E-PRTR and LCP integrated reporting

Data model documentation

Version 3.2 – 17/01/2019

European Environment Agency

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Acknowledgments

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Version control

Version ID	Description	Date
0.0	Internal draft for discussion with the European Commission	May 2017
1.0	Draft for consultation with Reporting Countries	June 2017
2.0	Final version integrating comments received from Reporting Countries	September 2017
3.0	Minor updates to data model	February 2017
3.1	Minor updates to data model	May 2019
3.2	Text on reporting methodClassification updated, which must be populated if the methodCode value represents **measured** or **calculated** as indicated by Article 5 of the E-PRTR.	January 2020

Contents

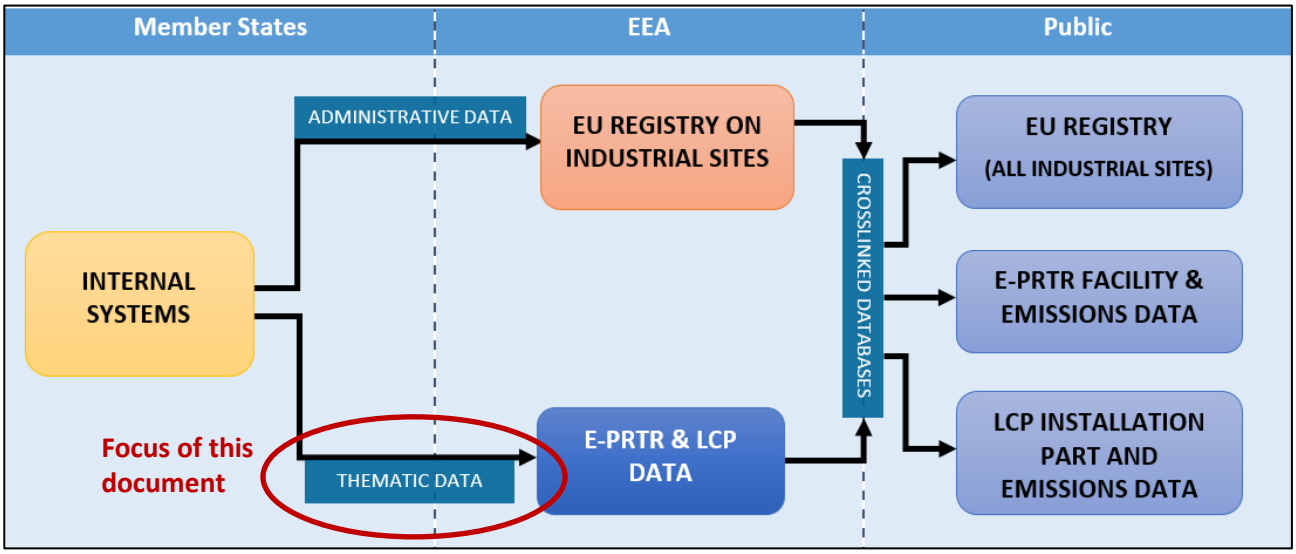
1 Introduction

This document describes the new data model that has been developed in order to handle the necessary thematic information for industrial facilities that European Member States (MS) and other reporting countries are required to report on large combustion plants (LCPs), under the Industrial Emissions Directive (IED) [1] and facilities, under the European Pollutant Release and Transfer Register (E-PRTR) Regulation[2]. The resulting integrated dataflow is hereafter referred as the 'E-PRTR+LCP dataflow'.

The detailed data specifications provided here have been reviewed by the European Commission Directorate-General Environment (DG ENV).

This new data model for the E-PRTR+LCP dataflow is the result of efforts to streamline the reporting on industrial emissions. The E-PRTR+LCP dataflow is specifically designed to operate in parallel with the data flow for the EU Registry on Industrial Sites (hereafter referred to as the 'EU Registry'). Figure 1 provides an overview of how the E-PRTR+LCP dataflow and the EU Registry relate to each other and to industrial emissions reporting overall.

Figure 1 Planned data flows for reporting and handling administrative and thematic data on industrial emissions. The focus of this document is highlighted in red



The document tackles the following issues:

- The scope definition and logic of the as E-PRTR+LCP dataflow, and
- the specific data requirements towards countries.

Please refer to the separate documentation for the EU Registry data model[3] for details on the development, design and implementation of the adminstrative data flow. **This document is only concerned with the data model for the thematic data flow as depicted in Figure 1, i.e. the transmission of emissions and associated activity data for industrial emission entities from the reporting countries to the EEA.** Aggregation of administrative and thematic data by the EEA in European-wide data bases followed by dissemination to the public, for instance in XML data flows that can subsequently be viewed on a web interface (e.g. E-PRTR

[1] Directive 2010/75/EU

[2] Regulation (EC) No 166/2006

[3] http://cdrtest.eionet.europa.eu/help/ied_registry/documents/EU%20Registry_datamodel.pdf

website, Google Maps/Open Street Map applications), are other aspects of this effort that will not be discussed here. The data handling, publication and reuse of data will be addressed in detail at a later stage.

The data model for handling simultaneous reporting of administrative data for industrial facilities (EU Registry) has already been finalised.

In addition to this document, two further related documents have been prepared which address other aspects of the data flow, namely the following:

- The quality assurance of the data submissions: A Quality Assurance / Quality Control (QA/QC) logic and,
- A user manual to guide reporters on the practicalities of the reporting.

In addition, the European Commission is currently planning to revise the 'E-PRTR Guidance Document' that was published in 2006. It is expected that revisions to that document will take account of the current exercise to streamline the reporting on industrial emissions.

1.1 The legal basis

This data model document tackles the thematic reporting on LCPs and E-PRTR facilities. The legal basis for this thematic reporting is:

- For LCPs, Article 72 (3 & 4) of the IED
- For E-PRTR facilities, the Annex III to the E-PRTR Regulation.

The data model described here is thus rooted in these pieces of EU law. The resulting reporting obligation is registered in the Reportnet's Reporting Obligations Database (ROD) at the following entry: http://rod.eionet.europa.eu/obligations/720.

As explained in more detail in the next section, the identification of E-PRTR facilities and LCPs will be part of the EU Registry. It is expected that a new legal instrument that supersedes Decision 2012/795/EU[4] will clarify the aspects of current large combustion plant (LCP) and E-PRTR reporting covering facility administrative information that shall be reported via the EU Registry.

1.2 Relation with the EU Registry on Industrial Sites

The EU Registry is planned as a coherent and consistent database of industrial emission entities that also centralises existing mechanisms for the collection of administrative facility data. Identifiers enable the two data flows to become interlinked within the EEA's internal systems, so enabling use of the EU Registry reference dataset to provide contextual information to the reported thematic data in public data products.

This means, amongst other things, that reporting on the EU Registry for a given reporting year must happen before the submission of data to the E-PRTR+LCP dataflow. At the same time, it will only be possible to report emissions from LCPs and E-PRTR facilities that feature in the EU Registry for a given reporting year.

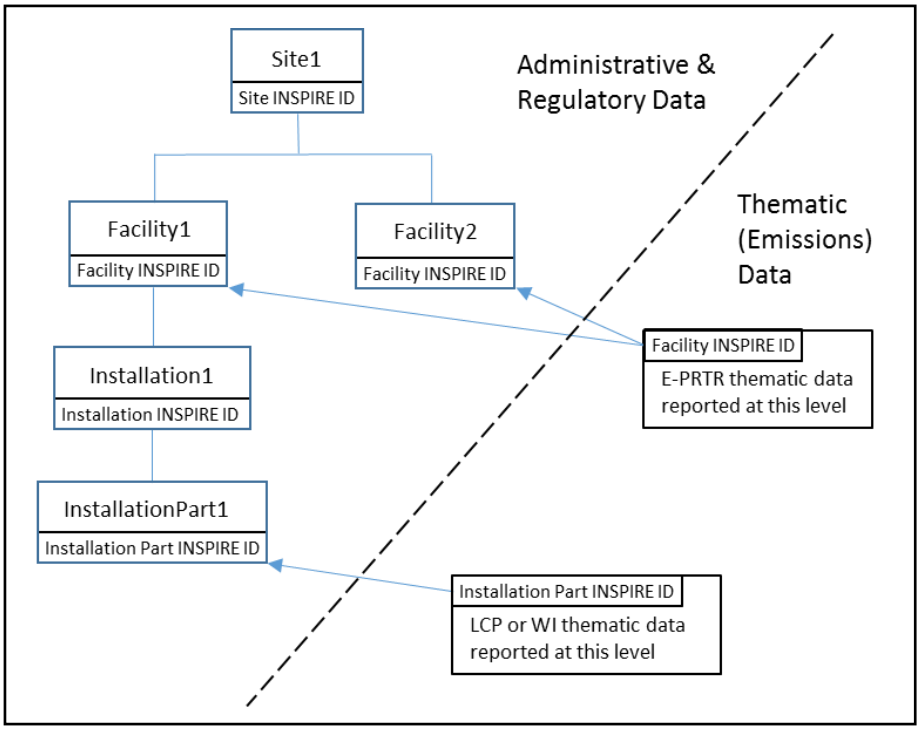
QA/QC procedures will ensure that, when combined, the data submitted via both data flows remain logical and coherent to the requirements of both the IED and the E-PRTR Regulation.

The EU Registry is structured according to a geographical hierarchy, consisting of the Production Site, Production Facility, Production Installation and Production Installation Part level (as depicted in Figure 2). The thematic data collected within Industrial Emissions Data Model will be tied to the Production Installation Part or the Production Facility geographical level depending on whether the data concerns LCP or E-PRTR

[4] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012D0795

facilities, respectively. This distinction is differentiated by the two sides of the as E-PRTR+LCP dataflow, with the left concerning LCPs and the right concerning E-PRTR facilities.

Figure 2 Structure of the EU Registry and cross linkages with thematic data in the as E-PRTR+LCP dataflow



1.3 The submission procedure

The E-PRTR+LCP dataflow will be an XML-based dataflow. Reporters will have two options to generate reports:

1) populate an XML file compliant with the European XML Schema with their own means or
2) transform a Microsoft Access file, according to a predefined structure, into an XML file via a conversion service.

Submissions compliant with this data model will be submitted by reporting countries via the Central Data Repository (CDR) using the existing Reportnet infrastructure. Reports will be submitted on an annual basis. Such submissions (or re-submissions for previous years) will need to include thematic data on all applicable industrial entities in a country for a reporting year. In practice, this includes:

- Thematic data on all LCPs that were reported to the EU Registry.
- Releases and transfers from all E-PRTR facilities reported to the EU Registry where the applicable threshold values were exceeded according to Article 5 and Annex II of the E-PRTR Regulation.

The EEA will then harvest country data submissions to aggregate a European-wide multi-year dataset, combine it with the administrative data reported to the EU Registry and then release it for analysis, public access and support of environmental programs.

2 Thematic Data Model

2.1 Structure of the data model

The data model is composed of three main elements:

1. Feature types: contains multiple attributes to collect information about a concept (e.g. *ProductionFacilityReport*)

2. Data types: used when an attribute has several items of information (e.g. an address)

3. Code lists: a series of pre-defined values to standardise the information gathered in certain attributes (e.g. a pollutant code)

These elements are shown in Figure 3, Figure 4 and Figure 5.

An attribute contained within a feature type will in turn either reference a code list or data type. A code list is indicated via the appending of the text 'value' at the end of its name while a data type is indicated via the appending of the text 'type' at the end of its name. A data type in turn may contain multiple additional attributes. Multiplicity is used to handle when an attribute should be reported at all, in addition to how many times this attribute can be populated. Multiplicity is aligned to reflect the optionality detailed in either legal basis (i.e. the IED or the E-PRTR Regulation). As an example, multiplicity of [0..*] means a value for a certain attribute need not be reported at all, reported once, or reported multiple times. Reporting of attributes where no multiplicity is specified will be mandatory.

2.2 Logic of the data model

The data model consists of two main sides, connected to the parent *ReportData* feature type. The left side contains all the feature types and attributes required for the reporting of all thematic data for LCPs, in accordance to Article 72 (3 & 4) of the IED. The right side conversely contains all feature types and attributes required for the thematic reporting for an E-PRTR Facility, as described by Annex III of the E-PRTR Regulation. Understanding this distinction is imperative, as both sides have concepts that could be considered similar. However, due to the way they are required to be reported by the underlying legislation, they cannot simply be merged. Nevertheless, it is expected that multiple reporting efficiencies will be achieved, and more accurate, consistent and coherent data will be derived through the integration of E-PRTR and LCP reporting in combination with the EU Registry.

Figure 3 Diagram of the E-PRTR+LCP dataflow feature types

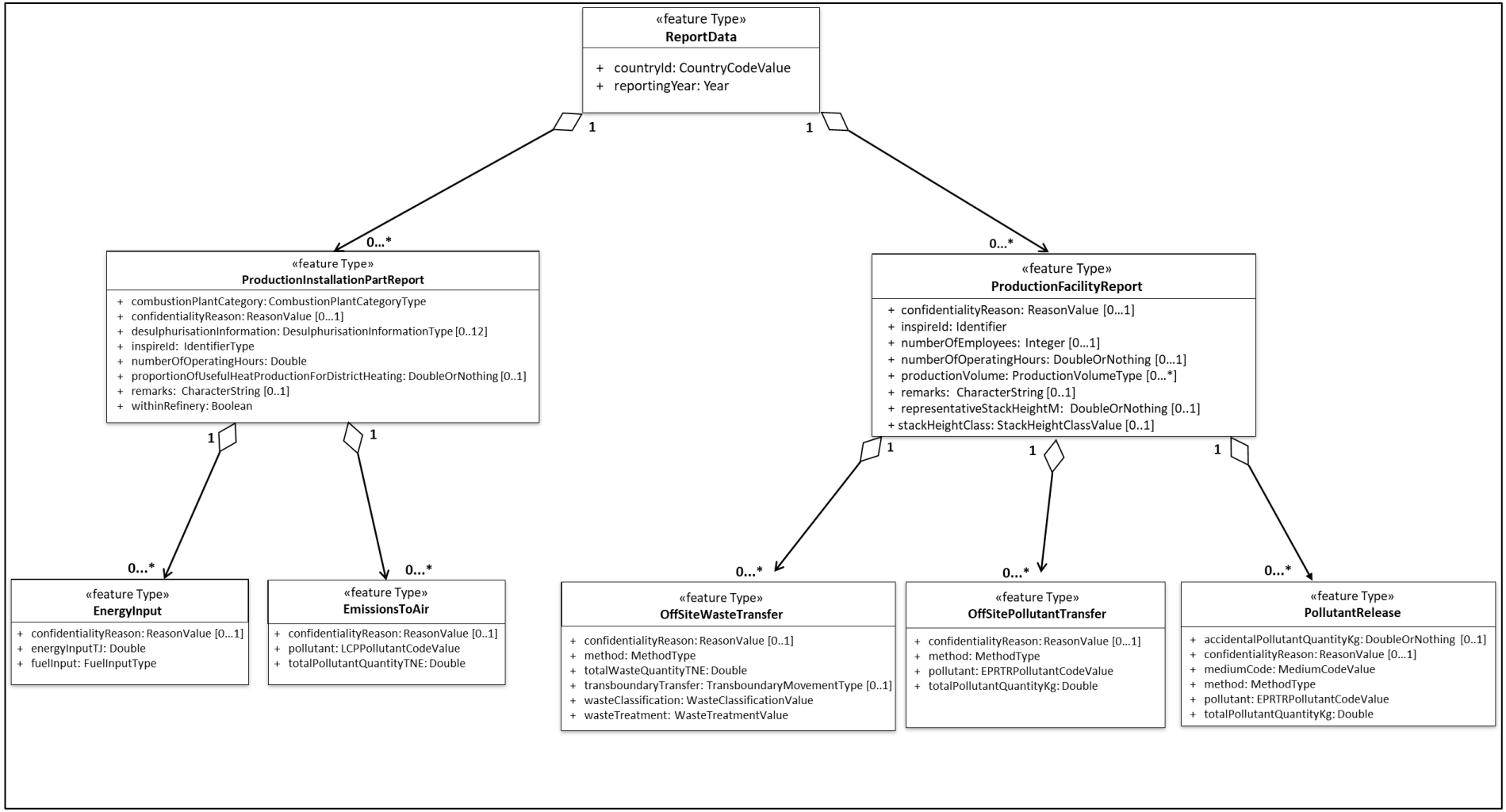


Figure 4 Diagram of the E-PRTR+LCP dataflow data types

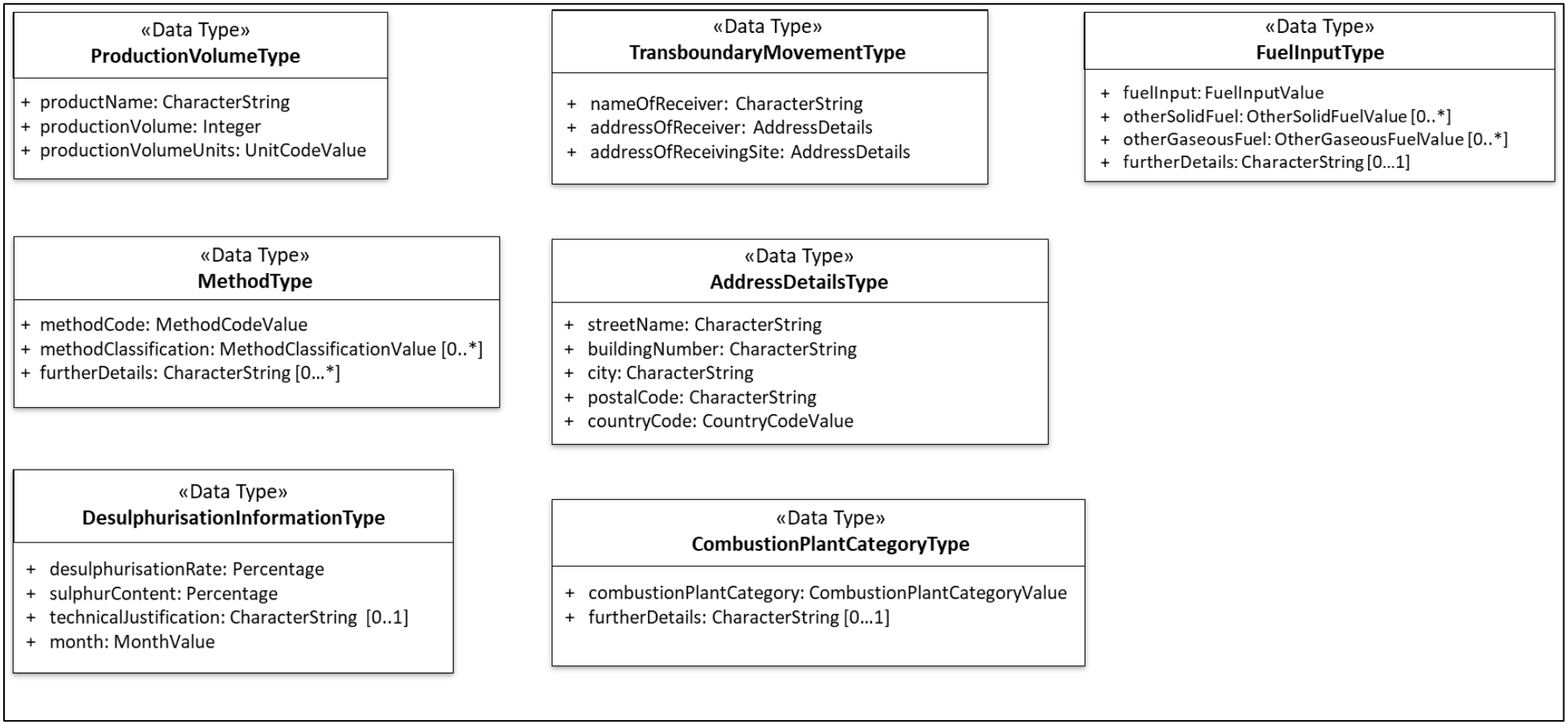


Figure 5 Diagram of E-PRTR+LCP dataflow code lists

2.4 Access to the data model

During the development phase, all materials related to the EU Registry on Industrial Sites are published at the project website: http://cdrtest.eionet.europa.eu/help/eprtr_lcp.

This website contains the latest updates of:

- The Industrial Emissions Data Model,
- the European Extensible Markup Language (XML) Schema[5], and
- the associated code lists.

The website also hosts the documentation associated with these materials, including this data model documentation and an example XML submission.

When the E-PRTR+LCP dataflow progresses to an operational phase, all materials will be moved to a dedicated location at http://cdr.eionet.europa.eu/help/.

[5] This XML Schema will essentially provide an empty template for reporters and their IT staff that contains guiding explanations.

3 Detailed description: feature types, data types and code lists

This section systematically progresses through all attributes included in the feature types, the characteristics of data types where these are referred to in the feature types, and finally it refers to the code lists which are used across the data model.

3.1 Feature types

3.1.1 ReportData

The *ReportData* feature type, like the feature type of the same name in the EU Registry, is designed to provide contextual information about both the reporting country and the reporting year for which a submission is made. These data are required in order to build a consistent database overtime. The feature type consists of two attributes:

- **countryId:** This attribute is populated with values from the *CountryCodeValue* code list which contains a list of countries that will report to the EU Registry.

- **reportingYear:** Defines the year that the submission covers. The internal data harvesting process within the EEA database will produce a full European-wide dataset covering multiple years.

3.1.2 ProductionInstallationPartReport

This marks the first feature type specific to LCP reporting. The data to be provided refers to a single plant, as defined in the IED and considering the aggregation rules of Article 29 of the Directive. Therefore, the attributes listed in the feature type use the 'common stack principle' as a rule to define to which entity they refer to.

ProductionInstallationPartReport is linked to the parent *ReportData* feature type detailed above via multiplicity of [0..*] which enables both the reporting of either multiple LCPs or the complete exclusion of the LCP side of the data model, if applicable[6]. It contains several attributes for information required in Article 72 (3 & 4) of the IED.

- **combustionPlantCategory:** Attribute to be populated with values from the *CombustionPlantCategoryValue* code list which in turn details the nature or characteristics of the LCP reported.

- **confidentialityReason:** Attribute to be populated with values from the *ReasonValue* code list, which in turn contains a list of reasons to protect environmental information from public disclosure, originating from Directive 2003/4/EC on public access to environmental information. If this attribute is populated, then the data contained in the feature type will not be published by the EEA in public data products. Guidance will be provided to elaborate further on cases where confidentiality is reasonable. If a country over-uses this designation, the case will be sent to DG ENV for judgement and a dialogue with the country will be initiated to discuss compliance with the Directive. However, EEA will not reject submissions on the grounds of misuse of confidentiality unless instructed otherwise by DG ENV.

[6] The EEA has voluntary reporting countries that only report to either the E-PRTR or the LCP inventories, a situation that presumably will continue when the integrated reporting starts. Therefore, the data model has to cater for those cases.

- **desulphurisationInformation:** This attribute links to the data type *DesulphurisationInformationType,* which in turn is designed to provide further data if the LCP is subject to Article 33(1) and Article 72 (4a) of the IED. This has the multiplicity [0..12], to enable the reporting country to add iterations accounting for different months in the reporting year according to Article 72(4) of the IED.

- **inspireId:** This crucial attribute links to the *Identifier* data type and needs to be provided for both sides of the E-PRTR+LCP dataflow. This attribute is the fundamental building block that enables the effective sharing of geospatial environmental information and is the key to enabling the crosslinking of the two parts of the EPRTR + LCP thematic data model to the relevant entities in the EU Registry. Guidance on how INSPIRE identifiers unique to each country can be defined is provided in Annex 4 of the EU Registry Data Model Documentation. Reporting countries will have the flexibility to use their national identifiers provided these comply with the INSPIRE requirements for such identifiers (i.e. uniqueness, persistence, traceability and feasibility). The identifier used for the *ProductionInstallationPartReport* feature type must be a valid ID that is already in use for a production installation part that has already been reported in the EU Registry.

- **numberOfOperatingHours:** Attribute designed to be populated with a positive real number in a double-precision floating-point format detailing the number of hours the LCP operated in the reporting year. This should refer to when the LCP, whether wholly or any of the units within the common stack, is operating and discharging emissions into the air, excluding start up and shut down periods.

  It should be noted that the comparable attribute on the E-PRTR side of the data model is subject to [0..1] multiplicity, enabling the reporting country to leave that attribute unpopulated. This is due to the differences between the legal bases, with the IED requiring mandatory reporting of operating hours whereas the same concept in the E-PRTR Regulation is described as 'optional'.

- **proportionOfUsefulHeatProductionForDistrictHeating:** Attribute to be populated with a decimal value representing a percentage (e.g. 0.2 = 20%), reflecting the proportion of useful heat production of each plant which was delivered in the form of steam or hot water to a public network for district heating. This is to be expressed as an average over the 5 years preceding the reporting year. This should only be populated under the criteria expressed in Article 35(1) of the IED.

- **remarks:** This is an optional attribute (i.e. multiplicity of zero is permitted). It allows reporting countries to provide any additional information about the thematic data for the specific LCP.

- **withinRefinery:** Contains a Boolean attribute to indicate whether the LCP reported is situated within a refinery site.

3.1.3 ProductionFacilityReport

This marks the first feature type specific to the E-PRTR. It is linked to the parent *ReportData* feature type already detailed above via a multiplicity of [0..*] which enables both the reporting of either multiple E-PRTR facilities or the exclusion of the E-PRTR side of the data model, if only LCP data are applicable to the reporting country's context. It contains the following attributes:

- **confidentialityReason:** See above.

- **inspireId:** This crucial attribute links to the *Identifier* data type and needs to be provided for both sides of the E-PRTR+LCP dataflow. This attribute is the fundamental building block that enables the effective sharing of geospatial environmental information and is the key to enabling the crosslinking of the two parts of the EPRTR + LCP thematic data model to the relevant entities in the EU Registry.

Guidance on how INSPIRE identifiers unique to each country can be defined is provided in Annex 4 of the EU Registry Data Model Documentation. Reporting countries will have the flexibility to use their national identifiers provided these comply with the INSPIRE requirements for such identifiers (i.e. uniqueness, persistence, traceability and feasibility). The identifier used for the *ProductionFacilityReport* feature type must be a valid ID that is already in use for a facility that has already been reported in the EU Registry.

- **numberOfEmployees:** Attribute designed to be populated with an integer detailing the number of employees directly associated with the facility. This attribute is subject to a multiplicity of [0..1] and hence can be left unpopulated by the reporting country, reflecting the fact this concept is described as 'optional' within Annex III of the E-PRTR Regulation.

- **numberOfOperatingHours:** Attribute designed to be populated with a positive real number in a double-precision floating-point format detailing the number of hours the facility operated in the reporting year. This attribute is subject to a multiplicity of [0..1] and hence can be left unpopulated by the reporting country, reflecting the fact this concept is described as 'optional' within Annex III of the E-PRTR Regulation.

- **productionVolume:** This attribute links to the *ProductionVolumeType* data type, which in turn contains more attributes detailing both the product and the volume produced in the reporting year. Production volumes are also optional reporting and can be left unpopulated.

- **remarks:** This is an optional attribute (i.e. multiplicity of zero is permitted) since its provision is optional in the E-PRTR Regulation. It allows reporting countries to provide any additional information about the thematic data for a facility.

- **representativeStackHeightM:** This is an optional attribute (i.e. multiplicity of zero is permitted), to enable reporting countries to supply the stack height for the facility. It should be populated with a positive real number in a double-precision floating-point format. Such data forms an important role in the accuracy of point source modelling. The height is intended to be supplied in metres and should be the actual stack height when there is only a single stack and should be representative of the average stack height where a facility has multiple stacks.

- **stackHeightClass:** This attribute will define the stack height classification and will refer to the StackHeightClassValue code list entry. This is an optional attribute with a multiplicity of [0..1].

3.1.4 EnergyInput

This feature type is linked to the parent *ProductionInstallationPartReport* feature type, and thus details data specific to LCPs. Under Article 72(3)a of the IED, this data is required to be split according to different fuel types. This feature type has [0..*] multiplicity however it is intended that that the energy input for all 8 fuel types is reported as a minimum, even in circumstances where the energy input is 0, therefore implying no fuel of this type was combusted. This caters for multi-fuelled plants and ensures that the non-usage of a fuel type is affirmatively reported. It contains only three attributes:

- **confidentialityReason:** See above.

- **energyinputTJ:** An attribute used to provide a positive real number in a double-precision floating-point format detailing the energy input (the net calorific value reported in terajoules per year).

- **fuelInput:** This attribute links to the *FuelInputType* data type, which provides further attributes to enable the reporting country to detail the fuel type, in accordance with the requirement outlined in Article 72 (3)a of the IED.

3.1.5 EmissionsToAir

This feature type is linked to the parent *ProductionInstallationPartReport* feature type, and thus details data specific to LCPs. It is subject to [0..*] multiplicity however the reporting of emissions for all three pollutants is required under Article 72 (3d), even if the amount emitted is zero.

- **confidentialityReason**: see above.

- **pollutant:** An attribute which is populated with values in the *LCPPollutantCodeValue* code list.

- **totalPollutantQuantityTNE:** An attribute containing a positive real number in a double-precision floating-point format representing the quantity of the pollutant emitted to air, specified in metric tonnes per year.

3.1.6 OffsiteWasteTransfer

This feature type is linked to the parent *ProductionFacilityReport* feature type, and thus details data specific to E-PRTR facilities. It is subject to [0..*] multiplicity and hence caters for the reporting of multiple quantities of waste, in addition to scenarios where the reporting of off-site transfers of waste is not applicable to the facility considered. It contains the following six attributes:

- **confidentialityReason:** see above.

- **method:** Links to the *MethodType* data type, which in turns uses additional attributes to further characterise how the quantity reported has been determined.

- **totalWasteQuantityTNE:** An attribute which contains a positive real number in a double-precision floating-point format representing the quantity of waste transferred, reported in metric tonnes per year.

- **transboundaryTransfer:** Links to the *TransboundaryMovementType* data type, which is used to provide further information about the waste transfer if it involves the movement of waste outside the boundary of the reporting country.

- **wasteClassification:** An attribute which is populated with values in the *wasteClassificationValue* code list.

- **wasteTreatment:** An attribute which is populated with values in the *wasteTreatmentValue* code list.

3.1.7 OffsitePollutantTransfer

This feature type is linked to the parent *ProductionFacilityReport* feature type, and thus details data specific to E-PRTR facilities. It is subject to [0..*] multiplicity and hence caters for reporting multiple pollutant transfers destined for wastewater treatment, in addition to scenarios where the population of this feature type is not applicable to the facility reported. It contains the following attributes:

- **confidentialityReason:** see above.

- **method:** see above.

- **pollutant:** An attribute which is populated with values in the *EPRTRPollutantCodeValue* code list.

- **totalPollutantQuantityKg:** An attribute containing a positive real number in a double-precision floating-point format which details the total annual quantity, in kilograms, of the pollutant contained in the wastewater destined for waste water treatment.

3.1.8 PollutantRelease

This feature type is linked to the parent *ProductionFacilityReport* feature type, and thus details data specific to E-PRTR facilities. It is subject to [0..*] multiplicity and hence caters for the reporting of emissions or releases of multiple pollutants to different media, in addition to scenarios where no pollutants are released. It contains the following attributes:

- **accidentalPollutantQuantityKg:** An attribute containing a positive real number in a double-precision floating-point format detailing the pollutant quantity in kilograms that is associated with accidental releases. This value will be some proportion of the total value supplied in the totalPollutantQuantityKg attribute.

- **confidentialityReason:** see above.

- **mediumCode:** An attribute which is populated with values in the *MediumCodeValue* code list, and which should be populated according to the medium in which the pollutant amounts quantified in the attributes above are released.

- **method:** see above.

- **pollutant:** see above.

- **totalPollutantQuantityKg:** An attribute containing a positive real number in a double-precision floating-point format which represents the total annual quantity, in kilograms, of the pollutant released.

3.2 Data types

3.2.1 ProductionVolumeType

A data type designed to detail both the product and the volume of produce produced in the reporting year, associated with the reported E-PRTR facility. It consists of the following attributes:

- **productionVolume:** An attribute designed to be populated with a positive real number in a double-precision floating-point format representing the volume of the product reported in the productName attribute above.

- **productionVolumeUnits:** An attribute which is populated with values in the *UnitCodeValue* code list, so giving context to the value reported in the *productionVolume* attribute above.

- **productName:** A character string enabling the reporting country to enter the name of the product referred to in the attributes below.

3.2.2 MethodType

A data type designed to describe the method by which a quantity in the data model has been determined. It contains the following attributes:

- **furtherDetails:** A character string enabling the reporting country to provide a statement expanding on the *methodCode* and/or *methodClassification* attributes.

- **methodClassification:** An attribute populated with values in the *MethodClassificationValue* code list which provide more detail to the *methodCode* attribute below. This attribute has a multiplicity of [0..*] but must be populated if the methodCode value represents measured or calculated as indicated by Article 5 of the E-PRTR.

- **methodCode:** An attribute populated with values in the *MethodCodeValue* code list.

3.2.3 DesulphurisationInformationType

A data type designed to provide the information required under Article 33(1) and Article 72 (4a) of the IED. It contains the following attributes:

- **desulphurisationRate:** An attribute to be populated with a decimal value representing a percentage (e.g. 0.2 = 20%), regarding the rate of desulphurisation achieved on average over the month reported in the *month* attribute described below.
- **month:** An attribute populated with values in the *MonthValue* code list.

- **sulphurContent:** An attribute to be populated with a decimal value representing a percentage (e.g. 0.2 = 20%), regarding the sulphur content of the indigenous solid fuel used.

- **technicalJustification:** A character string enabling reporting countries to comment on the non-feasibility of complying with the emission limit values referred to in Article 30(2) and (3) of the IED.

3.2.4 FuelInputType

A data type used to detail further contextual information in regard to the *energyInputTJ* attribute in the *EnergyInput* feature type. It contains the following attributes:

- **fuelInput:** An attribute populated with values in the *FuelInputValue* code list and which is used to describe the general type of fuel the *energyInputTJ* attribute *refers to.*

- **furtherDetails:** A character string enabling the reporting country to expand on either the *OtherSolidFuel* or *OtherGaseousFuel* attributes if 'other' is chosen to populate either attribute.

- **otherGaseousFuel:** An attribute populated with values in the *OtherGaseousFuelValue* code list. This is intended to provide further detail (as required in article 72 [3f] of the IED) if 'other gases' is chosen to populate the *fuelInput* attribute above. The attribute has a multiplicity of [0..1] so reporting countries need not populate this attribute if the fuel reported in fuelInput is other than 'other gases'.

- **otherSolidFuel:** An attribute populated with values in the *OtherSolidFuelValue* code list. This is intended to provide further detail (as required in article 72 [3f] of the IED) if 'other solid fuel' is chosen to populate the *fuelInput* attribute above. The attribute has multiplicity of [0..1] so

reporting countries need not populate this attribute if the fuel reported in the attribute fuelInput is other than 'other solid fuels' .

3.2.5 TransboundaryMovementType

A data type designed to account for all the additional information required under Annex III of the E-PRTR Regulation if the off-site waste transfer occurs across the boundary of the country reporting. It contains the following attributes:

- **addressOfReceiver:** Links to the *AddressDetails* data type, with the intention to be used to detail the address of the company receiving the transfer, aligning with the name referenced in the *nameOfReceiver* attribute above.

- **addressOfRecevingSite:** Links to the *AddressDetails* data type, with the intention that it be used to detail the address of the site receiving the transfer and should be aligned to a site owned by the company detailed in the *nameOfReceiver* and *addressOfReceiver* attributes.

- **nameOfReceiver:** A character string populated with the name of the company receiving the waste transfer.

3.2.6 AddressDetailsType

A data type designed to collect address information when an address is required to be reported. In the E-PRTR+LCP dataflow, this requirement occurs in only two places, the *addressOfReceiver* attribute and the *addressOftheReceivingSite* attribute, both of which are contained in the *TransboundaryMovementType* data type. (Note that facility administrative information is reported via the EU Registry.) It contains the following attributes:

- **buildingNumber:** A character string populated with the building/property number. The character string format accounts for scenarios where a letter may be used in conjunction with a number (e.g. 67A).

- **city:** A character string populated with the name of the city where the building/property is located.

- **countryCode:** An attribute populated with values in the *CountryCodeValue* code list. Please note that this attribute is needed as E-PRTR requires reporting transboundary transfers of waste.

- **postalCode:** A character string populated with the postal code of the building/property.

- **streetName:** A character string populated with name of the street or road in which the building/property is located.

3.2.7 CombustionPlantCategoryType

A data type designed to describe the type of LCP being reported. It contains only two attributes:

- **combustionPlantCategory:** An attribute populated with values in the *CombustionPlantCategoryValue* code list and which is used to describe the type of LCP reported.

- **furtherDetails:** A character string provided to enable reporting countries to expand upon the value provided in the *combustionPlantCategory* attribute above.

3.2.8 Identifier

This is the standard INSPIRE data type designed to describe the Inspire ID for the entity being reported. Reporting countries will have the flexibility to use their existing national level identifiers provided they comply with the EU INSPIRE requirements for such IDs. For more information see Annex 4 of the EU Registry Data Model Documentation. This data type should be populated with two attributes:

- **localId:** A character string representing an identifier that is unique amongst all such entities in the reporting country.

- **namespace:** An attribute populated with a character string that defines the source of the data. It is recommended that two letter ISO country code and the acronym CAED (for Competent Authority for Environmental Data) be used.

3.3 Code lists

All code lists are stored and maintained at the so-called EEA Data Dictionary in a dedicated folder.

The code lists are the following:

- **CombustionPlantCategoryValue:** List of types of combustion plant according to categories included in Article 72 (3b) of the IED.

- **CountryCodeValue:** ISO2 codes for countries reporting E-PRTR and LCP thematic data.

- **EPRTRPollutantCodeValue:** Code list for substances to be reported according to Annex II of the E-PRTR Regulation.

- **FuelInputValue:** List of categories of fuel input according to Article 72 (3f) of the IED.

- **LCPPollutantCodeValue:** List of substances to be reported according to Article 72 (3d) of the IED.

- **MediumCodeValue:** The three mediums which can receive a pollutant release according to Annex III of the E-PRTR

- **MethodClassificationValue:** List of classifications used to further describe the method to derive the release or off-site transfer value

- **MethodCodeValue:** The type of methods used to measure or calculate releases and off-site transfers in accordance with the three types referred to in Annex III of the E-PRTR.

- **MonthValue:** Months of the year according to the Gregorian calendar.

- **OtherGaseousFuelValue:** Categories of fuel input to further distinguish solid fuels as required by Article 72 (3f) of the IED**.**

- **OtherSolidFuelValue:** Categories of fuel input to further distinguish gaseous fuels as required by Article 72 (3f) of the IED.

- **ReasonValue:** List of reasons that justify a confidentiality claim according to Directive 2003/4/EC on public access to environmental information.

- **StackHeightClassValue:** Code list for ranges of stack height.

- **UnitCodeValue:** Various units that can be used to report attributes in the E-PRTR.

- **WasteClassificationValue:** Used to discern whether the waste subject to off-site transfer is hazardous or non-hazardous.

- **WasteTreatmentValue:** Used to discern the intended treatment to the waste reported in an off-site transfer in terms of disposal or recovery.

Annex 1 – Synergies with previous LCP and EPRTR reporting formats

Both the E-PRTR and the IED have reporting formats that were previously established to collect the necessary data from reporting countries. This annex is focused on attempting to map the various aspects of previous reporting formats to the E-PRTR+LCP dataflow presented in this document. The table below contains all fields/attributes listed in the E-PRTR+LCP dataflow alongside the aspect or field of the previous reporting format.

Field/attribute	Previous LCP reporting format	Previous E-PRTR reporting format
CountryId	Replaces the 'Member State' field.	Replaces the 'CountryID' element.
reportingYear	Replaces the 'Reference Year' field.	Replaces the 'Reporting Year' element.
inspireId	Replaces the 'Plant ID' field.	Replaces the 'NationalID' and 'PreviousNationalID' elements (as the InspireID is required to stay constant throughout the lifetime of the facility reported).
numberOfOperatingHours	Replaces the 'Operating Hours' field.	Replaces the 'OperationHours' element.
CombustionPlantCategory	Replaces the 'Gas turbine', 'Gas engine', 'Boiler', 'Diesel Engine' and 'Other' Boolean fields.	N/A
WithinRefinery	Replaces the 'Refineries' Boolean field.	N/A
ConfidentialityReason	N/A	Replaces the 'ConfidentialCode' element.
DesulphurisationInformation	Replaces the 'Desulphurisation rate (%)' and 'S Input (t)' fields	N/A
energyInputTJ	When combined, these attributes replace the 'Biomass (TJ)', 'Other Solid fuels (TJ)', 'Liquid fuels (TJ)', 'Natural gas (TJ)', and 'Other gases (TJ)' fields.	N/A
fuelInput		N/A
totalPollutantQuanityTNE	When combined, these attributes replace the 'SO2 (t)','NOx (t)' and 'Dust (t)' fields.	N/A
LCPPollutantCodeValue		N/A

numberOfEmployees	N/A	Replaces the 'TotalEmployeeQuantity' element.
productionVolume	N/A	Replaces the 'ProductionVolume' element
wasteClassification	N/A	Replaces the 'WasteTypeCode' element.
wasteTreatment	N/A	Replaces the 'WasteTreatmentCode' elements.
method	N/A	Replaces both the 'MethodBasisCode' and 'MethodUsed' elements, via linkage to MethodType data type.
transboundaryTransfer	N/A	Replaces the 'WasteHandlerParty' element.
totalWasteQuantityTNE	N/A	Replaces the 'Quantity' element, in the WasteTransfer elements.
totalPollutantquantityKg	N/A	Replaces the 'Total Quantity' in the PollutantRelease elements.
EPRTRPollutantCodeValue	N/A	Replaces the 'PollutantCode' element.
accidentalPollutantQuantityKg	N/A	Replaces the 'AccidentalQuantity' element.
mediumCode	N/A	Replaces the 'MediumCode' element.

Annex 2 – Glossary of terms

This section contains explanations of the key terms used in this document.

Boolean attribute – These attributes are evaluated as either true or false.

Code list – a defined set of values which can be used to populate an attribute.

Data type – A data model element which defines characteristics of data and which operations can be performed on the data.

Feature type – Represents a class of data together with relevant attributes.

Geospatial information – Data about a physical object that can be represented by numeric values in a geographic coordinate system.

INSPIRE – Infrastructure for Spatial Information in the European Community. The INSPIRE Directive (2007/2/EC) aims to establish an infrastructure for the sharing of environmental spatial data within the European Union. This will enable sharing among public sector organisations, facilitate public access to spatial data across Europe, and will aid in cross-boundary policy making.

LocalId – Second component of the INSPIRE identifier, containing a unique identifier referring to the entity reported.

Multiplicity – A definition of cardinality - i.e. the permitted number of elements - of some collection of elements.

Namespace – First component of the INSPIRE identifier. This normally contains a reference to the country submitting the data as well as the authority responsible for the submission.

Production Facility – One or more installations on the same site that are operated by the same natural or legal person. A Production Facility is a special kind of Activity Complex.

Production Installation Part – Represents a specific technical part of the installation, developing a representative functionality that should be registered under the legislation.

UML – Unified Modelling Language, a modelling language intended to provide a standard way to visualise the design of a system.

XML – EXtensible Markup Language is a markup language that defines a set of rules for encoding documents. This format is readable by both humans and machines.