

Overview of EEA Reporting Requirements for Large Combustion Plants



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Overview

- Which plants are required to report?
- Reporting timeframe
- Aggregation rule for combustion units
- Overview of main reporting requirements
- Review of main quality control checks
- Examples of data use
- Questions?

What is a 'large combustion plant'?

- Reporting is required for each individual large combustion 'plant' > 50 MWth
- A plant could consist of only one or many individual combustion units
- A number of factors have to be considered:
 - Common stack/aggregation rules
 - The thermal input of individual combustion units

Which plants have to report?

- Any plant $> 50\text{MWth}$ taking into account the aggregation rules.
- Generally exclude any plants $< 15\text{MWth}$ from the calculation, for example 6 x 10MWth combustion units discharging through a single stack would not be subject to LCP requirements.
- LCPs which are part of another activity, e.g. an LCP at a chemical plant, must be reported
- Exclusions, e.g. drying plants, gas turbines on offshore platforms, reactors in chemical industry

When does reporting happen?

- For reporters to EEA the deadline for reporting is March 31 annually;
- Reporting year is for 'current year – 2'. For example by 31 March 2018 reporting countries must report data for 2016

Who collects the data and where is it stored?

- EEA, Air and Climate Change (ACC) Programme
- EIONET - European Environment Information and Observation Network
- CDR – Central Data Repository

EIONET
Central Data Repository

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The Central Data Repository is part of the Reportnet architecture. The Central Data Repository is like a bookshelf, with data reports on the environment as submitted to international clients.

Each country either has a collection (📁) for its deliveries or a referral (👉) to a different preferred repository. The data reports within each country collection are arranged under the relevant reporting obligations or agreements.

EEA Member countries

Austria	Belgium	Bulgaria
Croatia	Cyprus	Czech Republic
Denmark	Estonia	Finland
France	Germany	Greece
Hungary	Iceland	Ireland
Italy	Latvia	Liechtenstein
Lithuania	Luxembourg	Malta
Netherlands	Norway	Poland
Portugal	Romania	Slovakia
Slovenia	Spain	Sweden
Switzerland	Turkey	United Kingdom

Current EEA Reporting Obligation

EIONET

Reporting Obligations Database (ROD)

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Overview Legislation Deliveries Parameters History

Reporting obligation for: Reporting on Combustion Plants under Art 72 of the Industrial Emissions Directive

Title	Reporting on Combustion Plants under Art 72 of the Industrial Emissions Directive
Description	<p>Note: This reporting obligation will be integrated with the integrated reporting on E-PRTR and LCPs (http://rod.eionet.europa.eu/obligations/720) as from 2019.</p> <p>For all combustion plants covered by Chapter III of Directive 2010/75/EU, Member States shall, from 1 January 2016, establish an annual inventory of the sulphur dioxide, nitrogen oxides and dust emissions and energy input.</p> <p>Taking into account the aggregation rules set out in Article 29, the competent authority shall obtain the following data for each combustion plant:</p> <ul style="list-style-type: none">(a) the total rated thermal input (MW) of the combustion plant;(b) the type of combustion plant: boiler, gas turbine, gas engine, diesel engine, other (specifying the type);(c) the date of the start of operation of the combustion plant;(d) the total annual emissions (tonnes per year) of sulphur dioxide, nitrogen oxides and dust (as total suspended particles);(e) the number of operating hours of the combustion plant;(f) the total annual amount of energy input, related to the net calorific value (TJ per year), broken down in terms of the following categories of fuel: coal, lignite, biomass, peat, other solid fuels (specifying the type), liquid fuels, natural gas, other gases (specifying the type). <p>Delivery process is managed by EEA</p>
Legislative instrument title	IED



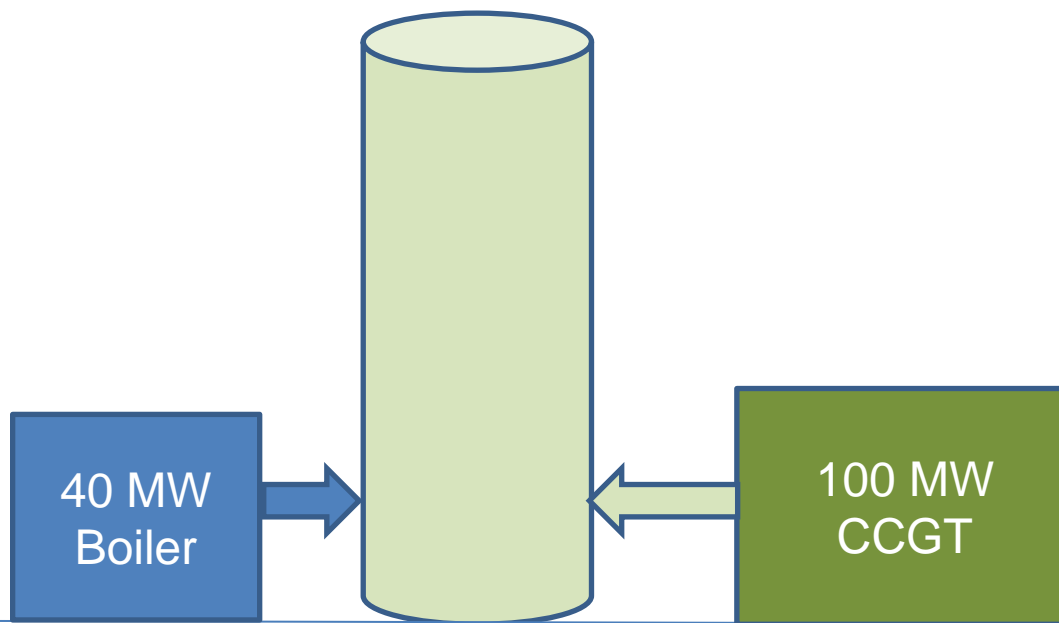
Aggregation Rule for Combustion Units

- Multiple combustion units discharging through a common stack = 1 large combustion plant
- Multiple combustion units with separate stacks but which could technically discharge through a common single stack = 1 large combustion plant



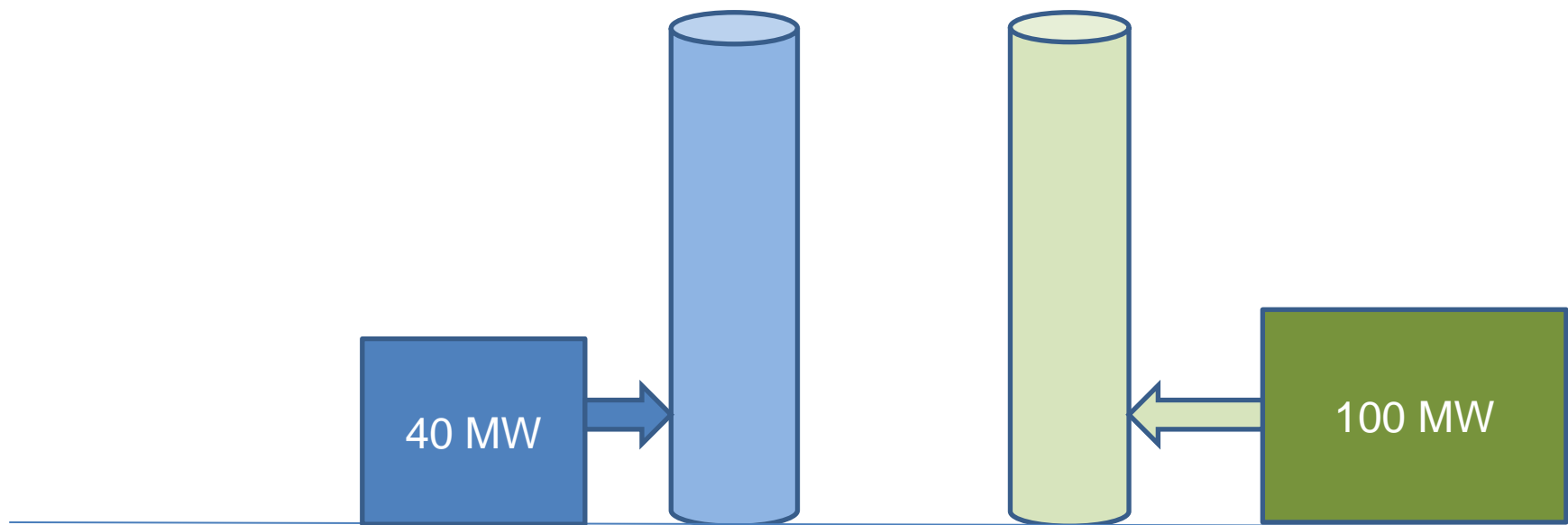
Aggregation Rules – Example 1

Reported as single LCP 'Plant' of 140 MW.



Aggregation Rules – Example 2

If technically feasible to discharge through a common stack then reported as a single LCP plant of 140 MW



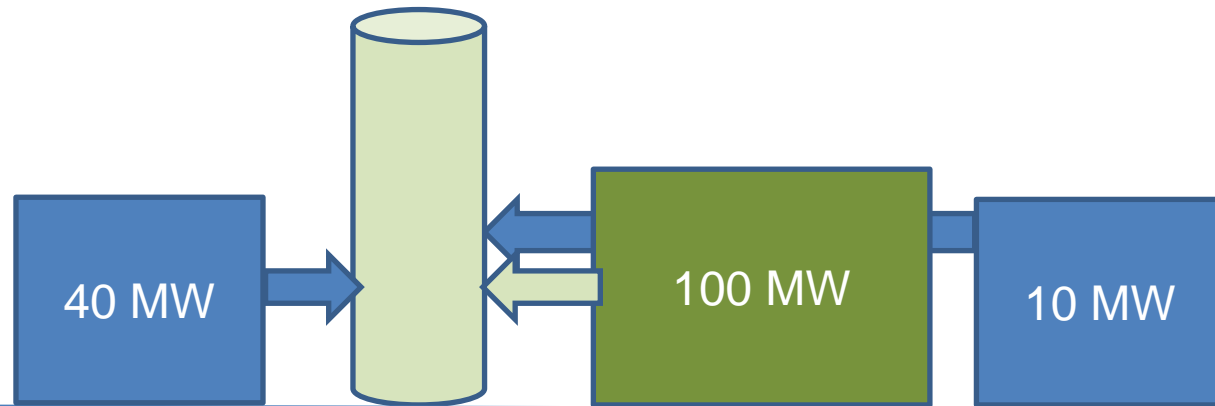
Aggregation Rules – Example 3

LCP capacity assessment - relevant plant legally = 40 & 100 MW units

However, for EEA LCP reporting requirements must report the capacity of this plant as 40 + 10 + 100 = 150 MWth

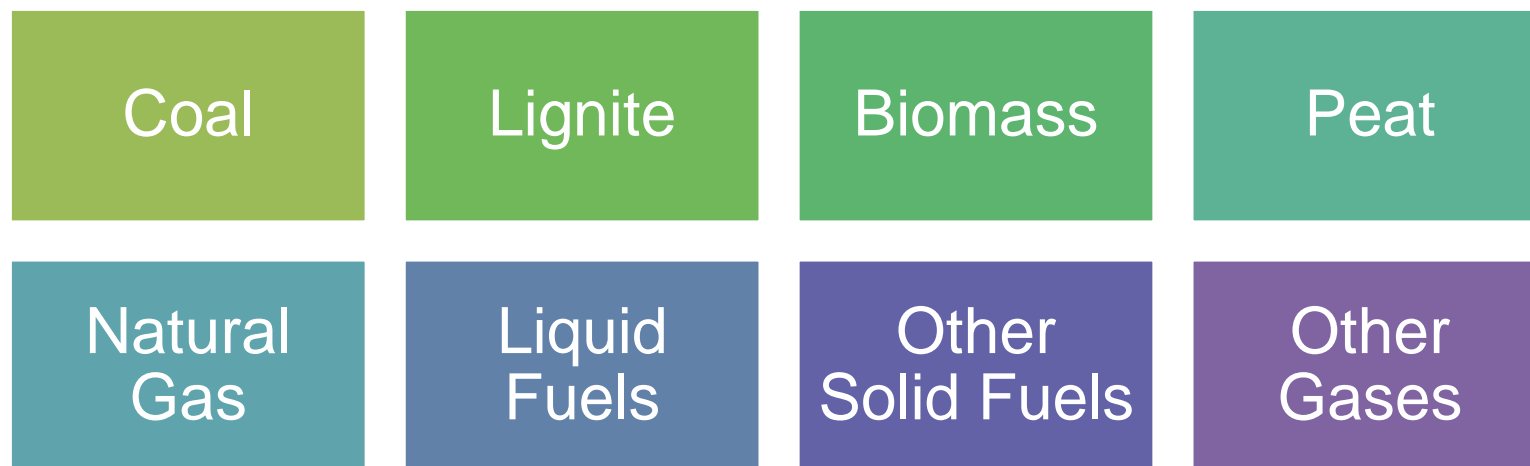
LCP Legal Capacity 40 MW + 100 MW = 140 MW

LCP Reportable Capacity 40 MW + 100 MW + 10 MW = 150 MW



Reporting Data on Fuels

- Reporting fuel input for each plant:



- All values are net calorific value

Other Solid and Gaseous Fuels

- Other solid fuels

Id	Label	Status	Status Modified	Notation
Coke	Coke	Valid	17.05.2017	Coke
Other	Other	Valid	17.05.2017	Other
PatentFuels	PatentFuels	Valid	17.05.2017	PatentFuels
Tar	Tar	Valid	17.05.2017	Tar

- Other gas fuels

Id	Label	Status	Status Modified	Notation
BlastFurnaceGas	BlastFurnaceGas	Valid	17.05.2017	BlastFurnaceGas
CokeOvenGas	CokeOvenGas	Valid	17.05.2017	CokeOvenGas
FurnaceGas	FurnaceGas	Valid	17.05.2017	FurnaceGas
LPG	LPG	Valid	17.05.2017	LPG
Other	Other	Valid	17.05.2017	Other
OxygenSteel	OxygenSteel	Valid	17.05.2017	OxygenSteel
RefineryGas	RefineryGas	Valid	17.05.2017	RefineryGas

Reporting Data on Fuels - example

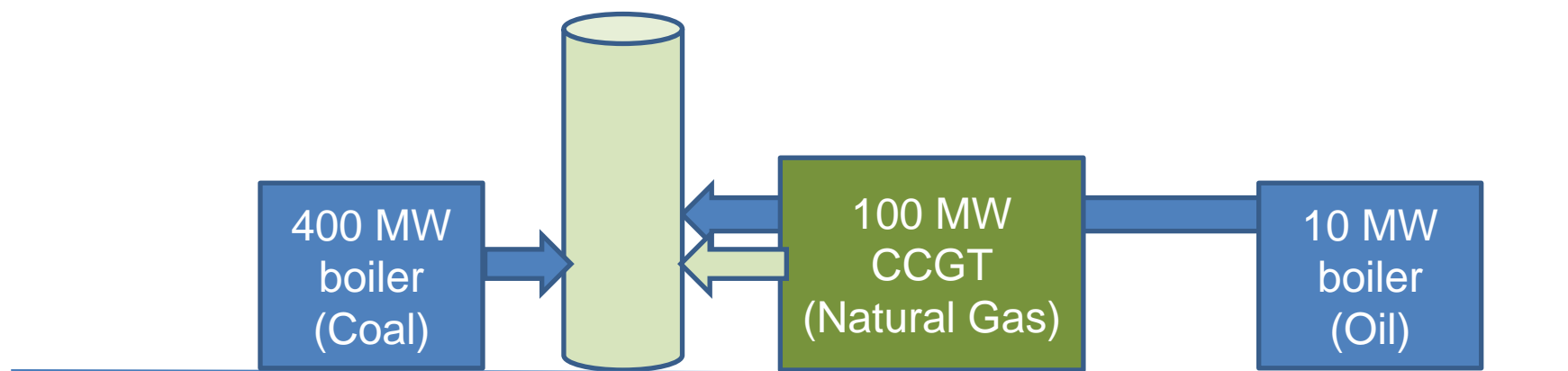
- Report fuel use for each of the 3 units which are part of a single LCP 'plant' even though oil boiler < 15 MW.

Annual Fuel
Inputs by Fuel
Type

Coal: 12,500 TJ

Natural Gas: 2,500 TJ

Oil: 150 TJ



Reporting data on pollutant emissions

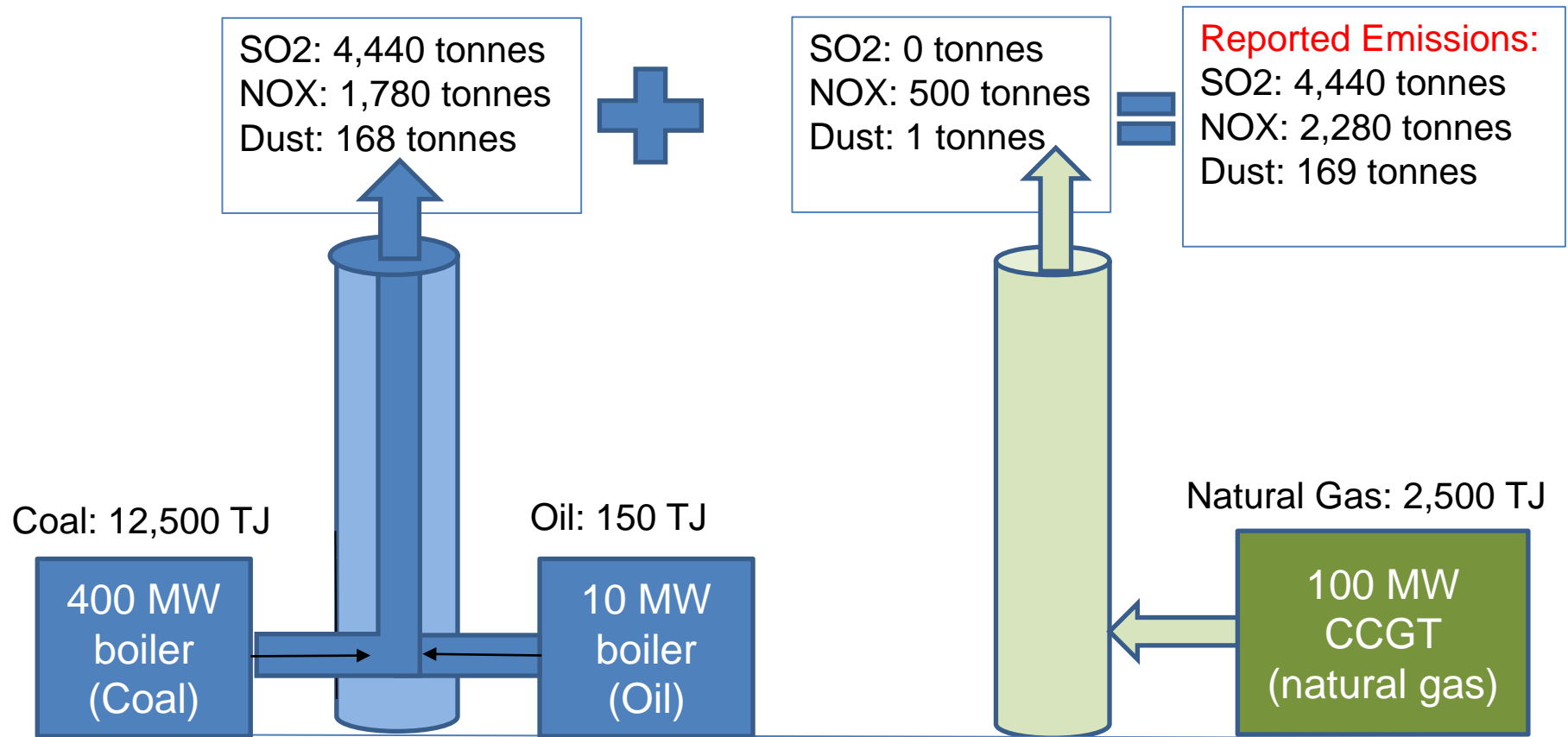
- Sulphur dioxide (Tonnes)
- Oxides of nitrogen (Tonnes)
- Dust (Tonnes)

Reporting Data on Pollutant Emissions

- Reported data typically based on measured emissions data from Automated Measurement Systems (AMS)
- N.B. Must not subtract measurement uncertainty from reported emissions
- LCP Directive requires that CEN standards are applied to measurements, including methods for calibration of AMS

Reporting Data on Emissions

Example: Total Plant Emissions



Reporting Data on Operating Hours

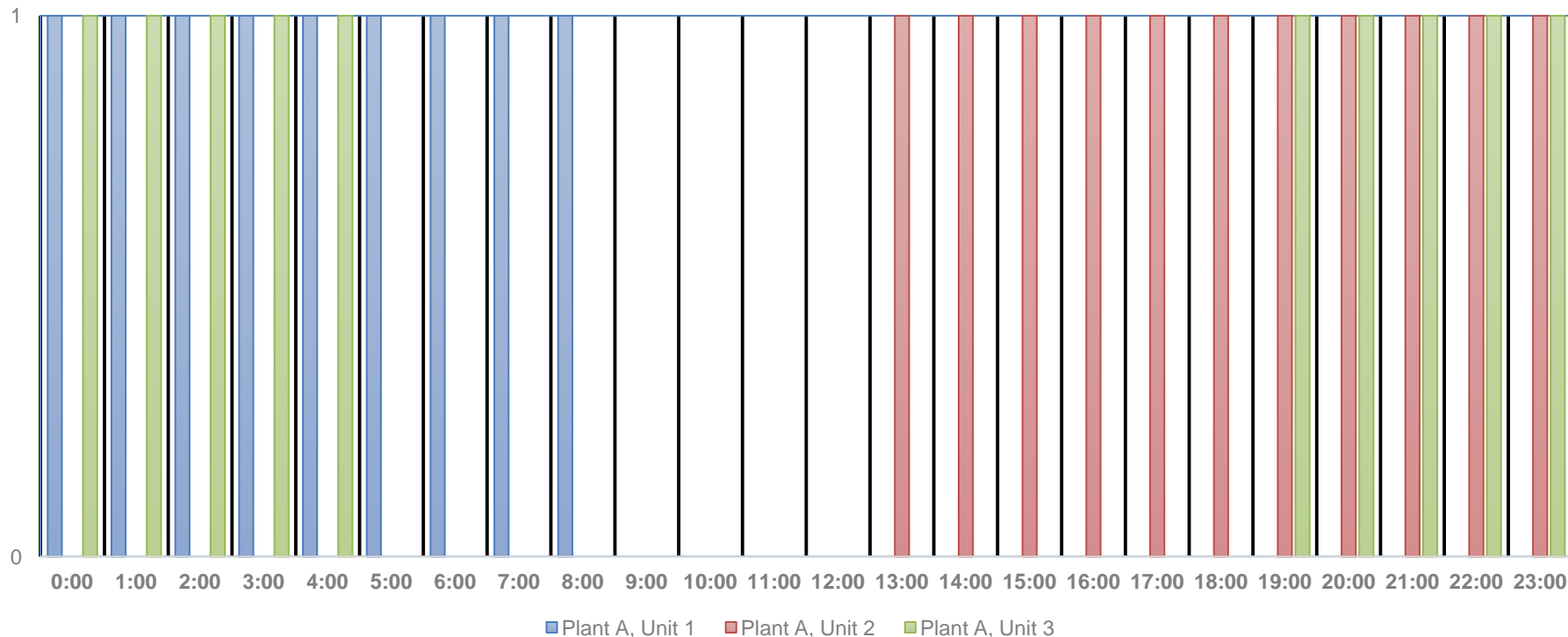
- Total operational hours of the plant over a year when any emissions are being generated
- Maximum possible operational hours = 8,760 hours (365 days)
- Generally exclude periods of start-up and shut-down, but must normally have clear definition of start-up and shut-down



Reporting Data on Operating Hours - Example

Operation of at least one combustion unit for 20 hours on this day → 20 operating hours

Periods of Operation for Plant A (consisting of 3 combustion units) - Example Day



Other Information to be collected

- Location – Latitude and Longitude
- Reporting country and year
- Is the LCP part of a refinery?
- Details of competent authority
- Total number of reported plants
- Plant Name and address
- Unique plant identification code
- Derogations?

Quality Control of Data - Examples

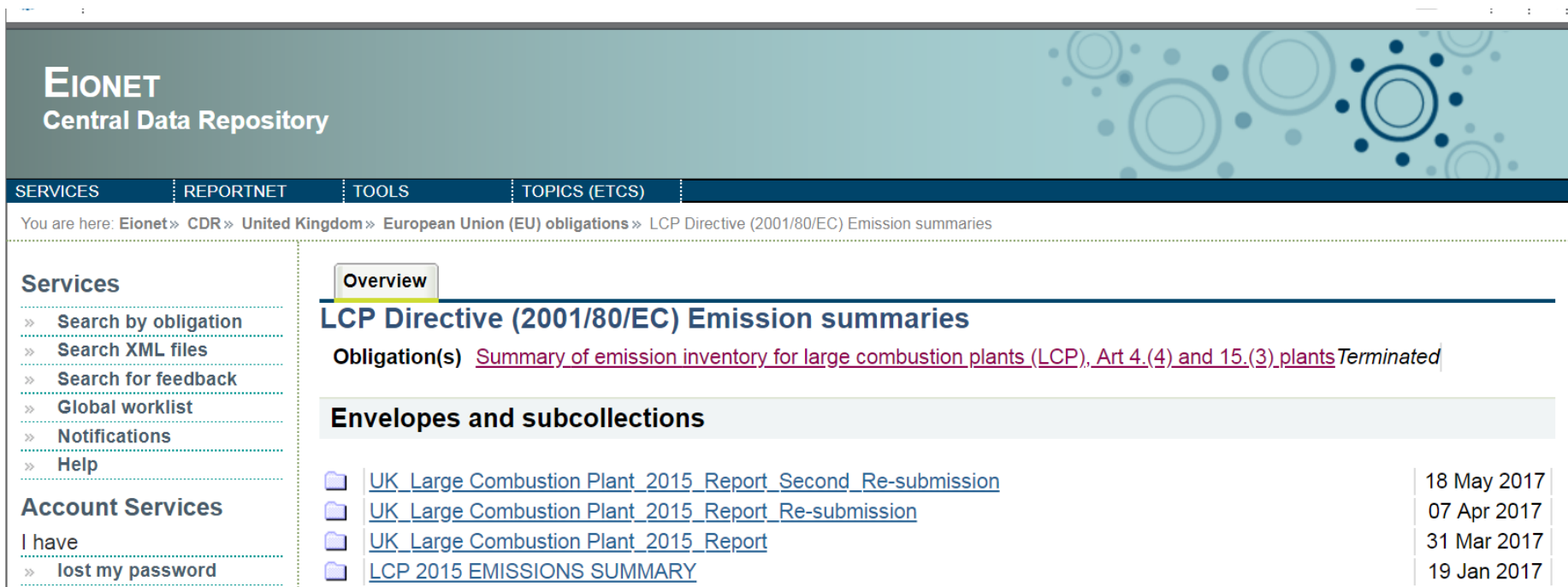
- QA checks completed by EEA and comments are sent to reporting countries
- Examples of checks
 - Geographical coordinates are plausible
 - No rated thermal input < 50 MWth
 - Compare total fuel input to rated thermal input to check if they align

Quality Control of Data - Examples

- SO₂/NO_x/Dust emissions verification
 - multiply fuel usage x a standard emission factor for each pollutant (e.g. 0.3463 t/TJ for coal SO₂ emissions).
 - Check if reported emission is significantly different from calculated emission
- Check consistency of derogations from year to year
- Compare to national LRTAP emissions data

Resubmissions of Data

- After receiving comments from EEA, or where countries identify issues themselves, they can then resubmit updated data



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Overview

LCP Directive (2001/80/EC) Emission summaries

Obligation(s) [Summary of emission inventory for large combustion plants \(LCP\), Art 4.\(4\) and 15.\(3\) plants Terminated](#)

Envelopes and subcollections

	UK Large Combustion Plant 2015 Report Second Re-submission	18 May 2017
	UK Large Combustion Plant 2015 Report Re-submission	07 Apr 2017
	UK Large Combustion Plant 2015 Report	31 Mar 2017
	LCP 2015 EMISSIONS SUMMARY	19 Jan 2017

Availability of Data and Data Usage

- Final data is made publicly available as a data file and via a web based tool

Reported data on large combustion plants covered by Directive 2001/80/EC

Data — Prod-ID: DAT-149-en — Created 05 Oct 2017 — Published 06 Oct 2017 — Last modified 04 Dec 2017 — 3 min read



Topics: [Air pollution](#) [Industry](#) [Energy](#)

The Directive on the limitation of emissions of certain pollutants into the air from large combustion plants (LCP Directive, 2001/80/EC) applies to combustion plants with a rated thermal input equal to or greater than 50 MW, irrespective of the type of fuel used (solid, liquid or gaseous).

[European data](#) [Metadata](#)

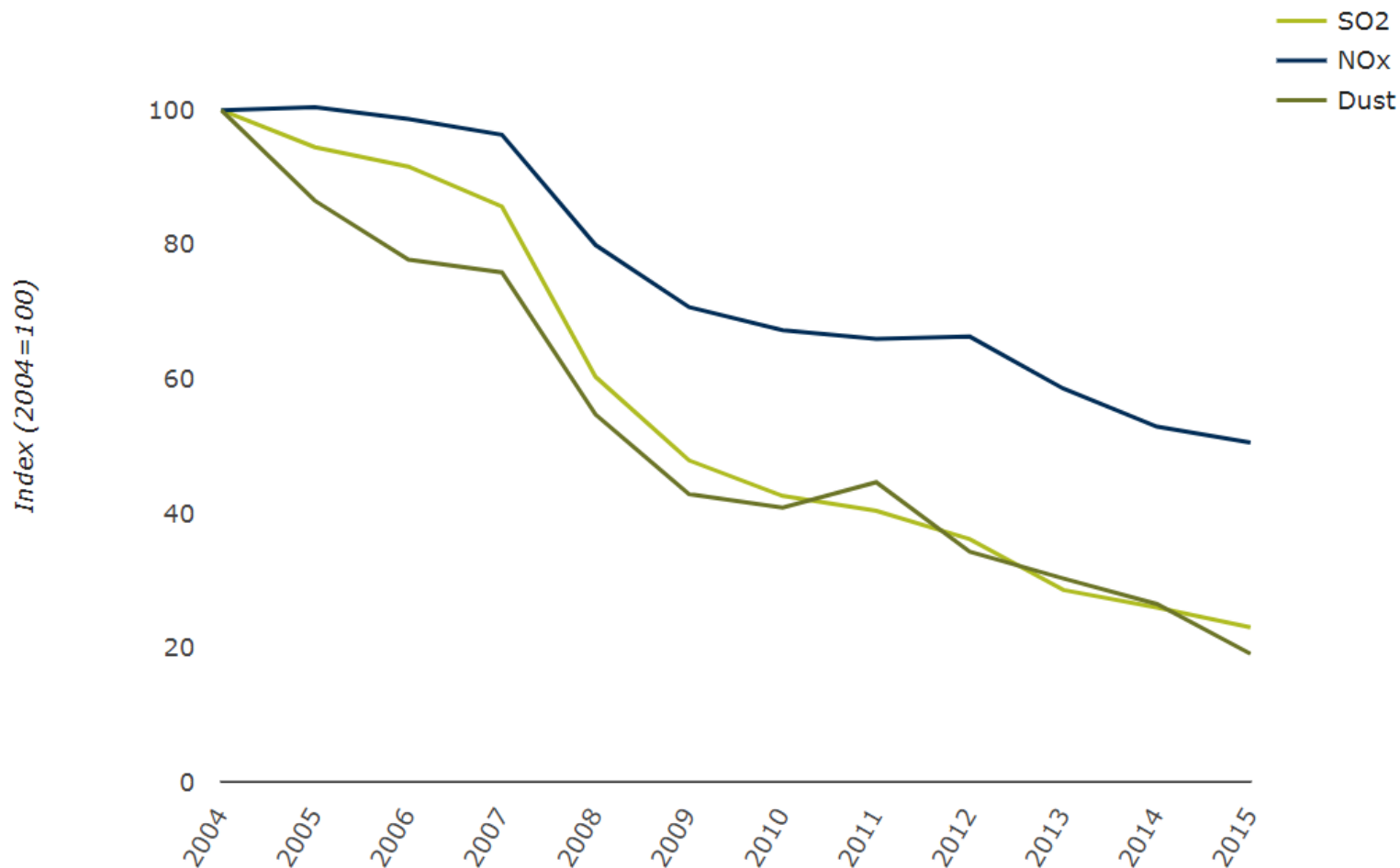
Plant-by-plant emissions (LCP) and information on derogations

The database contains plant by plant information for Large Combustion Plants (LCP) on size, combustion technology, energy input, annual emissions (SO₂, NO_x and dust) and operation under specific derogatory regimes of combustion plants.

-  **LCP_database_v3.1_mdb.zip** (ZIP archive)
6.71 MB [Download file](#)
-  **LCP_database_v3.1_csv.zip** (ZIP archive)
3.08 MB [Download file](#)

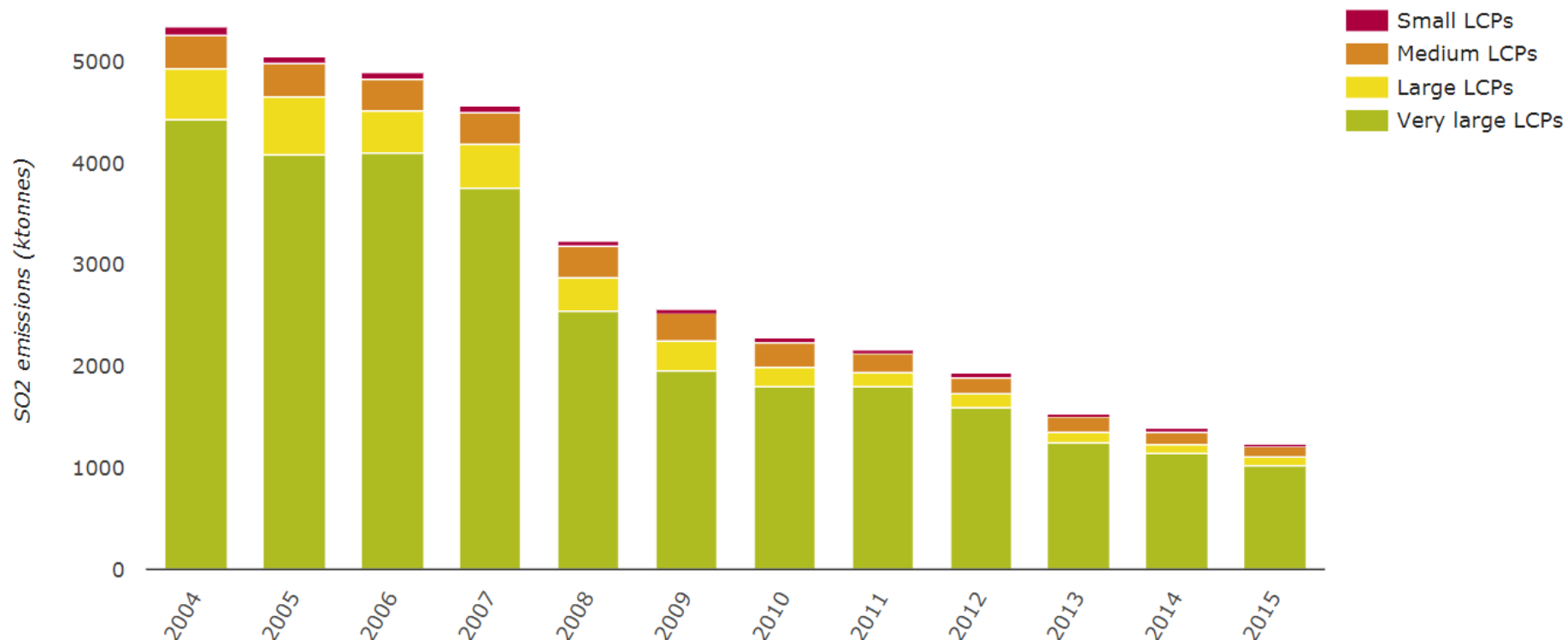
Examples of Data Usage

Chart – Indexed SO₂, NO_x and dust emissions from large combustion plants in the European Union



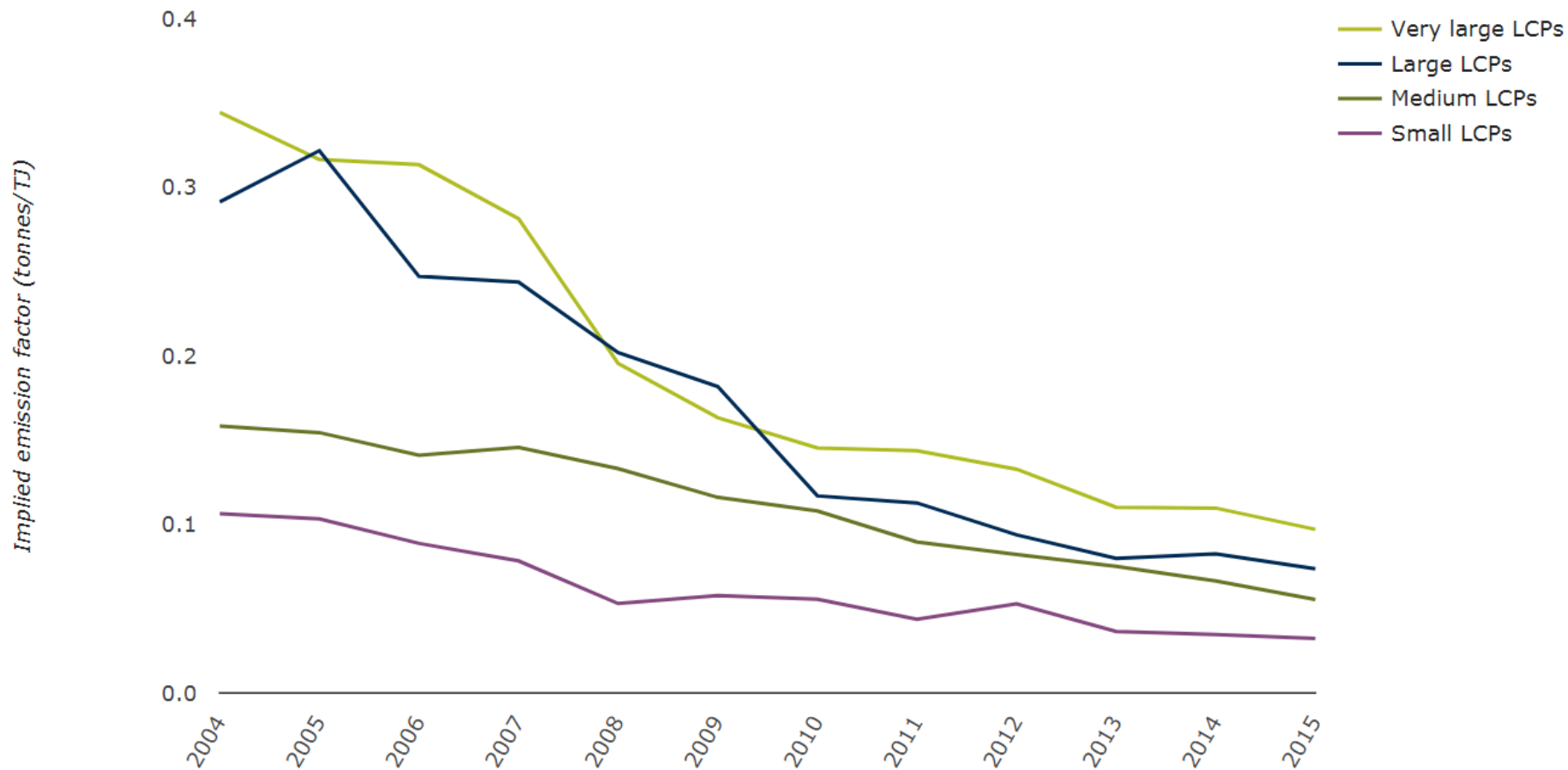
Examples of Data Usage

SO₂ – Emissions from large combustion plants in the European Union, by capacity class



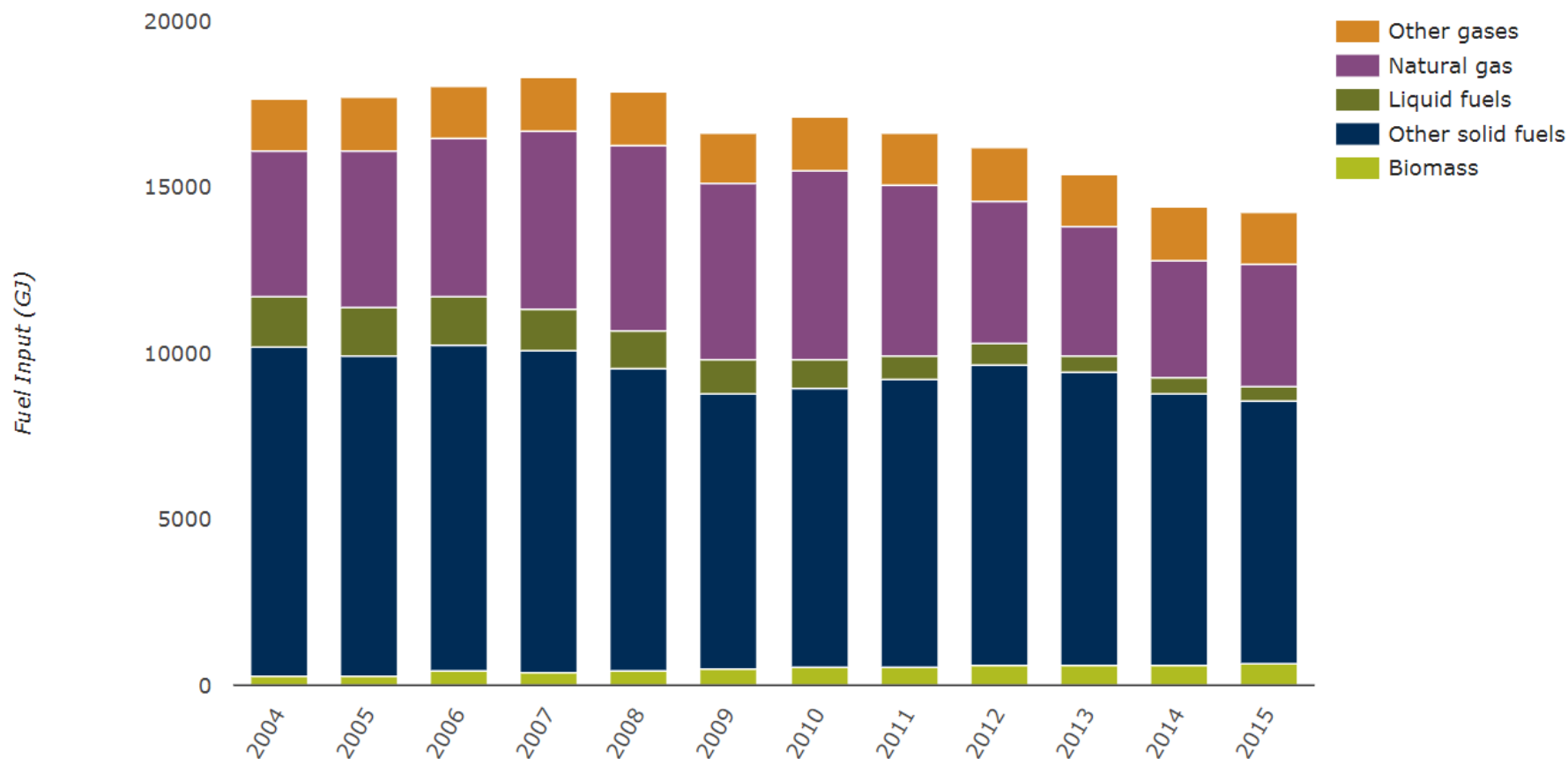
Examples of Data Usage

SO₂ – Evolution of the environmental performance of large combustion plants in the EU-28, expressed as implied emission factors for SO₂, NO_x and dust (by capacity class)

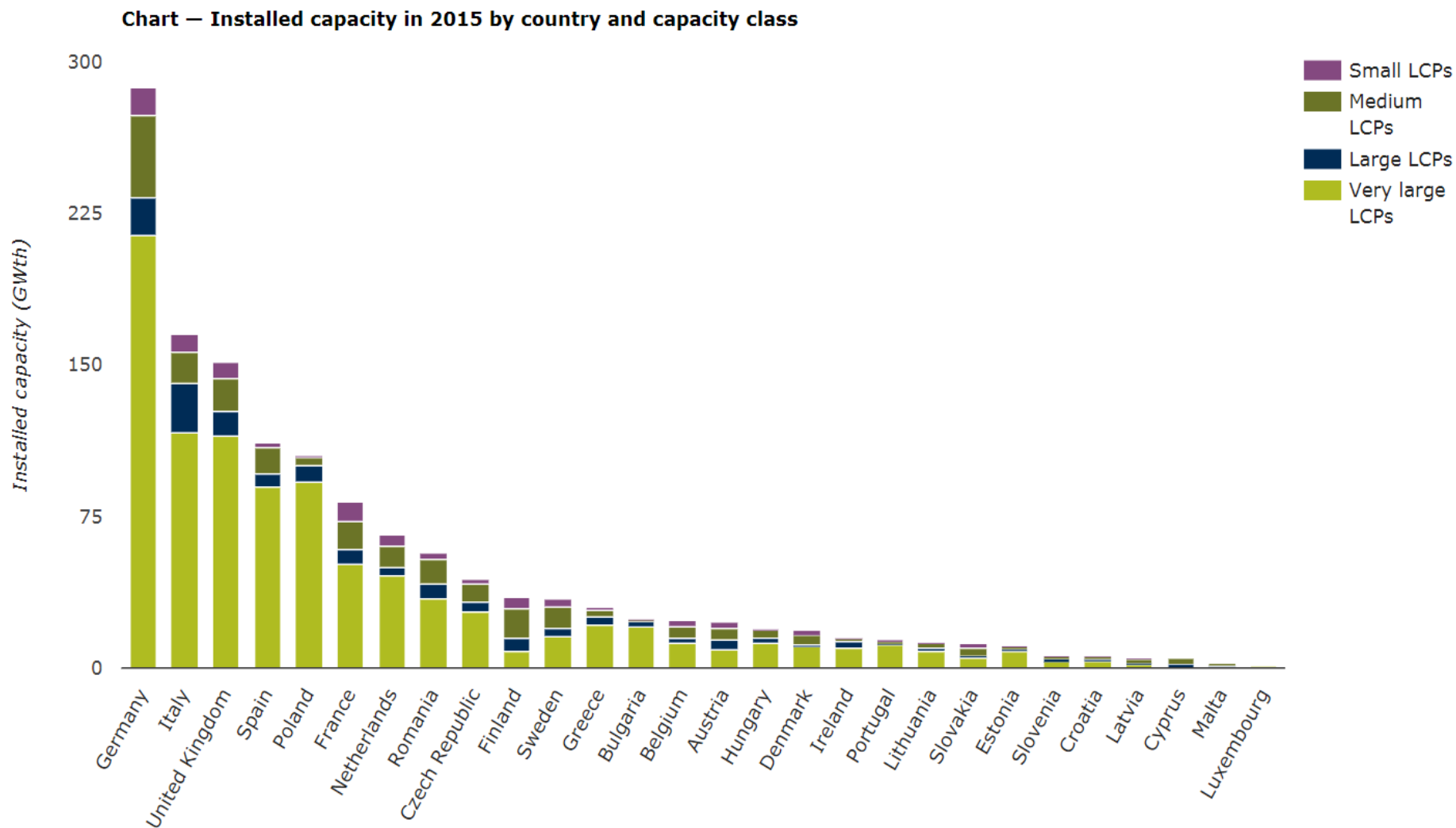


Examples of Data Usage

Chart — Reported fuel input used in large combustion plants in the EU-28 by fuel type



Examples of Data Usage



Used in environmental research and by NGOs

- NGO studies and assessments
- Environmental and health research
- Policy reviews and assessments



Demonstration of LCP Data Public Website

<http://prtr.ec.europa.eu/#/lcplevels>



European
Pollutant
Release and
Transfer
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Large Combustion Plants

Large Combustion Plants

This section of the E-PRTR website provides on large combustion plants (LCP) in European Union Member States and Kosovo under UNSCR 1244/99 and this from 2004 onwards.

Large combustion plants are energy producers (e.g. heat, electricity, district heating) whose rated thermal input is equal to or greater than 50 Megawatts. These energy producers play an important role in Europe's environment, as they are one of the key contributors to phenomena as acidification, eutrophication and ground-level ozone increases.

The LCP data are reported by countries in accordance with the [LCP Directive](#) and include information on some of the LCP's main characteristics (e.g. size, technology), the energy input broken down by fuel type and emissions of three key air pollutants: sulphur dioxide, nitrogen oxides and dust. The information includes the EU 28.

The complete dataset is available for download via the [EEA dataservice](#)

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Year

2015

Capacities

All capacities

Plants

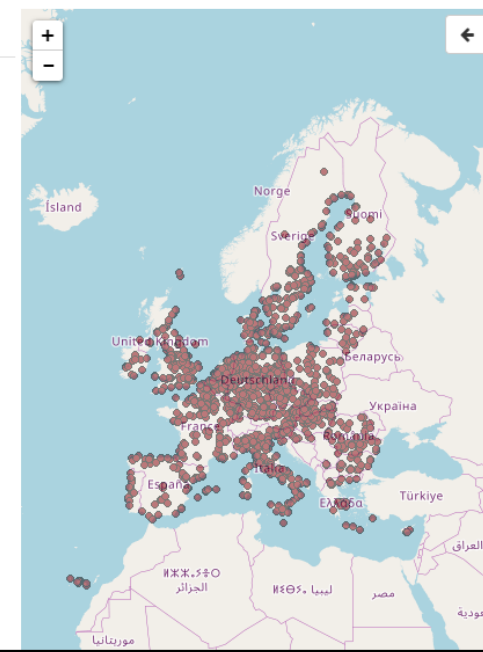
Year: 2015

Area:

Plants: 1000

Filter:

Plant name	Address:	Town/Village	Country
HKW Frankfurt/Oder		Frankfurt (Oder)	DE
Hillerød Kraftvarmeværk	Hestehavevej 1	Hillerød	DK
HW Frankfurt/Oder Nord		Frankfurt (Oder)	DE
Energie AG Oberösterreich Kraftwerke GmbH, Standort Timelkam, KW Timelkam GuD	Mühlfeld 2	Timelkam	AT
IKW Frankfurt/Main Chemie		Frankfurt (Main)	DE
WIEN ENERGIE GmbH (ehemals Fernwärme Wien GesmbH), Spittelau, Heißwasserkessel 1/2	Spittelauer Lände 45	Wien,Alsergrund	AT
IKW Frankfurt/Main Industriepark II		Frankfurt (Main)	DE
Trans Austria Gasleitung GmbH, Verdichterstation Baumgarten, Compressor 600	VS Baumgarten 120	Baumgarten an der March	AT
HKW Frankfurt/Main Allerheiligen		Frankfurt (Main)	DE
Trans Austria Gasleitung GmbH, Verdichterstation Lechen 41		Lechen	AT



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