentMethod</a> |
| CPL_03         | PlanId                | varchar(50)      | string               | PK         |                              | <a href="#">PlanScenario</a>               |
| CPL_04         | ScenarioId            | varchar(50)      | string               | PK         |                              | <a href="#">PlanScenario</a>               |
| CPL_05         | SourceApportionmentId | varchar(50)      | string               | PK         |                              | <a href="#">SourceApportionment</a>        |
| CPL_06         | PlanCategory          | varchar(20)      | string               |            | <a href="#">plancategory</a> |                                            |
| CPL_07         | PlanTitle             | nvarchar(1000)   | string               |            |                              |                                            |
| CPL_08         | PlanAdoptionDate      | date             | date                 |            |                              |                                            |
| CPL_09         | PlanBeginDate         | date             | date                 |            |                              |                                            |
| CPL_10         | PlanEndDate           | date             | date                 |            |                              |                                            |
| CPL_11         | PlanDocumentId        | varchar(150)     | string               |            |                              | <a href="#">Documentation</a>              |
| CPL_12         | Deletion              | bit              | boolean              |            |                              |                                            |

### Note

Attributes with ReportNet3 data type `date` or `datetime` shall use the ISO 8601 format. Date-time values may include a local UTC offset.

## Attribute details

### CPL\_01 – CountryCode

### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

## CPL\_02 – AttainmentId

### Reference

[View reference attribute](#) **Content**

Identifier of the air quality compliance situation, given by data provider.

### Remarks

Several AttainmentIds can point to the same PlanId (e.g. the plan covers different pollutants or successive years of exceedance for the same pollutant). Alternatively, there might be several plans applying to the same AttainmentId (e.g. different authority level, or successive plans). It will be cross-checked against the ComplianceAssessmentMethod table.

## CPL\_03 – PlanId

### Reference

[View reference attribute](#) **Content**

Identifier of the air quality plan, given by data provider.

### Remarks

It will be cross-checked against the PlanScenario table.

## CPL\_04 – ScenarioId

### Reference

[View reference attribute](#) **Content**

Identifier of the scenario, given by data provider.

### Remarks

ScenarioId, several scenarios can apply to the same PlanId (e.g. different pollutant and/or data aggregation) and vice versa. It will be cross-checked against the PlanScenario table.

## CPL\_05 – SourceApportionmentId

### Reference

[View reference attribute](#) **Content**

Identifier of the source apportionment, given by data provider.

### Remarks

SourceApportionmentId, there might be only one SourceApportionment per ScenarioId but several per PlanId (e.g.: different pollutant and/or data aggregation). It will be cross-checked against the SourceApportionment table.

## CPL\_06 – PlanCategory

### Content

Category of the air quality plan (e.g., roadmap, short-term plan, plan).

### Remarks

PlanCategory: corresponds to the different type of plan considered under the recasted Air Quality Directive 2024/2881 – roadmap, short-term plan, plan.

## CPL\_07 – PlanTitle

### Content

Title of the plan

### Remarks

PlanTitle can be reported in any of the EU languages.

## CPL\_08 – PlanAdoptionDate

### Content

Date of official adoption of the plan by the responsible authorities

## CPL\_09 – PlanBeginDate

### Content

Start date (enforcement date) for the plan

## Remarks

Begin/End date refers to the validity period of the plan/roadmap, i.e. when it enters into force and until it's invalid. Note that some plans might not have an end date. In such cases PlanEndDate should be NULL.

## CPL\_10 – PlanEndDate

### Content

End date for the plan

## Remarks

Begin/End date refers to the validity period of the plan/roadmap, i.e. when it enters into force and until it's invalid. Note that some plans might not have an end date. In such cases PlanEndDate should be NULL.

## CPL\_11 – PlanDocumentId

### Content

Identifier of the air quality plan document given by data provider.

## CPL\_12 – Deletion

### Reference

[View reference attribute](#) **Content**

Flag to indicate that this element must be deleted

## Remarks

Y/N

## Example

| Attribute Code | Attribute Name | Example | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|----------------|---------|------------------|----------------------|----|----|
| CPL_01         | CountryCode    | DU      | varchar(2)       | string               | ✓  | ✓  |

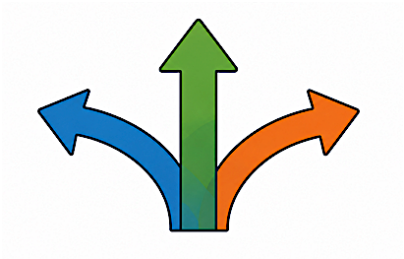
| Attribute Code | Attribute Name        | Example                                                                                                                                                            | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------|----|----|
| CPL_02         | AttainmentId          | ATT_ZON_DU000B_00005_LV_H_d<br>aysAbove_2024_1                                                                                                                     | varchar(50)      | string               | ✓  |    |
| CPL_03         | PlanId                | PLA_ZON_DU000B_00005_LV_H_d<br>aysAbove                                                                                                                            | varchar(50)      | string               | ✓  |    |
| CPL_04         | ScenarioId            | SCE_ZON_DU000B_00005_LV_H_d<br>aysAbove_1                                                                                                                          | varchar(50)      | string               | ✓  |    |
| CPL_05         | SourceApportionmentId | SAP_ZON_DU000B_00005_LV_H_d<br>aysAbove                                                                                                                            | varchar(50)      | string               | ✓  |    |
| CPL_06         | PlanCategory          | plan                                                                                                                                                               | varchar(20)      | string               |    | ✓  |
| CPL_07         | PlanTitle             | აირე კალიტატე პროგნოზა<br>გენერალა, კლიმა ბაბეს ე ემისა<br>ულიე პლანა პორ ურბა-იუგ<br>დუსტოვა რეჟიონ, მე ვეპრიმ<br>პლანა, ტრეგუეს ე ნდიეკიე<br>მეხანიზამ 2028–2035 | nvarchar(1000)   | string               |    |    |
| CPL_08         | PlanAdoptionDate      | 2025-11-28                                                                                                                                                         | date             | date                 |    |    |
| CPL_09         | PlanBeginDate         | 2026-01-01                                                                                                                                                         | date             | date                 |    |    |
| CPL_10         | PlanEndDate           | 2030-12-31                                                                                                                                                         | date             | date                 |    |    |
| CPL_11         | PlanDocumentId        | DOC_ZON_DU000B_00005_LV_H_d<br>aysAbove                                                                                                                            | varchar(150)     | string               |    |    |
| CPL_12         | Deletion              | 0                                                                                                                                                                  | bit              | boolean              |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet [CompliancePlanLink](#).

[Download complete examples workbook](#)

# PlanScenario



Description

EEA extensions

Data management rules

Attributes

Attribute details

PSC\_01 – CountryCode

PSC\_02 – PlanId

PSC\_03 – ScenarioId

PSC\_04 – ScenarioCategory

PSC\_05 – ScenarioNationalCode

PSC\_06 – PollutantId

PSC\_07 – DataAggregationProcessId

PSC\_08 – ScenarioYear

PSC\_09 – ScenarioPollutionLevel

PSC\_10 – ExposedPopulation

PSC\_11 – ScenarioAssessmentMethodId

Example

## Description

The purpose of the PlanScenario table is to provide information on the plan and on the scenario associated to the plan. It is the way of reporting combined impact of measures (which could originate from different plans - e.g. on national, regional and local levels) on a specific compliance situation (which may consist of several AttainmentIds - describing evolution over time in one or many locations). It specifies plan category (plan, roadmap, short-term) and core information regarding scenarios such as: category (reference, baseline, mitigation), year, projected air pollution levels, and model/OBE which was used for generating the scenario. It also gives further details about the plan and scenarios through attached documentation.

PlanScenario (record) table has to be reported whenever a new information or an update of existing information is available. Attributes which create unique identifier of each record: CountryCode, PlanId, ScenarioId and ScenarioCategory.

Updates of the PlanScenario table will not be time stamped i.e. each update generates the only version of the PlanScenario that is stored at the EEA:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against relevant code lists, it may be cross-checking against the Model table.

Valid modifications of existing record in this table are:

almost all allowed (apart from ScenarioAssessmentMethodId which must agree with AssessmentMethodId in ModelObjectiveEstimation table) within the scope of the code lists and their potential interconnections. Validity of the modifications of existing record will be tested using QC (rules to be established). Allowed modifications may affect outcomes of scenario analysis and/or assessments of measures, therefore re-submissions for past years, for which plans reporting has been already done, will require additional tests vs reference/legacy data before official release of such data is granted.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported recently, highlighting the differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

PlanScenario table will be extended by several attributes:

Country (for convenience), based on ISO2 country codes,

Pollutant (for convenience), based on code list,

DataAggregationProcess, based on DataAggregationProcessId,

EEAExposedPopulation, based on EEA's estimation of population exposed to exceedance in scenario year.

## Data management rules

ScenarioAssessmentMethodId must be used for pointing to AssessmentMethodId in the ModelObjectiveEstimation table for definition of the modelling/OBE method which generated the scenario values. ScenarioAssessmentMethodId must be different for each ScenarioId and ScenarioCategory so that it is possible to report values for each of them in the MOEResult tables. One of the MOEResult tables (inline or external) must be populated for each ScenarioAssessmentMethodId but the results may be reported just for the grid cells corresponding to the sampling point locations.

It is expected that modelling will be used for delineation of exceedance extents, including the 'reference' scenario category. However, if exceedance was reported based on sampling point measurements, the values reported in MOEResult tables for the 'reference' scenario should equal the measured values in the grid cells corresponding to the sampling point locations. ScenarioPollutionLevel must agree with the maximum value reported in MOEResult tables under model/OBE declared as ScenarioAssessmentMethodId.

Records in PlanScenario table which do not have any correspondence to records in CompliancePlanLink table or ScenarioMeasure table will be flagged for deletion in the reference data flow.

Keep in mind that authorities responsible for establishing plans and for reporting the plans to the EU should be reported using Authority table.

## Attributes

| Attribute Code | Attribute Name       | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                        | Related table(s)                                                      |
|----------------|----------------------|------------------|----------------------|------------|----------------------------------|-----------------------------------------------------------------------|
| PSC_01         | CountryCode          | varchar(2)       | string               | PK         | <a href="#">countries</a>        |                                                                       |
| PSC_02         | PlanId               | varchar(50)      | string               | PK         |                                  | <a href="#">CompliancePlanLink</a>                                    |
| PSC_03         | ScenarioId           | varchar(50)      | string               | PK         |                                  | <a href="#">CompliancePlanLink</a><br><a href="#">ScenarioMeasure</a> |
| PSC_04         | ScenarioCategory     | varchar(20)      | string               | PK         | <a href="#">scenariocategory</a> |                                                                       |
| PSC_05         | ScenarioNationalCode | varchar(50)      | string               |            |                                  |                                                                       |

| Attribute Code | Attribute Name             | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                          | Related table(s)                         |
|----------------|----------------------------|------------------|----------------------|------------|------------------------------------|------------------------------------------|
| PSC_06         | PollutantId                | int              | numeric              |            | <a href="#">pollutant</a>          |                                          |
| PSC_07         | DataAggregationProcessId   | varchar(50)      | string               |            | <a href="#">aggregationprocess</a> |                                          |
| PSC_08         | ScenarioYear               | int              | numeric              |            |                                    |                                          |
| PSC_09         | ScenarioPollutionLevel     | decimal(10,2)    | numeric              |            |                                    |                                          |
| PSC_10         | ExposedPopulation          | int              | numeric              |            |                                    |                                          |
| PSC_11         | ScenarioAssessmentMethodId | varchar(100)     | string               |            |                                    | <a href="#">ModelObjectiveEstimation</a> |

## Attribute details

### PSC\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### PSC\_02 – PlanId

#### Reference

[View reference attribute](#) **Content**

Identifier of the air quality plan, given by data provider.

### PSC\_03 – ScenarioId

#### Reference

[View reference attribute](#) **Content**

Identifier of the scenario, given by data provider.

### PSC\_04 – ScenarioCategory

#### Reference

[View reference attribute](#) **Content**

Classification of the scenario (e.g., baseline, projection).

## Remarks

ScenarioCategory: reference, baseline or projection. It should be included in the composite PK in the next iteration of schema version.

## PSC\_05 – ScenarioNationalCode

### Reference

[View reference attribute](#) **Content**

Unique local code assigned to the evaluation scenario by the data provider.

## PSC\_06 – PollutantId

### Reference

[View reference attribute](#) **Content**

Code of the air pollutant being considered in the scenario.

## Remarks

AirPollutantCode: must correspond to the AirPollutantCode of the AttainmentId.

## PSC\_07 – DataAggregationProcessId

### Reference

[View reference attribute](#) **Content**

Identifier for the process used to aggregate air quality data in the scenario.

## Remarks

DataAggregationProcessId: the data aggregation used for the scenario; it must correspond to the DataAggregationProcessId of the AttainmentId.

## PSC\_08 – ScenarioYear

### Reference

[View reference attribute](#) **Content**

The calendar year for which the scenario has been modeled.

## PSC\_09 – ScenarioPollutionLevel

### Reference

[View reference attribute](#) **Content**

Estimated air pollution level in the scenario year.

## PSC\_10 – ExposedPopulation

### Reference

[View reference attribute](#) **Content**

## PSC\_11 – ScenarioAssessmentMethodId

### Reference

[View reference attribute](#) **Content**

Identifier of the assessment method - model - used in the scenario, given by data provider.

### Remarks

AssessmentMethodId: the model/OBE used for producing the scenario (also to be declared in the Model table). It may be cross-checked against Model table, also - indirectly - against ModellingResult table.

## Example

| Attribute Code | Attribute Name   | Example                                 | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|------------------|-----------------------------------------|------------------|----------------------|----|----|
| PSC_01         | CountryCode      | DU                                      | varchar(2)       | string               | ✓  | ✓  |
| PSC_02         | PlanId           | PLA_ZON_DU000B_00005_LV_H_d<br>aysAbove | varchar(50)      | string               | ✓  |    |
| PSC_03         | ScenarioId       | SCE_ZON_DU000B_00005_LV_H_d<br>aysAbove | varchar(50)      | string               | ✓  |    |
| PSC_04         | ScenarioCategory | reference                               | varchar(20)      | string               | ✓  | ✓  |

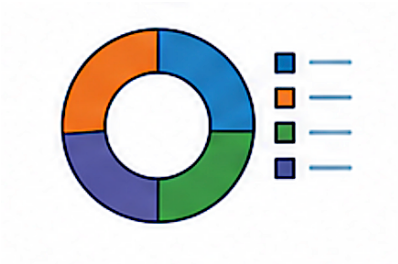
| Attribute Code | Attribute Name             | Example                  | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|----------------------------|--------------------------|------------------|----------------------|----|----|
| PSC_05         | ScenarioNationalCode       | PLA_another_scenario     | varchar(50)      | string               |    |    |
| PSC_06         | PollutantId                | 5                        | int              | numeric              |    | ✓  |
| PSC_07         | DataAggregationProcessId   | P1Y-daysAbove50          | varchar(50)      | string               |    | ✓  |
| PSC_08         | ScenarioYear               | 2024                     | int              | numeric              |    |    |
| PSC_09         | ScenarioPollutionLevel     | 43                       | decimal(10,2)    | numeric              |    |    |
| PSC_10         | ExposedPopulation          | 95250                    | int              | numeric              |    |    |
| PSC_11         | ScenarioAssessmentMethodId | MOD_DU_PM10_LOC_SCEN_REF | varchar(100)     | string               |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet PlanScenario.

[Download complete examples workbook](#)

# SourceApportionment



Description

EEA extensions

Data management rules

Attributes

Attribute details

SAP\_01 – CountryCode

SAP\_02 – SourceApportionmentId

SAP\_03 – Contribution Type

SAP\_04 – SpatialScale

SAP\_05 – SourceSector

SAP\_06 – PollutantId

SAP\_07 – Contribution

SAP\_08 – SourceApportionmentDocumentId

Example

## Description

The purpose of the SourceApportionment table is to report information on the sources contributing to air pollution exceedances. It describes the spatial scale of the contributions, their type (background, increment) as well as sector of origin.

SourceApportionment (record) table has to be reported whenever a new source apportionment has been done (new AttainmentId) or an update of existing information is available (existing AttainmentId). Attributes which create unique identifier of each record: CountryId, SourceApportionmentId, ContributionType, SpatialScale and SourceSector.

Updates of the SourceApportionment table will not be time stamped, i.e. each update generates the only version of the SourceApportionment that is stored at the EEA:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against relevant code lists.

Valid modifications of existing record in this table are:

all allowed within the scope of the code lists and their potential interconnections. Validity of the modifications of existing record will be tested using QC (rules to be established - e.g. Contribution must be  $\leq 100\%$ ). Allowed modifications may affect outcomes of scenario analysis and/or assessments of measures, therefore re-submissions for past years, for which plans reporting has been already done, will require additional tests vs reference/legacy data before official release of such data is granted.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported recently, highlighting the differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

SourceApportionment table will be extended by:

Country (for convenience), based on ISO2 country codes;

Pollutant (for convenience), based on code list.

## Data management rules

It is recommended not to change SourceApportionmentDocumentId in case of documentation update related to the same plan/scenario. Instead, a new attachment should be uploaded in Document table re-using the same DocumentId. Previous versions of documentation will be kept in reference data. In case when the same SourceApportionmentDocumentId was used for all records and there is a need to modify documentation only for one specific source apportionment, it is recommended to create a new

SourceApportionmentDocumentId for that record in SourceApportionment table, and then report old (general) and new (source apportionment specific) documents as attachments for that new SourceApportionmentDocumentId (as DocumentId) in the Document table in a subsequent manner.

Records in SourceApportionment table which do not have any correspondence to Plans and Scenarios in CompliancePlanLink table will be flagged for deletion in the reference data flow. However, it is also possible to set the records for deletion by reporting Contribution value as -1.

## Attributes

| Attribute Code | Attribute Name                     | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                        | Related table(s)                           |
|----------------|------------------------------------|------------------|----------------------|------------|----------------------------------|--------------------------------------------|
| SAP_01         | CountryCode                        | varchar(2)       | string               | PK         | <a href="#">countries</a>        |                                            |
| SAP_02         | SourceApportionmentId              | varchar(50)      | string               | PK         |                                  | <a href="#">ComplianceAssessmentMethod</a> |
| SAP_03         | ContributionType                   | varchar(20)      | string               | PK         | <a href="#">contributiontype</a> |                                            |
| SAP_04         | SpatialScale                       | varchar(50)      | string               | PK         | <a href="#">spatialscale</a>     |                                            |
| SAP_05         | SourceSector                       | varchar(50)      | string               | PK         | <a href="#">aq/sourcesectors</a> |                                            |
| SAP_06         | PollutantId                        | int              | numeric              |            | <a href="#">pollutant</a>        |                                            |
| SAP_07         | Contribution                       | decimal(8,2)     | numeric              |            |                                  |                                            |
| SAP_08         | SourceApportionmentDocu-<br>mentId | varchar(150)     | string               |            |                                  | <a href="#">Documentation</a>              |

## Attribute details

### SAP\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### SAP\_02 – SourceApportionmentId

#### Reference

[View reference attribute](#) **Content**

Identifier of the source apportionment, given by data provider.

## SAP\_03 – Contribution Type

### Reference

[View reference attribute](#) **Content**

Type of contribution (e.g. background, increment).

## SAP\_04 – SpatialScale

### Reference

[View reference attribute](#) **Content**

Geographical scope of the contribution (e.g., urban, local, regional, national).

## SAP\_05 – SourceSector

### Reference

[View reference attribute](#) **Content**

The sector responsible for emissions (e.g., traffic, industry, residential heating).

## SAP\_06 – PollutantId

### Reference

[View reference attribute](#) **Content**

Code of the air pollutant for which the contribution is being assessed.

### Remarks

AirPollutantCode: must correspond to the AirPollutantCode of the AttainmentId.

## SAP\_07 – Contribution

### Reference

[View reference attribute](#) **Content**

Estimated contribution of the specified source sector to air pollution levels [%].

Remarks

The value is understood as applicable to AirPollutionLevel adjusted for natural sources. Therefore contributions should not include the natural sources, should be given as % and sum up to 100% within SourceAppld.

SAP\_08 – SourceApportionmentDocumentId

Reference

[View reference attribute](#) **Content**

Identifier of the documentation on source apportionment.

Example

| Attribute Code | Attribute Name                | Example                                 | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|-------------------------------|-----------------------------------------|------------------|----------------------|----|----|
| SAP_01         | CountryCode                   | DU                                      | varchar(2)       | string               | ✓  | ✓  |
| SAP_02         | SourceApportionmentId         | SAP_ZON_DU000B_00005_LV_H_daysAbove     | varchar(50)      | string               | ✓  |    |
| SAP_03         | ContributionType              | background                              | varchar(20)      | string               | ✓  | ✓  |
| SAP_04         | SpatialScale                  | regional                                | varchar(50)      | string               | ✓  | ✓  |
| SAP_05         | SourceSector                  | other                                   | varchar(50)      | string               | ✓  | ✓  |
| SAP_06         | PollutantId                   | 5                                       | int              | numeric              |    | ✓  |
| SAP_07         | Contribution                  | 9                                       | decimal(8,2)     | numeric              |    |    |
| SAP_08         | SourceApportionmentDocumentId | DOC_SAP_ZON_DU000B_00005_LV_H_daysAbove | varchar(150)     | string               |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet SourceApportionment.

[Download complete examples workbook](#)

# ScenarioMeasure



Description

EEA extensions

Data management rules

Attributes

Attribute details

SME\_01 – CountryCode

SME\_02 – ScenarioId

SME\_03 – ScenarioCategory

SME\_04 – MeasureGroupId

SME\_05 – MeasureGroupPollutionReduction

SME\_06 – MeasureReductionAssessmentMethodId

Example

## Description

The purpose of the ScenarioMeasures table is to define the group(s) of measures (MeasureGroupId) associated to a scenario, as well as the total (by group of measures) reduction of pollution level which can be expected. It also points to model/OBE which was used for generating the results for the group of measures.

ScenarioMeasure (record) table has to be reported whenever a new information or an update of existing information is available. Attributes which create unique identifier of each record: CountryCode, ScenarioId, MeasureGroupId and ScenarioCategory.

Updates of the ScenarioMeasure table will not be time stamped, i.e. each update generates the only version of the ScenarioMeasure that is stored at the EEA:

either as addition of new record, understood as addition of new combination of values for the attributes creating unique identifier,

or modification of existing record, understood as modification of a value for any other attribute. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against PlanScenario table and Measure table, it may be cross-checking against the ModelObjectiveEstimation table.

There are no valid modifications of existing record in this table.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported recently, highlighting the differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

ScenarioMeasure table will be extended by several attributes:

Country (for convenience), based on ISO2 country codes,

PollutantId (for convenience), from PlanScenario for the corresponding ScenarioId,

Pollutant (for convenience), based on code list,

DataAggregationProcessId, (for convenience), from PlanScenario for the corresponding ScenarioId,

DataAggregationProcess, (for convenience) based on DataAggregationProcessId.

## Data management rules

MeasureGroupId allows reporting of impacts for group of measures e.g. originating from different national, regional or local level plans. In such case - MeasureReductionAssessmentMethodId may be used for pointing to AssessmentMethodId in the ModelObjectiveEstimation table for definition of the modelling/OBE method which generated the scenario values for each measure group. In case the MeasureReductionAssessmentMethodId is reported - it must be different for each ScenarioId, ScenarioCategory and MeasureGroupId so that it is possible to report values for each of them in the MOEResult tables. Also, one of the MOEResult tables must be populated for each reported MeasureReductionAssessmentMethodId but the results may be provided just for the grid cells corresponding to the sampling point locations.

There is no need to report records for 'reference' scenario category in ScenarioMeasure table.

If MeasureGroupPollutionReduction is reported - the sum for specific scenario category within ScenarioId must be =< the difference between the values of ScenarioPollutionLevel reported for 'reference' and that ScenarioId and ScenarioCategory in PlanScenario table. It is not allowed to re-use MeasureGroupId in different ScenarioId (to avoid complications in deletion procedures).

Records in ScenarioMeasure table which do not have any correspondence to records in PlanScenario table or Measure table will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name                     | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                        | Related table(s)                                                           |
|----------------|------------------------------------|------------------|----------------------|------------|----------------------------------|----------------------------------------------------------------------------|
| SME_01         | CountryCode                        | varchar(2)       | string               | PK         | <a href="#">countries</a>        |                                                                            |
| SME_02         | ScenarioId                         | varchar(50)      | string               | PK         |                                  | <a href="#">ComplianceAssessmentMethod</a><br><a href="#">PlanScenario</a> |
| SME_03         | ScenarioCategory                   | varchar(20)      | string               | PK         | <a href="#">scenariocategory</a> |                                                                            |
| SME_04         | MeasureGroupId                     | varchar(50)      | string               | PK         |                                  | <a href="#">MeasurementStation</a>                                         |
| SME_05         | MeasureGroupPollutionReduction     | decimal(10,2)    | numeric              |            |                                  |                                                                            |
| SME_06         | MeasureReductionAssessmentMethodId | varchar(100)     | string               |            |                                  | <a href="#">ModelObjectiveEstimation</a>                                   |

## Attribute details

### SME\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

### SME\_02 – ScenarioId

#### Reference

[View reference attribute](#) **Content**

Identifier of the scenario, given by data provider.

## Remarks

It will be cross-checked against PlanScenario table.

## SME\_03 – ScenarioCategory

### Reference

[View reference attribute](#) **Content**

Classification of the scenario (e.g., baseline, projection).

### Remarks

ScenarioCategory: baseline or projection. It should be included in the composite PK in the next iteration of schema version.

## SME\_04 – MeasureGroupId

### Reference

[View reference attribute](#) **Content**

Identifier of the pollution reduction for measure group, given by data provider.

### Remarks

MeasureGroupId: distinct groups might contain one or more measures. For example, group 1 contains all the measures related to traffic, while group 2 contains all the measures related to industry. To the extreme, the group may correspond to one measure only; the same MeasureGroupId might be used for different scenarios, also - several MeasureGroupId might be declared for the same scenario.

It will be cross-checked against Measure table.

## SME\_05 – MeasureGroupPollutionReduction

### Reference

[View reference attribute](#) **Content**

Reduction in air pollution concentration levels due to the applied group of measures.

### Remarks

Sum of MeasureGroupAirPollutionReduction within ScenarioId should agree with the difference between value of AirPollutionLevel in the first AttainmentId and the value reported in PlanScenario as ScenarioAirPollutionLevel.

## SME\_06 – MeasureReductionAssessmentMethodId

### Reference

[View reference attribute](#) **Content**

Identifier of the assessment method - model - used in the scenario, given by data provider.

### Remarks

AssessmentMethodId: the model/OBE used for producing the results for the measure group (also to be declared in the Model table). It may be cross-checked against Model table, also - indirectly - against ModellingResult table.

## Example

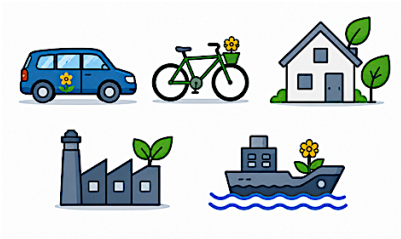
| Attribute Code | Attribute Name                     | Example                                 | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|------------------------------------|-----------------------------------------|------------------|----------------------|----|----|
| SME_01         | CountryCode                        | DU                                      | varchar(2)       | string               | ✓  | ✓  |
| SME_02         | ScenarioId                         | SCE_ZON_DU000B_00005_LV_H_daysAbove     | varchar(50)      | string               | ✓  |    |
| SME_03         | ScenarioCategory                   | baseline                                | varchar(20)      | string               | ✓  | ✓  |
| SME_04         | MeasureGroupId                     | MG1_SCE_ZON_DU000B_00005_LV_H_daysAbove | varchar(50)      | string               | ✓  |    |
| SME_05         | MeasureGroupPollutionReduction     | null                                    | decimal(10,2)    | numeric              |    |    |
| SME_06         | MeasureReductionAssessmentMethodId | null                                    | varchar(100)     | string               |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet ScenarioMeasure.

[Download complete examples workbook](#)

# Measure



Description

EEA extensions

Data management rules

Attributes

Attribute details

MEA\_01 – CountryCode

MEA\_02 – MeasureGroupId

MEA\_03 – MeasureId

MEA\_04 – MeasureNationalCode

MEA\_05 – MeasureName

MEA\_06 – MeasureClassification

MEA\_07 – MeasureType

MEA\_08 – SourceSector

MEA\_09 – SpatialScale

MEA\_10 – ImplementationBegin

MEA\_11 – ImplementationEnd

MEA\_12 – MeasureCost

MEA\_13 – FullEffectDate

MEA\_14 – MeasureStatus

MEA\_15 – ReasonIfMeasureNotUsed

MEA\_16 – Deletion

Example

## Description

The purpose of the Measure table is to provide information on the different measures contained in the groups of measures. It describes the the spatial scale of the measures, their type and classification as well as sector of impact. The table includes also operational characteristics of measures such as: responsible entity, implementation timing, costs, status and expected time of full effect or reason if measure has not been used.

Measure (record) table has to be reported whenever a new information or an update of existing information is available. Attributes which create unique identifier of each record: CountryCode, MeasureGroupId and MeasureId.

Updates of the Measure table will be managed using reference/legacy data, where each addition and modification will be stamped with ReportingTime:

addition of new record is understood as addition of new combination of values for the attributes creating unique identifier,

modification of existing record is understood as modification of a value for any other attribute. Validity of the new record will be tested using QC (rules to be established) - e.g. cross checking against relevant code lists and tested for coherence.

Valid modifications of existing record in this table are:

modifying ResponsibleEntity, ImplementationBegin and/or End, MeasureCost, FullEffectDate, MeasureStatus or ReasonIfMeasureNotUsed,

minor corrections e.g. of name, code or type. Validity of the modifications of existing record will be tested using QC (rules to be established). Allowed modifications may affect outcomes of scenario analysis and/or assessments of measures, therefore re-submissions for past years, for which plans reporting has been already done, will require additional tests vs reference/legacy data before official release of such data is granted.

Data products for public will present the records validated at the latest deadline. Data products for reporters will present the records as reported recently - i.e. with the latest ReportingTime for each unique combination of CountryCode, MeasureGroupId and MeasureId, highlighting the differences between validated reports and recent reports in case of re-submissions.

Deletion of an existing record will be possible by flagging the Deletion attribute. After QCs (rules to be established), all associated records in other tables will be flagged as deleted.

## EEA extensions

Measure table will be extended by several attributes:

Country (for convenience), based on ISO2 country codes,

ReportingTime, registering time of the latest reporting or modification for each record.

## Data management rules

Since the unique identifier of each record consists of CountryCode, MeasureGroupId and MeasureId, the MeasureIds can be handled as static set of measures (with code, name, type, source sector) and can be re-used in different MeasureGroupIds - which can be then used for giving spatial and temporal context to the measures (spatial scale, responsible entity, implementation timing, costs, etc.).

Deletion of an existing record will be possible via the Deletion attribute (by reporting value = 1).

## Attributes

| Attribute Code | Attribute Name        | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                             | Related table(s)                |
|----------------|-----------------------|------------------|----------------------|------------|---------------------------------------|---------------------------------|
| MEA_01         | CountryCode           | varchar(2)       | string               | PK         | <a href="#">countries</a>             |                                 |
| MEA_02         | MeasureGroupId        | varchar(50)      | string               | PK         |                                       | <a href="#">ScenarioMeasure</a> |
| MEA_03         | MeasureId             | varchar(50)      | string               | PK         |                                       |                                 |
| MEA_04         | MeasureNationalCode   | varchar(50)      | string               |            |                                       |                                 |
| MEA_05         | MeasureName           | varchar(150)     | string               |            |                                       |                                 |
| MEA_06         | MeasureClassification | varchar(50)      | string               |            | <a href="#">measureclassification</a> |                                 |
| MEA_07         | MeasureType           | varchar(50)      | string               |            | <a href="#">measuretype</a>           |                                 |
| MEA_08         | SourceSector          | varchar(50)      | string               |            | <a href="#">sourcesectors</a>         |                                 |

| Attribute Code | Attribute Name         | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                                        | Related table(s) |
|----------------|------------------------|------------------|----------------------|------------|--------------------------------------------------|------------------|
| MEA_09         | SpatialScale           | varchar(50)      | string               |            | <a href="#">spatialscale</a>                     |                  |
| MEA_10         | ImplementationBegin    | date             | date                 |            |                                                  |                  |
| MEA_11         | ImplementationEnd      | date             | date                 |            |                                                  |                  |
| MEA_12         | MeasureCost            | decimal(18,2)    | numeric              |            |                                                  |                  |
| MEA_13         | FullEffectDate         | date             | date                 |            |                                                  |                  |
| MEA_14         | MeasureStatus          | varchar(50)      | string               |            | <a href="#">measureimple<br/>mentationstatus</a> |                  |
| MEA_15         | ReasonIfMeasureNotUsed | varchar(50)      | string               |            | <a href="#">reasonifmeasuren<br/>otused</a>      |                  |
| MEA_16         | Deletion               | bit              | boolean              |            |                                                  |                  |

## Note

Attributes with ReportNet3 data type `date` or `datetime` shall use the ISO 8601 format. Date-time values may include a local UTC offset.

# Attribute details

## MEA\_01 – CountryCode

### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

## MEA\_02 – MeasureGroupId

### Reference

[View reference attribute](#) **Content**

Identifier of the pollution reduction for measure group, given by data provider.

## MEA\_03 – MeasureId

### Reference

[View reference attribute](#) **Content**

Identifier of the pollution reduction measure, given by data provider.

**MEA\_04 – MeasureNationalCode**

**Reference**

[View reference attribute](#) **Content**

Unique local code assigned to the measure by the data provider.

**MEA\_05 – MeasureName**

**Reference**

[View reference attribute](#) **Content**

Name or title of the pollution reduction measure.

**MEA\_06 – MeasureClassification**

**Reference**

[View reference attribute](#) **Content**

Classification of the measure based on regulatory categories.

**MEA\_07 – MeasureType**

**Reference**

[View reference attribute](#) **Content**

Description of the high-level implementation mechanism or scope of the measure.

**MEA\_08 – SourceSector**

**Reference**

[View reference attribute](#) **Content**

Economic or activity sector targeted by the measure (e.g., transport, energy, industry).

**Remarks**

It can be tested against the SourceSector of SourceApportionment which was used as base for corresponding Scenariold.

## MEA\_09 – SpatialScale

### Reference

[View reference attribute](#) **Content**

Geographical coverage of the measure (e.g., local, national, EU-wide).

### Remarks

It can be tested against the SpatialScale of SourceApportionment which was used as base for corresponding Scenariold.

## MEA\_10 – ImplementationBegin

### Reference

[View reference attribute](#) **Content**

Start date for implementing the measure.

## MEA\_11 – ImplementationEnd

### Reference

[View reference attribute](#) **Content**

End date for implementing the measure.

## MEA\_12 – MeasureCost

### Reference

[View reference attribute](#) **Content**

Estimated costs for implementing the measure over its lifetime.

## MEA\_13 – FullEffectDate

### Reference

[View reference attribute](#) **Content**

Date when the measure is expected to reach its full impact.

## MEA\_14 – MeasureStatus

### Reference

[View reference attribute](#) **Content**

Current status of the measure (e.g., planned, in progress, completed).

## MEA\_15 – ReasonIfMeasureNotUsed

### Reference

[View reference attribute](#) **Content**

Explanation or justification if the measure was not implemented.

## MEA\_16 – Deletion

### Reference

[View reference attribute](#) **Content**

Flag to indicate that this element must be deleted

### Remarks

Y/N

## Example

| Attribute Code | Attribute Name      | Example                                     | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|---------------------|---------------------------------------------|------------------|----------------------|----|----|
| MEA_01         | CountryCode         | DU                                          | varchar(2)       | string               | ✓  | ✓  |
| MEA_02         | MeasureGroupId      | MG1_SCE_ZON_DU000B_00005_L<br>V_H_daysAbove | varchar(50)      | string               | ✓  |    |
| MEA_03         | MeasureId           | Measure_1256                                | varchar(50)      | string               | ✓  |    |
| MEA_04         | MeasureNationalCode | Measure_1256                                | varchar(50)      | string               |    |    |

| Attribute Code | Attribute Name         | Example                     | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|------------------------|-----------------------------|------------------|----------------------|----|----|
| MEA_05         | MeasureName            | Industrial Emission Control | varchar(150)     | string               |    |    |
| MEA_06         | MeasureClassification  | emissioncontrol             | varchar(50)      | string               |    | ✓  |
| MEA_07         | MeasureType            | outside                     | varchar(50)      | string               |    | ✓  |
| MEA_08         | SourceSector           | industry                    | varchar(50)      | string               |    | ✓  |
| MEA_09         | SpatialScale           | local                       | varchar(50)      | string               |    | ✓  |
| MEA_10         | ImplementationBegin    | 2025-02-01                  | date             | date                 |    |    |
| MEA_11         | ImplementationEnd      | 2027-12-31                  | date             | date                 |    |    |
| MEA_12         | MeasureCost            | null                        | decimal(18,2)    | numeric              |    |    |
| MEA_13         | FullEffectDate         | null                        | date             | date                 |    |    |
| MEA_14         | MeasureStatus          | implementation              | varchar(50)      | string               |    | ✓  |
| MEA_15         | ReasonIfMeasureNotUsed | null                        | varchar(50)      | string               |    | ✓  |
| MEA_16         | Deletion               | 0                           | bit              | boolean              |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet Measure.

[Download complete examples workbook](#)

# Documentation



Description

EEA extensions

Data management rules

Attributes

Attribute details

DOC\_01 – CountryCode

DOC\_02 – DataTable

DOC\_03 – DocumentType

DOC\_04 – DocumentId

DOC\_05 – DocumentAttachment

DOC\_06 – DocumentOriginalURL

Example

## Description

The purpose of the Documentation table is to communicate the documents requested in different tables such as documentation on data quality process, documentation on the models, the air quality plans etc.

Documentation (record) table has to be reported whenever a new document or an updated document is available. Attributes which create unique identifier of each record: CountryCode, DataTable, DocumentType and DocumentId.

Updates of the Documentation table will be managed using reference/legacy data, where each addition and modification will be stamped with the ReportingTime. Data products for public and reporters will present the records with the latest ReportingTime for each unique identifier.

## EEA extensions

Documentation table will be extended by EEA by:

Country (for convenience), based on ISO2 country codes;

ReportingTime, registering time of the latest reporting or modification for each record.

## Data management rules

More details about rules of data management related to documentation reporting are given above under the relevant tables.

Records in Document table which do not have any correspondence (via DocumentId) to other tables will be flagged for deletion in the reference data flow.

## Attributes

| Attribute Code | Attribute Name      | SQL DB Data Type | ReportNet3 Data Type      | Properties | Code list                    | Related table(s)                                                                                                                                                                                                                                                                   |
|----------------|---------------------|------------------|---------------------------|------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DOC_01         | CountryCode         | varchar(2)       | string                    | PK         | <a href="#">countries</a>    |                                                                                                                                                                                                                                                                                    |
| DOC_02         | DataTable           | varchar(50)      | string                    | PK         | <a href="#">datatable</a>    |                                                                                                                                                                                                                                                                                    |
| DOC_03         | DocumentType        | varchar(50)      | string                    | PK         | <a href="#">documenttype</a> |                                                                                                                                                                                                                                                                                    |
| DOC_04         | DocumentId          | varchar(500)     | string                    | PK         |                              | <a href="#">MeasurementStation</a><br><a href="#">SamplingProcess</a><br><a href="#">ModelObjectiveEstimation</a><br><a href="#">AssessmentRegimeZone</a><br><a href="#">CompliancePlanLink</a><br><a href="#">SourceApportionment</a><br><a href="#">PollutionLevelAdjustment</a> |
| DOC_05         | DocumentAttachment  | varchar(100)     | attachment (R3 data type) |            |                              |                                                                                                                                                                                                                                                                                    |
| DOC_06         | DocumentOriginalURL | varchar(100)     | string                    |            |                              |                                                                                                                                                                                                                                                                                    |

## Attribute details

### DOC\_01 – CountryCode

#### Reference

[View reference attribute](#) **Content**

Country or territory ISO2 code.

## DOC\_02 – DataTable

### Reference

[View reference attribute](#) **Content**

Table name of origin.

## DOC\_03 – DocumentType

### Reference

[View reference attribute](#) **Content**

Document content type.

## DOC\_04 – DocumentId

### Reference

[View reference attribute](#) **Content**

Identifier of the document given by data provider.

## DOC\_05 – DocumentAttachment

### Content

Attached document PDF.

## DOC\_06 – DocumentOriginalURL

### Reference

[View reference attribute](#) **Content**

URL of the attached document PDF.

## Example

| Attribute Code | Attribute Name | Example | SQL DB Data Type | ReportNet3 Data Type | PK | CL |
|----------------|----------------|---------|------------------|----------------------|----|----|
| DOC_01         | CountryCode    | DU      | varchar(2)       | string               | ✓  | ✓  |

| Attribute Code | Attribute Name      | Example                                  | SQL DB Data Type | ReportNet3 Data Type      | PK | CL |
|----------------|---------------------|------------------------------------------|------------------|---------------------------|----|----|
| DOC_02         | DataTable           | Station                                  | varchar(50)      | string                    | ✓  | ✓  |
| DOC_03         | DocumentType        | NetworkDocument                          | varchar(50)      | string                    | ✓  | ✓  |
| DOC_04         | DocumentId          | DOC_NET_DU01                             | varchar(500)     | string                    | ✓  |    |
| DOC_05         | DocumentAttachment  | DUS_NET_DU01.pdf                         | varchar(100)     | attachment (R3 data type) |    |    |
| DOC_06         | DocumentOriginalURL | www.dea.dustovia.dus/AQeREP/NET/DU01.pdf | varchar(100)     | string                    |    |    |

**Legend:** PK = Primary Key; CL = Code List.

The complete set of examples is available in the Excel workbook, worksheet [Documentation](#).

[Download complete examples workbook](#)

# ObservationMeasurementResultPNSD



Description

EEA extensions

Data management rules

Attributes

Attribute details

OMP\_01 – CountryCode

OMP\_02 – AssessmentMethodId

OMP\_03 – Start

OMP\_04 – LowerRange

OMP\_05 – PollutantId

OMP\_06 – End

OMP\_07 – Value

OMP\_08 – Unit

OMP\_09 – Validity

OMP\_10 – Verification

OMP\_11 – TimeResolution

OMP\_12 – ResultTime

OMP\_13 – UpperRange

OMP\_14 – Temperature

OMP\_15 – RelativeHumidity

OMP\_16 – Pressure

OMP\_17 – Inversion

Example

## Description

The purpose of the ObservationMeasurementResult table is to collect information on air quality measurement results. It describes the AQ values and time reference for each value. Location of each measurement can be identified through the SamplingPoint table.

ObservationMeasurementResult table has to be reported every year because new information is expected at each reporting cycle. Attributes which create unique identifier of each record: CountryCode, AssessmentMethodId and Start.

Updates of the ObservationMeasurementResult table will not be time stamped - i.e. each update generates the only version of the time series with AQ values that is stored at the EEA, as well as the only version of the AQ statistics stored in the reference/legacy data:

either as addition of a new record, understood as addition of a new combination of values for the attributes creating the unique identifier;

or modification of an existing record, understood as modification of a value for any other attribute. Validity of new records will be tested using QC procedures (rules to be established), including cross-checking against existing records in the SamplingPoint table.

Valid modifications of existing records are based on re-submission of time series for the existing set of attributes creating the unique identifier:

either to overwrite or correct values of other attributes;

or to modify the Validity flag to -1 for deletion purposes. Validity of modifications will be tested through QC procedures. Allowed modifications may affect outcomes of compliance analysis and/or assessments. Therefore, re-submissions for past years, for which compliance reporting has already been completed, will require additional tests against reference/legacy data before official release of such data is granted.

Data products for the public (download services for time series and aggregated values) will present records validated at the latest deadline. Data products for reporters will present records as most recently reported, highlighting differences between validated reports and recent reports in case of re-submissions.

## EEA extensions

Reference data flow will contain two tables representing reporting of time series:

ObservationMeasurementInventory;

ObservationMeasurementStatistics.

ObservationMeasurementInventory will collect information about counts of values reported for each sampling point and year with specific settings (validity, verification, time resolution, etc.) and will contain a reference to the raw data file. ObservationMeasurementStatistics in the reference/legacy data flow will differ significantly from the reporting table because it will only contain aggregated values.

The scope of aggregations stored in that table remains to be agreed (P1D ?, P1M ?, annual only ?, etc.). SamplingPointReferenceId will be used in the reference/legacy data flow together with AssessmentMethodId in order to preserve continuity.

ObservationMeasurementStatistics will also be extended by attributes such as:

Pollutant (for convenience), based on code list;

DataCoverage, as a feature of aggregated data;

DataAggregationProcessId (P1Y, etc.);

DataAggregationProcess, based on DataAggregationProcessId;

SourceDataFlow (AirBase, R2 e-Reporting, R3 e-Reporting, UTD).

## Data management rules

Deletion of records from ObservationMeasurementResult can be achieved by re-submitting the same records with the Validity flag set to -1.

# Attributes

| Attribute Code | Attribute Name     | SQL DB Data Type | ReportNet3 Data Type | Properties | Code list                               | Related table(s) |
|----------------|--------------------|------------------|----------------------|------------|-----------------------------------------|------------------|
| OMP_01         | CountryCode        | varchar(2)       | string               | PK         | <a href="#">countries</a>               |                  |
| OMP_02         | AssessmentMethodId | varchar(100)     | string               | PK         |                                         |                  |
| OMP_03         | Start              | datetime         | datetime             | PK         |                                         |                  |
| OMP_04         | LowerRange         | int              | numeric              | PK         |                                         |                  |
| OMP_05         | PollutantId        | int              | numeric              |            | <a href="#">pollutant</a>               |                  |
| OMP_06         | End                | datetime         | datetime             |            |                                         |                  |
| OMP_07         | Value              | decimal(10,2)    | numeric              |            |                                         |                  |
| OMP_08         | Unit               | varchar(10)      | string               |            | <a href="#">concentration</a>           |                  |
| OMP_09         | Validity           | int              | numeric              |            | <a href="#">observationvalidity</a>     |                  |
| OMP_10         | Verification       | int              | numeric              |            | <a href="#">observationverification</a> |                  |
| OMP_11         | TimeResolution     | varchar(10)      | string               |            | <a href="#">primaryObservation</a>      |                  |
| OMP_12         | ResultTime         | datetime         | datetime             |            |                                         |                  |
| OMP_13         | UpperRange         | int              | numeric              |            |                                         |                  |
| OMP_14         | Temperature        | decimal(5,2)     | numeric              |            |                                         |                  |
| OMP_15         | RelativeHumidity   | decimal(5,2)     | numeric              |            |                                         |                  |
| OMP_16         | Pressure           | decimal(5,2)     | numeric              |            |                                         |                  |
| OMP_17         | Inversion          | varchar(20)      | string               |            | <a href="#">PNSDInversion</a>           |                  |

## Note

Attributes with ReportNet3 data type `date` or `datetime` shall use the ISO 8601 format. Date-time values may include a local UTC offset.

## Attribute details

### OMP\_01 – CountryCode

#### Content

Country or territory ISO2 code.

## OMP\_02 – AssessmentMethodId

### Content

Identifier of the assessment method (sampling point), given by data provider.

### Remarks

It will be cross-checked against the SamplingPoint table.

## OMP\_03 – Start

### Content

Start date and time of the measurement period.

### Remarks

Start must be provided with time zone information.

## OMP\_04 – LowerRange

### Content

Lower range of PNSD bin.

## OMP\_05 – PollutantId

### Content

Code of the air pollutant being measured, as per Data Dictionary standards.

### Remarks

End must be provided with time zone information.

## OMP\_06 – End

### Content

End date and time of the measurement period.

## OMP\_07 – Value

### Content

Measured concentration or level of the air pollutant.

## OMP\_08 – Unit

### Content

Unit of measurement for the air pollution level (e.g.,  $\mu\text{g}/\text{m}^3$ ).

## OMP\_09 – Validity

### Content

Indicator of whether the measurement data is valid or not.

## OMP\_10 – Verification

### Content

Information based on verification flags found in reported time series.

## OMP\_11 – TimeResolution

### Content

Time resolution of the reported measurement observations (e.g., hourly, daily).

## OMP\_12 – ResultTime

### Content

Time at which the result was generated or recorded.

## OMP\_13 – UpperRange

### Content

Upper range of PNSD bin.

## OMP\_14 – Temperature

### Content

Temperature measured along the PNSD (deg Celsius).

## OMP\_15 – RelativeHumidity

### Content

Relative humidity measured along the PNSD (%).

## OMP\_16 – Pressure

### Content

Pressure measured along the PNSD (hPa).

## OMP\_17 – Inversion

### Content

Inversion method used by country (code list flag).

## Example

No example is provided in the workbook for this table.

[Download complete examples workbook](#)

# Identifiers

Description

Identifier categories

Fully mandatory identifier formats

Partially mandatory identifier formats

Free-format identifiers

Separators

AssessmentRegimeId

SamplingPointReferenceId

AttainmentId

ScenarioId

AssessmentMethodId for models and OBE

PlanId

## Description

This section describes the identifier formats used throughout the reporting schema.

Some identifiers follow a fully mandatory naming convention in order to ensure consistency across reporting authorities and facilitate automatic processing by the EEA. Other identifiers are partially constrained or completely free.

Unless specified otherwise, identifier values must be unique within the scope of the reporting country.

## Identifier categories

### Fully mandatory identifier formats

The following identifiers must follow the format specified in this guide:

AssessmentRegimeId

SamplingPointReferenceId

AttainmentId

ScenarioId

### Partially mandatory identifier formats

The following identifiers have mandatory prefixes or structural elements, while other parts may be defined by the reporting authority:

AssessmentMethodId (models and OBE)

PlanId

### Free-format identifiers

All remaining identifiers may be freely defined by reporting authorities.

For readability and easier interpretation, it is strongly recommended to use meaningful prefixes indicating the identifier type, for example:

| Prefix | Meaning                    |
|--------|----------------------------|
| NET    | Network                    |
| DOC    | Document                   |
| SAP    | Source Apportionment       |
| SRS    | Spatial Representativeness |
| EXC    | Exceedance Extent          |
| PLA    | Plan                       |
| SCE    | Scenario                   |
| MOD    | Model                      |
| OBE    | Objective Estimation       |

### Separators

For fully mandatory identifiers, the separator must be:

—

For all other identifiers, including partially mandatory identifiers, any separator may be used, for example:

—  
—  
▪

## AssessmentRegimeId

Referenced in: ARZ\_02

Mandatory format:

ARE\_<ZoneId>\_<PollutantId>\_<ObjectiveType>\_<ProtectionTarget>\_<ReportingMetric>\_<ClassificationYear>\_<Index>

Example:

ARE\_ZON\_DU000A\_0005\_LV\_H\_aMean\_2021\_1

| Element            | Description                               |
|--------------------|-------------------------------------------|
| ARE                | Fixed prefix indicating Assessment Regime |
| Zoneld             | Air quality zone identifier               |
| PollutantId        | Pollutant code                            |
| ObjectiveType      | Environmental objective type              |
| ProtectionTarget   | Protection target                         |
| ReportingMetric    | Reporting metric                          |
| ClassificationYear | Year of classification                    |
| Index              | Sequential number                         |

## SamplingPointReferenceId

Referenced in: SPO\_03

Mandatory format:

SP0ref\_<StationEoICode>\_<PollutantId>\_<Index>

Example:

SP0ref\_DU0001\_0005\_1

| Element        | Description                                      |
|----------------|--------------------------------------------------|
| SPOref         | Fixed prefix indicating Sampling Point Reference |
| StationEolCode | Station identifier                               |
| PollutantId    | Pollutant code                                   |
| Index          | Sequential number                                |

## AttainmentId

**Referenced in:** CAM\_15

Mandatory format:

ATT\_<ZoneId>\_<PollutantId>\_<ObjectiveType>\_<ProtectionTarget>\_<ReportingMetric>\_<ReportingYear>\_<Index>

Example:

ATT\_ZON\_DU000A\_00005\_LV\_H\_aMean\_2024\_1

| Element          | Description                                  |
|------------------|----------------------------------------------|
| ATT              | Fixed prefix indicating compliance situation |
| Zoneld           | Air quality zone identifier                  |
| PollutantId      | Pollutant code                               |
| ObjectiveType    | Environmental objective type                 |
| ProtectionTarget | Protection target                            |
| ReportingMetric  | Reporting metric                             |
| ReportingYear    | Reporting year                               |
| Index            | Sequential number                            |

## ScenarioId

**Referenced in:** PSC\_03, CPL\_04

Mandatory format:

SCE\_<ZoneId>\_<PollutantId>\_<ObjectiveType>\_<ProtectionTarget>\_<ReportingMetric>\_<Index>

Example:

SCE\_ZON\_DU000B\_00005\_LV\_H\_daysAbove\_1

| Element          | Description                      |
|------------------|----------------------------------|
| SCE              | Fixed prefix indicating scenario |
| Zoneld           | Air quality zone identifier      |
| PollutantId      | Pollutant code                   |
| ObjectiveType    | Environmental objective type     |
| ProtectionTarget | Protection target                |
| ReportingMetric  | Reporting metric                 |
| Index            | Sequential number                |

AssessmentMethodId for models and OBE

Referenced in: MOE\_02

Partially mandatory format.

Recommended prefixes:

MOD\_  
OBE\_

Examples:

MOD\_DU\_PM10\_LOC\_SCEN\_REF  
OBE\_DU\_SEASALT\_PM10\_H\_LV\_ADJ

| Prefix | Meaning               |
|--------|-----------------------|
| MOD    | Modelling application |
| OBE    | Objective estimation  |

PlanId

Referenced in: CPL\_03

Partially mandatory format.

Recommended prefix:

PLA\_

Example:

PLA\_Z0N\_DU000B\_00005\_LV\_H\_daysAbove

| Element            | Description                    |
|--------------------|--------------------------------|
| PLA                | Fixed prefix indicating plan   |
| Remaining elements | Defined by reporting authority |

# Table Relationships

## Purpose

This document describes the relationships between tables in the AQ eReporting reporting schema.

The relationships are divided into two categories:

Physical primary key–foreign key relationships

Logical relationships that cannot be represented correctly by a conventional SQL foreign key

The classification is made per relationship rather than per table.

A table may therefore participate in:

a physical foreign key relationship with one table; and

a logical relationship with another table.

## Relationship Categories

### Physical PK–FK Relationships

A physical foreign key can be defined where:

the parent columns form the complete documented primary key;

the child table contains all columns of the parent key;

the relationship points to one uniquely identifiable parent row;

the relationship applies unconditionally;

the relationship is based on equality between columns;

the relationship does not depend on dates, types, categories, shared datasets or alternative parent tables.

### Logical Relationships

A relationship remains logical where:

the child contains only part of the parent primary key;

the child refers to a group of parent records;

one result dataset is shared by several parent records;

the target parent table depends on a type or discriminator;

the relationship depends on a validity period;

the relationship uses a business identifier that is not the complete parent key;

the relationship requires additional context;

the relationship applies only under certain conditions;

the relationship cannot be represented correctly through a standard equality-based foreign key.

# Physical PK–FK Relationships

## MeasurementStation ← SamplingPoint



### Relationship Description

Every **SamplingPoint** belongs to one **MeasurementStation**.

The parent station is uniquely identified by:

CountryCode

StationEoICode

The child contains the complete documented primary key of the parent.

### MeasurementStation Primary Key

```
ALTER TABLE [reporting].[MeasurementStation]
ADD CONSTRAINT [PK_MeasurementStation]
PRIMARY KEY
(
    [CountryCode],
    [StationEoICode]
);
```

### SamplingPoint Primary Key

```
ALTER TABLE [reporting].[SamplingPoint]
ADD CONSTRAINT [PK_SamplingPoint]
PRIMARY KEY
(
    [CountryCode],
    [AssessmentMethodId]
);
```

### Foreign Key

```

ALTER TABLE [reporting].[SamplingPoint]
ADD CONSTRAINT [FK_SamplingPoint_MeasurementStation]
FOREIGN KEY
(
    [CountryCode],
    [StationEoICode]
)
REFERENCES [reporting].[MeasurementStation]
(
    [CountryCode],
    [StationEoICode]
);

```

## SamplingPoint ← SamplingPointLocation

### Relationship Description

Every **SamplingPointLocation** record belongs to one **SamplingPoint**.

**LocationBegin** distinguishes different location-validity periods for the same sampling point.

It is part of the child primary key, but it is not required to identify the parent sampling point.

A sampling point may have:

- several different sampling point locations;
- several successive validity periods for the same location.

### SamplingPointLocation Primary Key

```

ALTER TABLE [reporting].[SamplingPointLocation]
ADD CONSTRAINT [PK_SamplingPointLocation]
PRIMARY KEY
(
    [CountryCode],
    [AssessmentMethodId],
    [LocationBegin]
);

```

### Foreign Key

```

ALTER TABLE [reporting].[SamplingPointLocation]
ADD CONSTRAINT [FK_SamplingPointLocation_SamplingPoint]
FOREIGN KEY
(
    [CountryCode],
    [AssessmentMethodId]
)
REFERENCES [reporting].[SamplingPoint]
(
    [CountryCode],
    [AssessmentMethodId]
);

```

## SamplingPoint ← SamplingProcess

### Relationship Description

Every **SamplingProcess** record belongs to one **SamplingPoint**.

A sampling point may have:

several different sampling processes;

several successive validity periods for the same process.

### SamplingProcess Primary Key

```

ALTER TABLE [reporting].[SamplingProcess]
ADD CONSTRAINT [PK_SamplingProcess]
PRIMARY KEY
(
    [CountryCode],
    [ProcessId],
    [AssessmentMethodId],
    [ProcessActivityBegin]
);

```

### Foreign Key

```

ALTER TABLE [reporting].[SamplingProcess]
ADD CONSTRAINT [FK_SamplingProcess_SamplingPoint]
FOREIGN KEY
(
    [CountryCode],
    [AssessmentMethodId]
)
REFERENCES [reporting].[SamplingPoint]
(
    [CountryCode],
    [AssessmentMethodId]
);

```

## SamplingPoint ← ObservationMeasurementResult

### Relationship Description

Every observation result belongs to an existing **SamplingPoint**.

The physical foreign key confirms that the sampling point exists.

### ObservationMeasurementResult Primary Key

```

ALTER TABLE [reporting].[ObservationMeasurementResult]
ADD CONSTRAINT [PK_ObservationMeasurementResult]
PRIMARY KEY
(
    [CountryCode],
    [AssessmentMethodId],
    [Start]
);

```

### Foreign Key

```

ALTER TABLE [reporting].[ObservationMeasurementResult]
ADD CONSTRAINT [FK_ObservationMeasurementResult_SamplingPoint]
FOREIGN KEY
(
    [CountryCode],
    [AssessmentMethodId]
)
REFERENCES [reporting].[SamplingPoint]
(
    [CountryCode],
    [AssessmentMethodId]
);

```

### Additional Logical Relationships

The following observation relationships remain logical:

ObservationMeasurementResult

↔ SamplingPointLocation through the observation validity period

ObservationMeasurementResult

↔ SamplingProcess through the observation validity period

The correct location and process records are determined from the observation timestamp.

## SamplingPoint ← ObservationMeasurementResultPNSD

### Relationship Description

Every **PNSD observation** belongs to one existing **SamplingPoint**.

The combination:

CountryCode

AssessmentMethodId

Start

LowerRange

uniquely identifies an individual PNSD result row.

LowerRange distinguishes different particle-size intervals reported for the same sampling point and observation start time.

It is part of the child primary key but is not needed to identify the parent **SamplingPoint**.

The relationship to **SamplingPoint** therefore remains a proper physical PK–FK relationship.

### ObservationMeasurementResultPNSD Primary Key

The documented primary key includes LowerRange.

```
ALTER TABLE [reporting].[ObservationMeasurementResultPNSD]
ADD CONSTRAINT [PK_ObservationMeasurementResultPNSD]
PRIMARY KEY
(
    [CountryCode],
    [AssessmentMethodId],
    [Start],
    [LowerRange]
);
```

## Foreign Key

```
ALTER TABLE [reporting].[ObservationMeasurementResultPNSD]
ADD CONSTRAINT [FK_ObservationMeasurementResultPNSD_SamplingPoint]
FOREIGN KEY
(
    [CountryCode],
    [AssessmentMethodId]
)
REFERENCES [reporting].[SamplingPoint]
(
    [CountryCode],
    [AssessmentMethodId]
);
```

## Additional Logical Relationships

The following PNSD relationships remain logical:

ObservationMeasurementResultPNSD  
↔ SamplingPointLocation through the observation validity period

ObservationMeasurementResultPNSD  
↔ SamplingProcess through the observation validity period

The correct location and process records are determined from the PNSD observation timestamp.

## ModelObjectiveEstimation ← MOEResultInline



### Relationship Description

Every inline model grid-cell result belongs to one model or objective-estimation definition and one aggregation process.

The following child columns identify the individual result cell:

Start

X

Y

They are not required to identify the parent method.

Validation that the parent record uses inline result encoding remains a separate logical consistency rule.

### ModelObjectiveEstimation Primary Key

```

ALTER TABLE [reporting].[ModelObjectiveEstimation]
ADD CONSTRAINT [PK_ModelObjectiveEstimation]
PRIMARY KEY
(
    [CountryCode],
    [AssessmentMethodId],
    [DataAggregationProcessId]
);

```

#### MOEResultInline Primary Key

```

ALTER TABLE [reporting].[MOEResultInline]
ADD CONSTRAINT [PK_MOEResultInline]
PRIMARY KEY
(
    [CountryCode],
    [AssessmentMethodId],
    [Start],
    [DataAggregationProcessId],
    [X],
    [Y]
);

```

#### Foreign Key

```

ALTER TABLE [reporting].[MOEResultInline]
ADD CONSTRAINT [FK_MOEResultInline_ModelObjectiveEstimation]
FOREIGN KEY
(
    [CountryCode],
    [AssessmentMethodId],
    [DataAggregationProcessId]
)
REFERENCES [reporting].[ModelObjectiveEstimation]
(
    [CountryCode],
    [AssessmentMethodId],
    [DataAggregationProcessId]
);

```

### ModelObjectiveEstimation ← MOEResultExternal

#### Relationship Description

Every external model result belongs to one model or objective-estimation definition and one aggregation process.

The physical FK establishes that the model definition exists.

Validation that the parent record uses ‘**external**’ result encoding remains a separate logical consistency rule.

### MOEResultExternal Primary Key

```
ALTER TABLE [reporting].[MOEResultExternal]
ADD CONSTRAINT [PK_MOEResultExternal]
PRIMARY KEY
(
    [CountryCode],
    [AssessmentMethodId],
    [Start],
    [DataAggregationProcessId]
);
```

### Foreign Key

```
ALTER TABLE [reporting].[MOEResultExternal]
ADD CONSTRAINT [FK_MOEResultExternal_ModelObjectiveEstimation]
FOREIGN KEY
(
    [CountryCode],
    [AssessmentMethodId],
    [DataAggregationProcessId]
)
REFERENCES [reporting].[ModelObjectiveEstimation]
(
    [CountryCode],
    [AssessmentMethodId],
    [DataAggregationProcessId]
);
```

## AssessmentRegimeZone ← ComplianceAssessmentMethod

### Relationship Description

Every **ComplianceAssessmentMethod** record belongs to one assessment regime.

The child contains the complete documented PK of **AssessmentRegimeZone**.

### AssessmentRegimeZone Primary Key

```

ALTER TABLE [reporting].[AssessmentRegimeZone]
ADD CONSTRAINT [PK_AssessmentRegimeZone]
PRIMARY KEY
(
    [CountryCode],
    [AssessmentRegimeId]
);

```

### ComplianceAssessmentMethod Primary Key

```

ALTER TABLE [reporting].[ComplianceAssessmentMethod]
ADD CONSTRAINT [PK_ComplianceAssessmentMethod]
PRIMARY KEY
(
    [CountryCode],
    [ReportingYear],
    [AssessmentRegimeId],
    [DataAggregationProcessId],
    [AssessmentMethodId]
);

```

### Foreign Key

```

ALTER TABLE [reporting].[ComplianceAssessmentMethod]
ADD CONSTRAINT [FK_ComplianceAssessmentMethod_AssessmentRegimeZone]
FOREIGN KEY
(
    [CountryCode],
    [AssessmentRegimeId]
)
REFERENCES [reporting].[AssessmentRegimeZone]
(
    [CountryCode],
    [AssessmentRegimeId]
);

```

## ModelObjectiveEstimation ← PlanScenario

### Relationship Description

**ScenarioAssessmentMethodId** identifies the model or objective-estimation method used for the scenario and scenario category within a plan.

Together with:

**CountryCode**

**DataAggregationProcessId**

it resolves to the complete **ModelObjectiveEstimation** primary key.

The corresponding parent and child column names do not need to be identical, but:

their meaning must correspond;

their SQL data types must be compatible;

their lengths must be compatible.

If `ScenarioAssessmentMethodId` is nullable, SQL Server permits a null FK value.

Whether the model reference is mandatory must therefore be enforced through nullability or separate validation.

### PlanScenario Primary Key

```
ALTER TABLE [reporting].[PlanScenario]
ADD CONSTRAINT [PK_PlanScenario]
PRIMARY KEY
(
    [CountryCode],
    [PlanId],
    [ScenarioId],
    [ScenarioCategory]
);
```

### Foreign Key

```
ALTER TABLE [reporting].[PlanScenario]
ADD CONSTRAINT [FK_PlanScenario_ModelObjectiveEstimation]
FOREIGN KEY
(
    [CountryCode],
    [ScenarioAssessmentMethodId],
    [DataAggregationProcessId]
)
REFERENCES [reporting].[ModelObjectiveEstimation]
(
    [CountryCode],
    [AssessmentMethodId],
    [DataAggregationProcessId]
);
```

# Physical Relationship Summary

The following relationships can be represented by ordinary physical PK–FK constraints, subject to compatible SQL data types and valid existing data.

| Physical PK–FK Relationship List                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>MeasurementStation</div><div>← SamplingPoint</div><div>SamplingPoint</div><div>← SamplingPointLocation</div><div>← SamplingProcess</div><div>← ObservationMeasurementResult</div><div>← ObservationMeasurementResultPNSD</div><div>ModelObjectiveEstimation</div><div>← MOEResultInline</div><div>← MOEResultExternal</div><div>← PlanScenario</div><div>AssessmentRegimeZone</div><div>← ComplianceAssessmentMethod</div></div> |

# Logical Relationships

## Authority → Multiple Entity Tables



### Relationship

`Authority.AuthorityInstanceId` can identify different types of reporting entities.

Depending on the value of `AuthorityInstance`, or an equivalent type attribute, it may refer to:

`MeasurementStation.StationEoICode`

`SamplingPoint.AssessmentMethodId`

`AssessmentRegimeZone.ZoneId`

`ZoneGeometry.ZoneId`

`ModelObjectiveEstimation.AssessmentMethodId`

or to a national level if `AuthorityInstance = 'nuts0'`.

### Why No Physical FK Can Be Defined

The target parent table depends on another attribute.

A single SQL foreign key cannot conditionally reference different parent tables.

Creating several foreign keys would incorrectly require the same identifier to exist in **all** possible parent tables.

This is therefore a **polymorphic logical relationship**.

## SamplingPointLocation ↔ ObservationMeasurementResult



### Relationship

An observation must correspond to a valid sampling-point location for the observation time.

The matching logic uses:

same `CountryCode`

same `AssessmentMethodId`

`Observation.Start >= LocationBegin`

`Observation.Start < LocationEnd`

or:

`LocationEnd` is `NULL`

## Why No Physical FK Can Be Defined

The relationship depends on the observation timestamp falling within a validity interval.

`ObservationMeasurementResult` does not contain `LocationBegin`, which forms part of the `SamplingPointLocation` primary key.

It therefore does not directly identify one specific location record.

This is a **temporal logical relationship**.

## SamplingProcess ↔ ObservationMeasurementResult

### Relationship

An observation must correspond to an active sampling process for the same sampling point.

The matching logic uses:

same `CountryCode`

same `AssessmentMethodId`

`Observation.Start >= ProcessActivityBegin`

`Observation.Start < ProcessActivityEnd`

or:

`ProcessActivityEnd` is `NULL`

## Why No Physical FK Can Be Defined

The `SamplingProcess` primary key contains:

`CountryCode`

`ProcessId`

`AssessmentMethodId`

`ProcessActivityBegin`

The observation does not identify:

`ProcessId`

`ProcessActivityBegin`

The applicable process must therefore be determined from the observation time and the process validity period.

## Relationship

Similarly as observations, the PNSD observations must correspond to:

an existing `SamplingPoint`;

a valid `SamplingPointLocation`;

an active `SamplingProcess`.

The relationship to `SamplingPoint` can be implemented through a physical FK.

The location and process relationships remain logical.

## Why No Physical FK Can Be Defined

Similarly as observations, the PNSD observations do not contain the complete primary key of the applicable location or process record.

The correct record is selected using the PNSD observation timestamp.

## AssessmentRegimeZone → ZoneGeometry

## Relationship

For assessment regimes represented by a reported AQ zone:

`AssessmentRegimeZone`

(CountryCode, ZoneId)

uses

`ZoneGeometry`

(CountryCode, ZoneId)

## Why No Physical FK Can Be Defined

The equality columns correspond to the documented `ZoneGeometry` key.

However, a geometry record may not be required for every possible zone reference. An assessment-regime record may instead identify an area through a NUTS reference (`ZoneCategory = 'nuts'`).

A mandatory physical FK would reject such valid records.

The relationship is therefore conditional on the zone type or zone category.

The data types and lengths of `ZoneId` must also be compatible before a physical relationship could be considered.

## ComplianceAssessmentMethod → SamplingPoint or ModelObjectiveEstimation

### Relationship

`ComplianceAssessmentMethod.AssessmentMethodId` may identify either:

`SamplingPoint.AssessmentMethodId`

or

`ModelObjectiveEstimation.AssessmentMethodId`

For a model or objective-estimation method, `DataAggregationProcessId` is also relevant.

### Why No Physical FK Can Be Defined

This is an **alternative-parent relationship**.

A foreign key to `SamplingPoint` would reject model records.

A foreign key to `ModelObjectiveEstimation` would reject sampling-point records.

Applying both would incorrectly require every assessment method to exist in both tables.

The correct target table must be selected according to the assessment-method type.

## ComplianceAssessmentMethod → SpatialRepresentativeness

### Relationship

`ComplianceAssessmentMethod`

(CountryCode, SRSId)

uses one or more

SpatialRepresentativeness

(CountryCode, SRSId, SRSApplicationId)

One SRSId may have several applications.

## Why No Physical FK Can Be Defined

ComplianceAssessmentMethod does not contain SRSApplicationId, which forms part of the SpatialRepresentativeness primary key.

The compliance record intentionally points to the complete SRS group rather than to one particular SRS application, as it may be related both:

to the spatial representativeness area of a sampling point;  
to the exceedance extent (when the compliance record describes an exceedance).

## SpatialRepresentativeness ↔ SRSInline

### Relationship

SRSInline stores a potentially large inline spatial result dataset identified by:

CountryCode + SRSApplicationId

The same application dataset may be used by more than one SpatialRepresentativeness record.

Example:

### SpatialRepresentativeness

| CountryCode | SRSId   | SRSApplicationId |
|-------------|---------|------------------|
| DK          | SRS-001 | APP-01           |
| DK          | SRS-002 | APP-01           |

The shared geometry or grid dataset is stored once:

### SRSInline

| CountryCode | SRSApplicationId | X  | Y  |
|-------------|------------------|----|----|
| DK          | APP-01           | X1 | Y1 |
| DK          | APP-01           | X2 | Y2 |
| DK          | APP-01           | X3 | Y3 |
| ...         |                  |    |    |

All rows belonging to application `APP-01` are used by both SRS records.

## Why No Physical FK Can Be Defined

The `SpatialRepresentativeness` primary key is:

`CountryCode`

`SRSId`

`SRSApplicationId`

`SRSInline` contains only:

`CountryCode`

`SRSApplicationId`

The shorter combination in `SpatialRepresentativeness` is intentionally not necessarily unique.

The same application dataset may belong to several `SRSId` values.

Repeating `SRSId` in every `SRSInline` geometry or grid-cell row would:

duplicate the value over potentially thousands of rows;

increase the amount of submitted data;

incorrectly represent a shared application dataset as separate duplicated datasets.

The logical rule is:

Every `SRSInline` application dataset must be used by at least one `SpatialRepresentativeness` record with the same `CountryCode` and `SRSApplicationId`.

Validation that the corresponding `SpatialRepresentativeness` record uses 'inline' result encoding remains a separate logical consistency rule.

## SpatialRepresentativeness ↔ SRSExternal

### Relationship

`SRSExternal` stores an external spatial dataset identified by:

`CountryCode + SRSApplicationId`

The external result may be used by one or more `SpatialRepresentativeness` records.

### Why No Physical FK Can Be Defined

`SRSExternal` does not contain `SRSId`, while the complete `SpatialRepresentativeness` primary key does.

The combination:

`CountryCode + SRSApplicationId`

may legitimately match several `SpatialRepresentativeness` records.

The external result dataset is deliberately stored once and shared.

Validation that the corresponding `SpatialRepresentativeness` record uses 'external' result encoding remains a separate logical consistency rule.

## SpatialRepresentativeness → ModelObjectiveEstimation



### Relationship

`SpatialRepresentativeness.RepresentativenessAssessmentMethodId`

identifies

`ModelObjectiveEstimation.AssessmentMethodId`

The model or objective-estimation method is used for generating the spatial-representativeness result.

### Why No Physical FK Can Be Defined

The complete `ModelObjectiveEstimation` primary key also contains:

`DataAggregationProcessId`

`SpatialRepresentativeness` does not contain the complete parent key.

The relationship identifies the assessment method generally, rather than one uniquely identified method-and-aggregation row.

## Derivation and Use of DataAggregationProcessId

The `DataAggregationProcessId` corresponding to `SpatialRepresentativeness.RepresentativenessAssessmentMethodId` may be derived indirectly through the associated `SRSId` in the `ComplianceAssessmentMethod` table.

The relationship can be interpreted as follows:

```
SpatialRepresentativeness.SRSId
    → ComplianceAssessmentMethod.SRSId

ComplianceAssessmentMethod.DataAggregationProcessId
    → ModelObjectiveEstimation.DataAggregationProcessId
```

This derived value may be useful for comparison with the `DataAggregationProcessId` of the corresponding `AssessmentMethodId` in the `ModelObjectiveEstimation` table.

However, this comparison should **not** be interpreted as a mandatory equality rule.

A spatial-representativeness area produced using modelling results for one aggregation type (for example an annual mean) may also be applicable to other aggregation types.

Consequently, the derived `DataAggregationProcessId` should be treated primarily as contextual or consistency information rather than as a required component of a physical PK–FK relationship or a strict validation condition.

## ComplianceAssessmentMethod ↔ PollutionLevelAdjustment

### Relationship

`PollutionLevelAdjustment`

(CountryCode, AttainmentId)

corresponds to

`ComplianceAssessmentMethod`

(CountryCode, AttainmentId)

The adjustment belongs to the compliance or attainment situation represented by `AttainmentId`.

### Why No Physical FK Can Be Defined

`AttainmentId` is not the complete primary key of `ComplianceAssessmentMethod`.

The CAM primary key also includes:

`ReportingYear`

`AssessmentRegimeId`

`DataAggregationProcessId`

`AssessmentMethodId`

The adjustment refers to the attainment context rather than to one complete CAM row.

## PollutionLevelAdjustment → ModelObjectiveEstimation



### Relationship

`PollutionLevelAdjustment.AdjustmentAssessmentMethodId`

identifies

`ModelObjectiveEstimation.AssessmentMethodId`

The referenced model or objective-estimation method is used to calculate the adjustment.

### Why No Physical FK Can Be Defined

The adjustment table does not contain:

`DataAggregationProcessId`

which forms part of the complete `ModelObjectiveEstimation` primary key.

The relationship is therefore at assessment-method level rather than at one specific model-and-aggregation record.

### Derivation and Use of DataAggregationProcessId

The `DataAggregationProcessId` corresponding to

`PollutionLevelAdjustment.AdjustmentAssessmentMethodId` may be derived indirectly through the associated `AttainmentId` in the `ComplianceAssessmentMethod` table.

The relationship can be interpreted as follows:

PollutionLevelAdjustment.AttainmentId  
→ ComplianceAssessmentMethod.AttainmentId

ComplianceAssessmentMethod.DataAggregationProcessId  
→ ModelObjectiveEstimation.DataAggregationProcessId

This derived value may be useful for comparison with the `DataAggregationProcessId` of the corresponding `AssessmentMethodId` in the `ModelObjectiveEstimation` table.

However, this comparison should **not** be interpreted as a mandatory equality rule.

The temporal resolution of the modelling results used to calculate an adjustment is expected to be finer than the target aggregation type to which the adjustment is applied.

For example, daily adjustment values may be used to adjust an annual mean or to calculate an adjusted number of exceedance days.

Consequently, the derived `DataAggregationProcessId` should be treated primarily as contextual or comparison information rather than as a required component of a physical PK–FK relationship or a strict validation condition.

## ComplianceAssessmentMethod ↔ CompliancePlanLink

### Relationship

`CompliancePlanLink`

(CountryCode, AttainmentId)

corresponds to

`ComplianceAssessmentMethod`

(CountryCode, AttainmentId)

The plan link associates an attainment situation with:

a plan;

a scenario;

a source-apportionment dataset.

### Why No Physical FK Can Be Defined

`AttainmentId` is not the complete `ComplianceAssessmentMethod` primary key.

The relationship points to the attainment context, which may be represented by a wider set of CAM records (for example several assessment methods indicating exceedance under the same `AttainmentId`).

## CompliancePlanLink → PlanScenario

### Relationship

`CompliancePlanLink`

(CountryCode, PlanId, ScenarioId)

corresponds to

`PlanScenario`

(CountryCode, PlanId, ScenarioId, ScenarioCategory)

### Why No Physical FK Can Be Defined

`CompliancePlanLink` does not contain `ScenarioCategory`, which forms part of the `PlanScenario` primary key.

The link points to the plan-and-scenario context without identifying one scenario-category row.

In other words, it points to the whole scenario-category set for each scenario.

## CompliancePlanLink → SourceApportionment

### Relationship

`CompliancePlanLink`

(CountryCode, SourceApportionmentId)

uses all `SourceApportionment` rows having the same

(CountryCode, SourceApportionmentId)

### SourceApportionment Primary Key

`CountryCode`

`SourceApportionmentId`

ContributionType

SpatialScale

SourceSector

### Why No Physical FK Can Be Defined

SourceApportionmentId identifies an entire source-apportionment dataset containing several contribution rows.

CompliancePlanLink does not identify one individual contribution row and therefore does not contain:

ContributionType

SpatialScale

SourceSector

This is a **group relationship**.

### PlanScenario ↔ ScenarioMeasure

#### Relationship

ScenarioMeasure

(CountryCode, ScenarioId, ScenarioCategory)

corresponds to

PlanScenario

(CountryCode, PlanId, ScenarioId, ScenarioCategory)

### Why No Physical FK Can Be Defined

ScenarioMeasure does not contain PlanId, which forms part of the PlanScenario primary key.

The scenario-measure record identifies the scenario context but without pointing directly to a plan.

### ScenarioMeasure → Measure

#### Relationship

ScenarioMeasure

(CountryCode, MeasureGroupId)

uses all `Measure` records having the same

(CountryCode, MeasureGroupId)

### Measure Primary Key

`CountryCode`

`MeasureGroupId`

`MeasureId`

### Why No Physical FK Can Be Defined

`ScenarioMeasure` points to a measure group included in a given scenario-category, not to one individual measure.

It does not contain `MeasureId`.

Conversely, `Measure` does not contain the scenario attributes required to refer to the complete `ScenarioMeasure` primary key.

This is a **group relationship**.

## ScenarioMeasure → ModelObjectiveEstimation



### Relationship

`ScenarioMeasure.MeasureReductionAssessmentMethodId`

identifies

`ModelObjectiveEstimation.AssessmentMethodId`

The method is used to estimate the reduction associated with the measure group.

### Why No Physical FK Can Be Defined

`ScenarioMeasure` does not contain `DataAggregationProcessId`, which forms part of the complete primary key of `ModelObjectiveEstimation`.

Consequently, `ScenarioMeasure.MeasureReductionAssessmentMethodId` alone does not uniquely identify a corresponding `ModelObjectiveEstimation` record, and a conventional SQL foreign key cannot be defined.

## Derivation and Use of DataAggregationProcessId

The missing `DataAggregationProcessId` can be derived indirectly through the associated `ScenarioId` in the `PlanScenario` table.

The relationship can be interpreted as follows:

```
ScenarioMeasure.ScenarioId  
    → PlanScenario.ScenarioId
```

```
PlanScenario.DataAggregationProcessId  
    → ModelObjectiveEstimation.DataAggregationProcessId
```

The derived `DataAggregationProcessId`, together with `MeasureReductionAssessmentMethodId`, provides the complete identifier required to locate the corresponding `ModelObjectiveEstimation` record.

Unlike the relationships involving `SpatialRepresentativeness` and `PollutionLevelAdjustment`, the aggregation process is expected to be fully consistent throughout this relationship.

Therefore, the `DataAggregationProcessId` derived through `PlanScenario` **should be identical** to the `DataAggregationProcessId` of the corresponding `AssessmentMethodId` in the `ModelObjectiveEstimation` table.

Any discrepancy should be considered an inconsistency in the reported data and should be reported as a validation error.

Although the relationship cannot be implemented as a conventional physical foreign key because `ScenarioMeasure` does not directly contain the complete parent primary key, the derivation described above provides a deterministic mapping that can be used for validation purposes.

# Logical Relationship Summary

The following relationships cannot be represented correctly as conventional physical PK–FK constraints under the current reporting model.

| Logical Relationship List                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><b>Authority</b><br/><br/>→ alternative entity tables</div> <div><b>SamplingPointLocation</b><br/><br/>↔ ObservationMeasurementResult through validity periods<br/>↔ ObservationMeasurementResultPNSD through validity periods</div> <div><b>SamplingProcess</b><br/><br/>↔ ObservationMeasurementResult through validity periods<br/>↔ ObservationMeasurementResultPNSD through validity periods</div> <div><b>AssessmentRegimeZone</b><br/><br/>→ ZoneGeometry conditionally</div> <div><b>ComplianceAssessmentMethod</b><br/><br/>→ SamplingPoint or ModelObjectiveEstimation<br/>→ SpatialRepresentativeness group<br/>← PollutionLevelAdjustment through AttainmentId<br/>← CompliancePlanLink through AttainmentId</div> <div><b>SpatialRepresentativeness</b><br/><br/>↔ SRSInline shared application dataset<br/>↔ SRSExternal shared application dataset<br/>→ ModelObjectiveEstimation through a method identifier</div> <div><b>PollutionLevelAdjustment</b><br/><br/>→ ModelObjectiveEstimation through a partial model key</div> <div><b>CompliancePlanLink</b><br/><br/>→ PlanScenario through a partial key<br/>→ SourceApportionment group</div> <div><b>PlanScenario</b><br/><br/>↔ ScenarioMeasure through a partial key</div> |

## ScenarioMeasure

- Measure group
- ModelObjectiveEstimation through a partial model key

## Documentation

↔ reporting-table documentation attributes using `DataTable + DocumentType + DocumentId`

# Documentation Relationships

Documentation relationships are contextual relationships between the `Documentation` table and documentation-reference attributes contained in different reporting tables.

The applicable reporting table and documentation-reference attribute are determined by the combination of:

`DataTable`;

`DocumentType`;

`DocumentId`;

`CountryCode`.

## Documentation Primary Key

The `Documentation` table is identified by a contextual composite key.

### Documentation Primary Key

```
ALTER TABLE [reporting].[Documentation]
ADD CONSTRAINT [PK_Documentation]
PRIMARY KEY
(
    [CountryCode],
    [DataTable],
    [DocumentType],
    [DocumentId]
);
```

## Meaning of DataTable

`Documentation.DataTable` indicates the reporting table in which a process must look for the documentation identifier.

For example:

```
DataTable = 'ModelObjectiveEstimation'
```

means that the `DocumentId` must be found in a documentation-reference column in:

```
[reporting].[ModelObjectiveEstimation]
```

Similarly:

```
DataTable = 'SamplingProcess'
```

means that the document identifier must be looked up in:

```
[reporting].[SamplingProcess]
```

`DataTable` therefore identifies the reporting-table context of the documentation reference.

## Meaning of DocumentType

`Documentation.DocumentType` identifies which documentation-reference attribute in the specified reporting table contains the `DocumentId`.

For example, `ModelObjectiveEstimation` may contain:

```
MethodDocumentId ;  
DataQualityDocumentId .
```

A documentation row with:

```
DataTable = 'ModelObjectiveEstimation'  
DocumentType = 'MethodDocument'  
DocumentId = 'DOC-001'
```

means that a process should search for `DOC-001` in:

```
ModelObjectiveEstimation.MethodDocumentId
```

A documentation row with:

```
DataTable = 'ModelObjectiveEstimation'  
DocumentType = 'DataQualityDocument'  
DocumentId = 'DOC-002'
```

means that a process should search for `DOC-002` in:

```
ModelObjectiveEstimation.DataQualityDocumentId
```

`DocumentType` therefore distinguishes between different documentation-reference attributes within the same reporting table.

## Documentation Lookup Logic

The relationship is not simply:

`Child.DocumentId → Documentation.DocumentId`

Instead, the lookup works as follows:

`Documentation.DataTable`  
identifies the reporting table

`Documentation.DocumentType`  
identifies the documentation-reference attribute **in** that table

`Documentation.DocumentId`  
**is** matched against the value reported **in** that attribute

Conceptually:

`Documentation row`  
`(CountryCode, DataTable, DocumentType, DocumentId)`

maps to

the row **or** rows **in** the indicated reporting table  
where the documentation column selected by `DocumentType`  
contains the same `DocumentId`

## Example — ModelObjectiveEstimation Documentation

Assume that `ModelObjectiveEstimation` contains:

`MethodDocumentId` ;  
`DataQualityDocumentId` .

**Method Document**

```
Documentation.DataTable
    = 'ModelObjectiveEstimation'

Documentation.DocumentType
    = 'MethodDocument'

Documentation.DocumentId
    is searched in
    ModelObjectiveEstimation.MethodDocumentId
```

### Data-Quality Document

```
Documentation.DataTable
    = 'ModelObjectiveEstimation'

Documentation.DocumentType
    = 'DataQualityDocument'

Documentation.DocumentId
    is searched in
    ModelObjectiveEstimation.DataQualityDocumentId
```

The combination of `DataTable` and `DocumentType` determines which reporting table and which documentation-reference column must contain the identifier.

## Example — SamplingProcess Documentation

Assume that `SamplingProcess` contains:

```
DataQualityDocumentId;
EquivalenceDemonstrationDocumentId;
ProcessDocumentId.
```

The corresponding mappings are conceptually:

```
DataTable = 'SamplingProcess'
DocumentType = 'DataQualityDocument'
    → SamplingProcess.DataQualityDocumentId

DataTable = 'SamplingProcess'
DocumentType = 'EquivalenceDemonstrationDocument'
    → SamplingProcess.EquivalenceDemonstrationDocumentId

DataTable = 'SamplingProcess'
DocumentType = 'ProcessDocument'
    → SamplingProcess.ProcessDocumentId
```

Each `DocumentType` value selects a different documentation-reference attribute in the same reporting table.

### Example — MeasurementStation Documentation

If `MeasurementStation` contains:

`NetworkDocumentId`

the corresponding logical mapping is:

```
DataTable = 'MeasurementStation'  
DocumentType = 'NetworkDocument'  
    → MeasurementStation.NetworkDocumentId
```

### Example — PollutionLevelAdjustment Documentation

If `PollutionLevelAdjustment` contains:

`AdjustmentDocumentId`

the corresponding mapping is:

```
DataTable = 'PollutionLevelAdjustment'  
DocumentType = 'AdjustmentDocument'  
    → PollutionLevelAdjustment.AdjustmentDocumentId
```

### Example — CompliancePlanLink Documentation

If `CompliancePlanLink` contains:

`PlanDocumentId`

the corresponding mapping is:

```
DataTable = 'CompliancePlanLink'  
DocumentType = 'PlanDocument'  
    → CompliancePlanLink.PlanDocumentId
```

## Example — SourceApportionment Documentation

If `SourceApportionment` contains:

```
SourceApportionmentDocumentId
```

the corresponding mapping is:

```
DataTable = 'SourceApportionment'  
DocumentType = 'SourceApportionmentDocument'  
    → SourceApportionment.SourceApportionmentDocumentId
```

## Direction of the Documentation Relationship

The documentation relationship can be interpreted from either direction.

### From a Reporting Table to Documentation

A process reads a documentation-reference attribute, for example:

```
ModelObjectiveEstimation.MethodDocumentId = 'DOC-001'
```

It then expects a `Documentation` row containing:

```
CountryCode = the same country  
DataTable = 'ModelObjectiveEstimation'  
DocumentType = 'MethodDocument'  
DocumentId = 'DOC-001'
```

### From Documentation to a Reporting Table

A process reads the following values from the `Documentation` row:

```
CountryCode  
DataTable  
DocumentType  
DocumentId
```

It then uses:

`DataTable` to select the reporting table;

`DocumentType` to select the documentation-reference attribute;

`DocumentId` to find the matching value;

`CountryCode` to restrict the lookup to the appropriate country.

## Why Documentation Relationships Are Not Physical FKs



Reporting tables normally contain:

`CountryCode`  
a specific document identifier attribute

For example:

`CountryCode`  
`MethodDocumentId`

or:

`CountryCode`  
`DataQualityDocumentId`

The reporting rows do not physically contain:

`DataTable`  
`DocumentType`

Those values are implied by:

the reporting table in which the document identifier appears;

the particular document-reference attribute being used.

A normal FK from:

`ModelObjectiveEstimation`  
(`CountryCode`, `MethodDocumentId`)

to:

`Documentation`  
(`CountryCode`, `DataTable`, `DocumentType`, `DocumentId`)

cannot be defined because the child does not contain the complete `Documentation` PK.

It would also be incorrect to reference only:

CountryCode + DocumentId

because the same DocumentId could potentially occur in different:

table contexts;

document-type contexts.

The relationship is therefore contextual and must be implemented through processing or QC validation.

## Documentation Mapping Specification

A mapping configuration may be used by the processing logic to define which DocumentType corresponds to which identifier attribute:

### MeasurementStation

Network → NetworkDocumentId

### SamplingProcess

DataQuality → DataQualityDocumentId

EquivalenceDemonstration → EquivalenceDemonstrationDocumentId

Process → ProcessDocumentId

### ModelObjectiveEstimation

Method → MethodDocumentId

DataQuality → DataQualityDocumentId

### PollutionLevelAdjustment

Adjustment → AdjustmentDocumentId

### CompliancePlanLink

Plan → PlanDocumentId

### SourceApportionment

SourceApportionment → SourceApportionmentDocumentId

The exact vocabulary values used in DataTable and DocumentType must correspond to the values defined in the reporting model.

Any additional documentation-reference attributes should be added to the mapping using the same principle.

# Summary

The SQL specification distinguishes between physical referential constraints and logical relationships.

Physical foreign keys are proposed only where a child table contains the complete documented primary key of one uniquely identifiable parent row and where the relationship applies unconditionally.

Other documented relationships cannot be represented correctly using conventional SQL foreign keys under the current reporting model.

These include:

temporal relationships;

alternative-parent relationships;

group-level references;

shared result datasets;

partial-key method references;

conditional geographic relationships;

contextual documentation references.

For documentation records:

**DataTable** identifies the reporting table in which the documentation identifier must be located;

**DocumentType** identifies the particular documentation-reference attribute within that table;

**DocumentId** contains the identifier being matched;

**CountryCode** restricts the relationship to the applicable country.

The absence of a physical FK for a relationship does not mean that the tables are unrelated.

It means that the relationship contains additional business semantics that cannot be expressed through an ordinary equality-based PK–FK constraint without changing the existing reporting-table design.