# Overview of EEA Reporting Requirements for Large Combustion Plants

By Dan Heap (IMG_9484) [CC BY 2.0 (http://creativecommons.org/licenses/by/2.0)], via Wikimedia Commons

# 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?

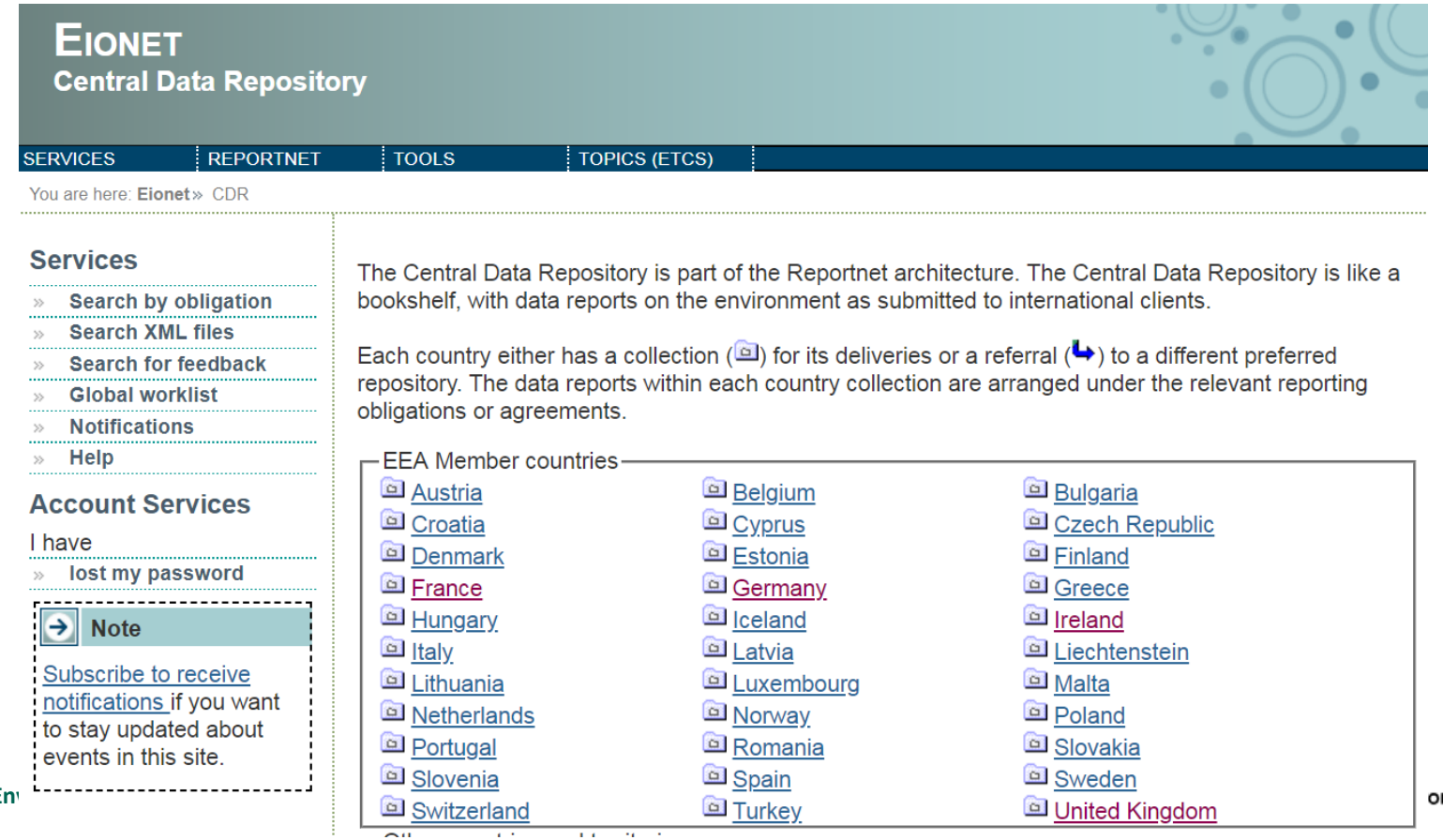
- Any plant > 50MWth taking into account the aggregation rules.
- Generally exclude any plants < 15MWth from the calculation, for example 6 x 10MWth combustion units discharging through a single stack would not be subject to LCP requirements.
- LCPs which are part of another activity, e.g. an LCP at 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






onment Agency

# Current EEA Reporting Obligation

**EIONET**
**Reporting Obligations Database (ROD)**

SERVICES | REPORTNET | TOOLS | TOPICS (ETCS)

You are here: Eionet» ROD» Obligations» Reporting on Combustion P...

- Home
- Countries/territories
- Obligations
- Clients
- Subscribe
- Help
- Legal instruments
- Core data flows
- EEA data flows
- Database statistics
- Advanced search

Overview | Legislation | Deliveries | Parameters | History

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

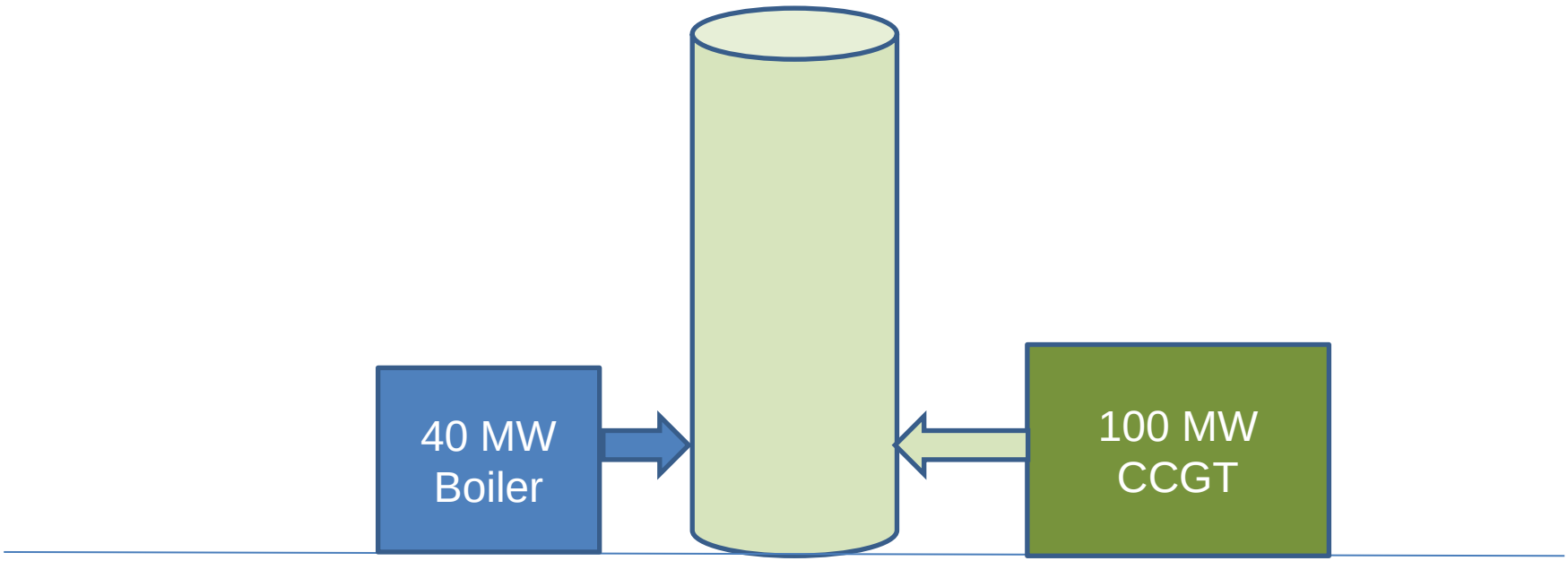
| | |
|---|---|
| **Title** | Reporting on Combustion Plants under Art 72 of the Industrial Emissions Directive |
| **Description** | Note: This reporting obligation will be integrated with the integrated reporting on E-PRTR and LCPs (http://rod.eionet.europa.eu/obligations/720) as from 2019.<br><br>For 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.<br><br>Taking into account the aggregation rules set out in Article 29, the competent authority shall obtain the following data for each combustion plant:<br><br>(a) the total rated thermal input (MW) of the combustion plant;<br><br>(b) the type of combustion plant: boiler, gas turbine, gas engine, diesel engine, other (specifying the type);<br><br>(c) the date of the start of operation of the combustion plant;<br><br>(d) the total annual emissions (tonnes per year) of sulphur dioxide, nitrogen oxides and dust (as total suspended particles);<br><br>(e) the number of operating hours of the combustion plant;<br><br>(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).<br>Delivery process is managed by EEA |
| **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

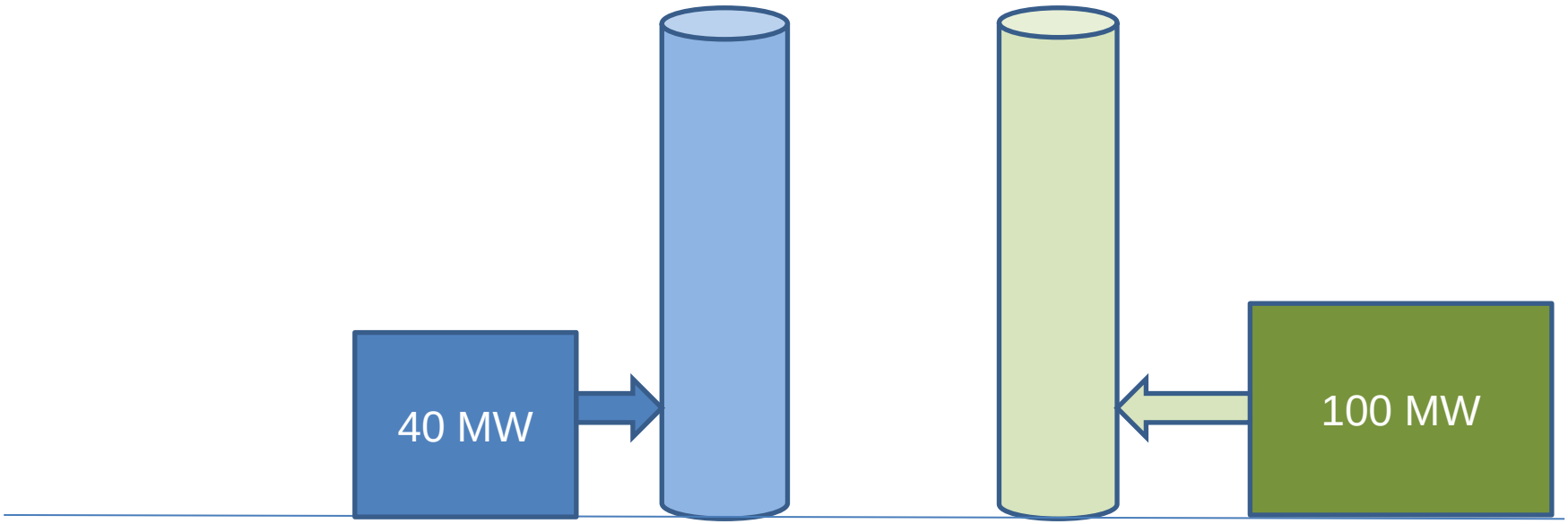
# Aggregation Rules – Example 1

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

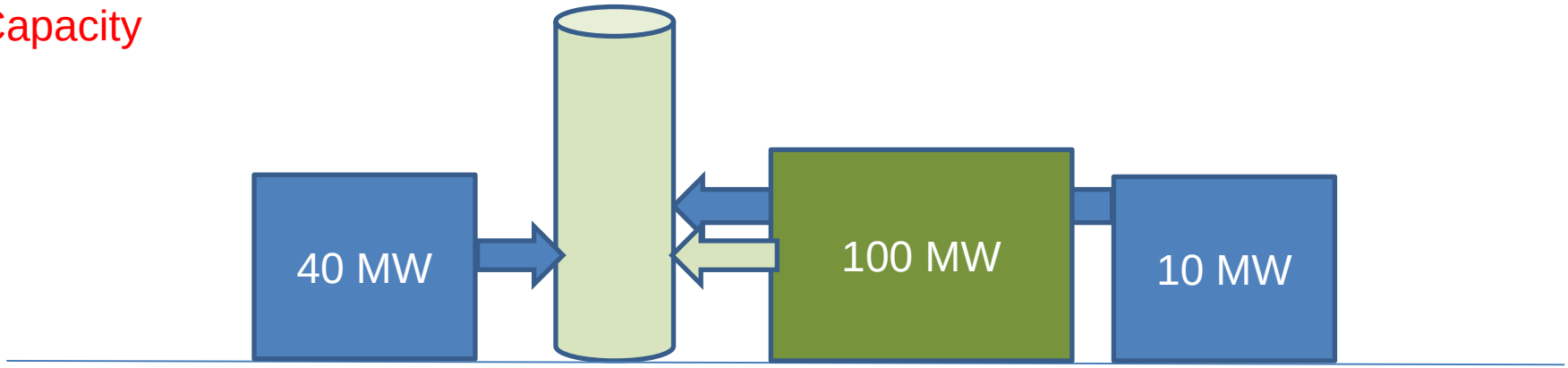


# Aggregation Rules – Example 3

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:

| | | | |
|---|---|---|---|
| Coal | Lignite | Biomass | Peat |
| Natural Gas | Liquid Fuels | Other Solid Fuels | Other Gases |

- 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

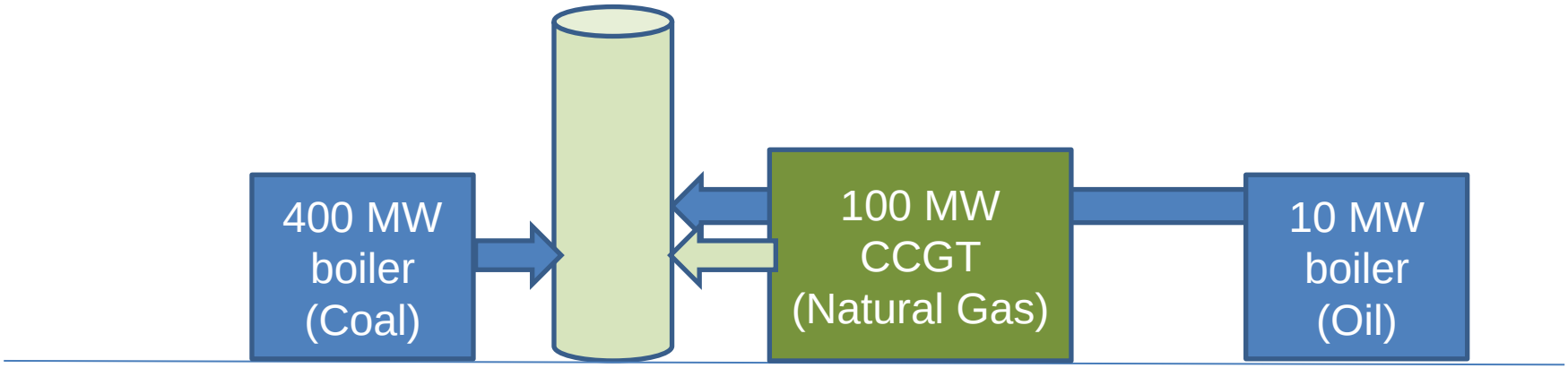
- Report fuel use for each of the 3 units which are part of a single LCP 'plant' even though oil boiler < 15 MW.

Annual Fuel Inputs by Fuel Type

Coal: 12,500 TJ

Natural Gas: 2,500 TJ

Oil: 150 TJ



# Reporting data on pollutant emissions

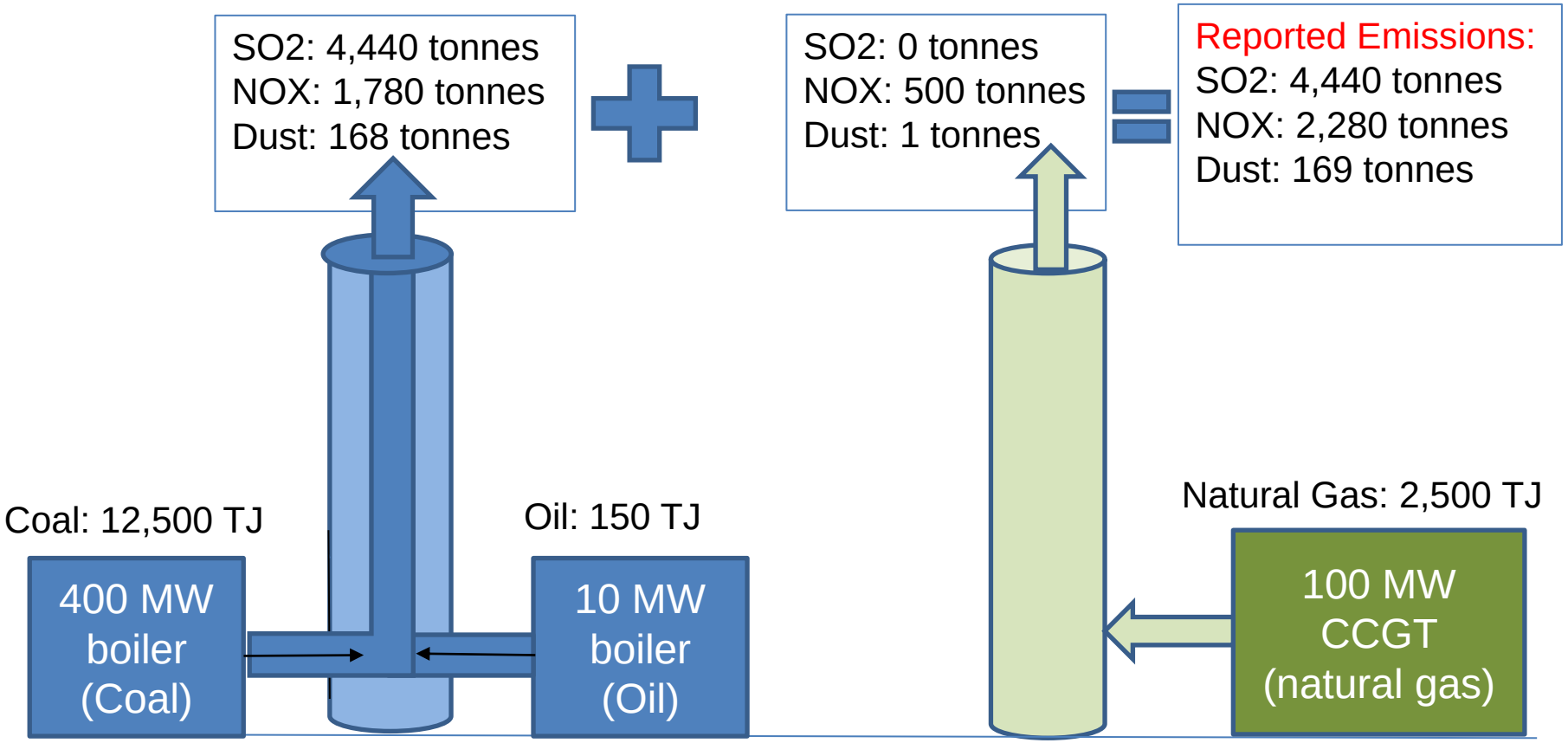
- Sulphur dioxide (Tonnes)
- Oxides of nitrogen (Tonnes)
- Dust (Tonnes)

# 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

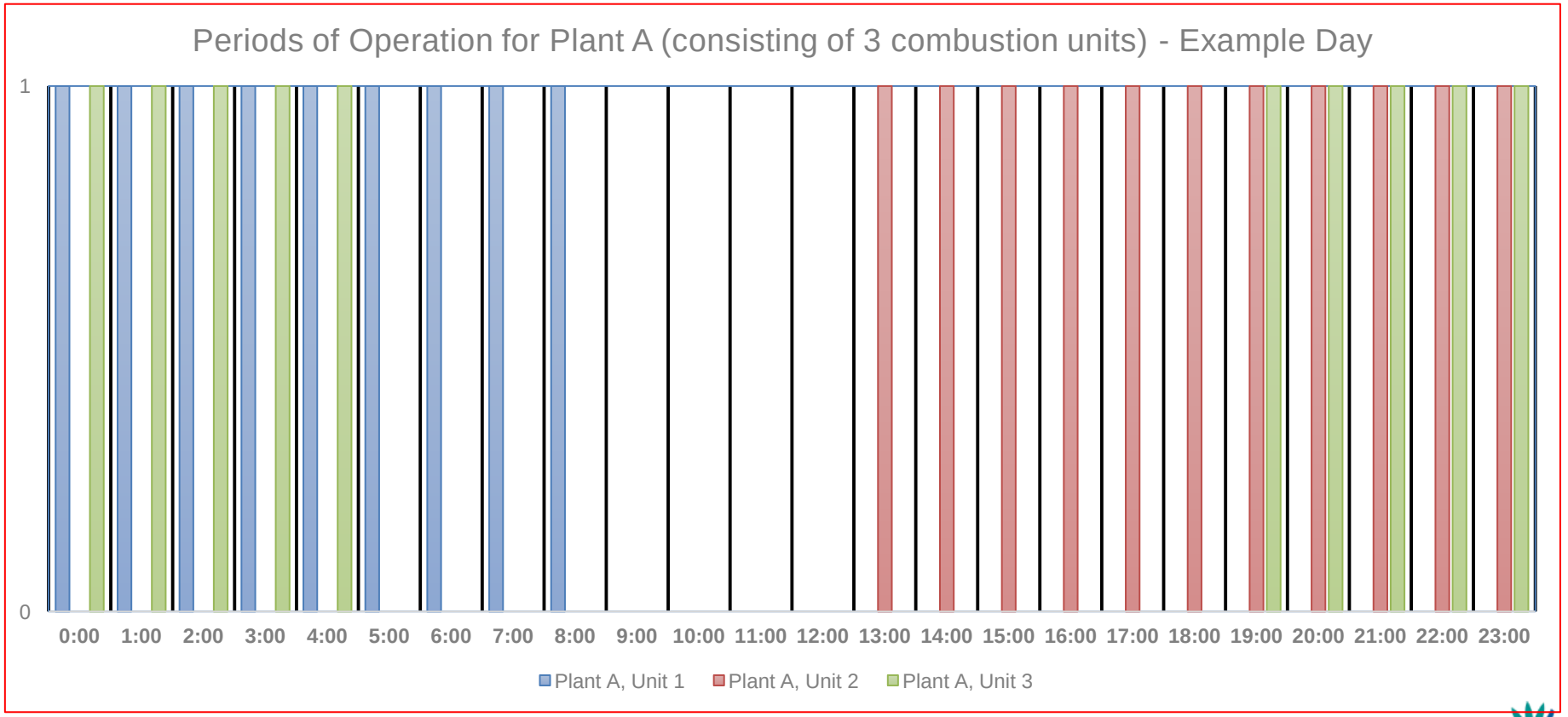


# Reporting Data on Operating Hours

- 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



# 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

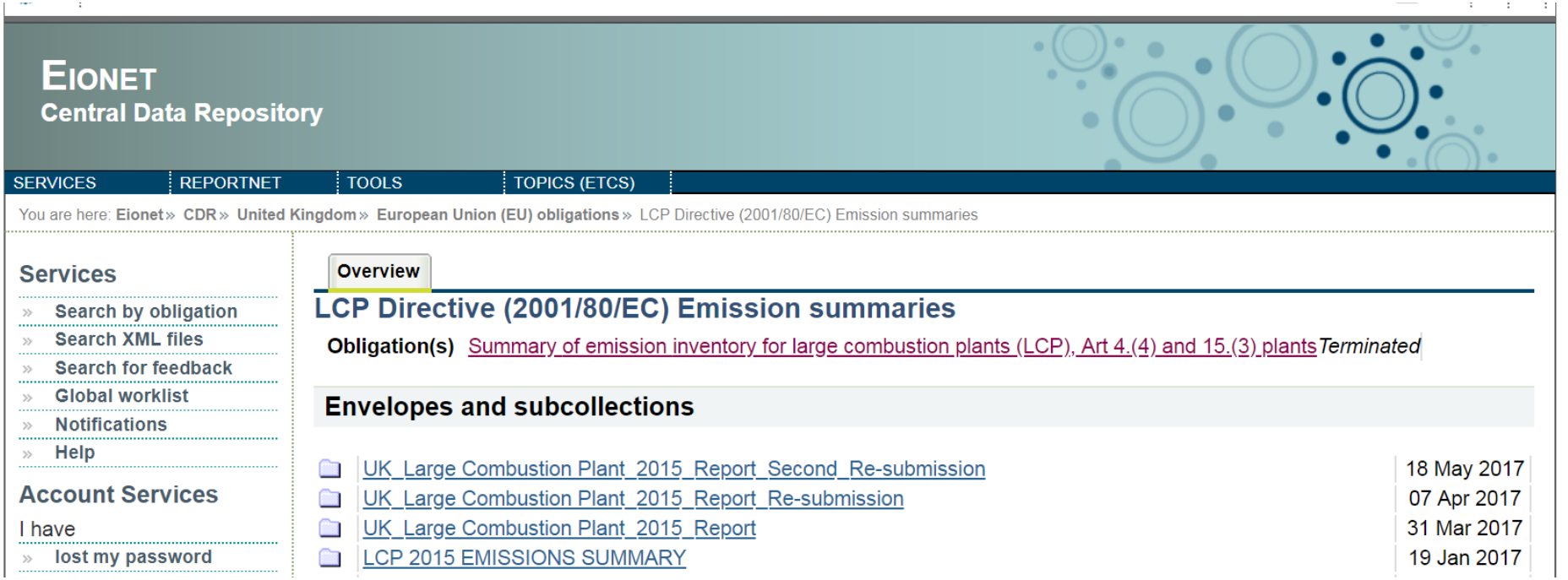
- QA checks completed by EEA and comments are sent to reporting countries
- Examples of checks
  - Geographical coordinates are plausible
  - No rated thermal input < 50 MWth
  - Compare total fuel input to rated thermal input to check if they align

# Quality Control of Data - Examples

- SO2/NOX/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

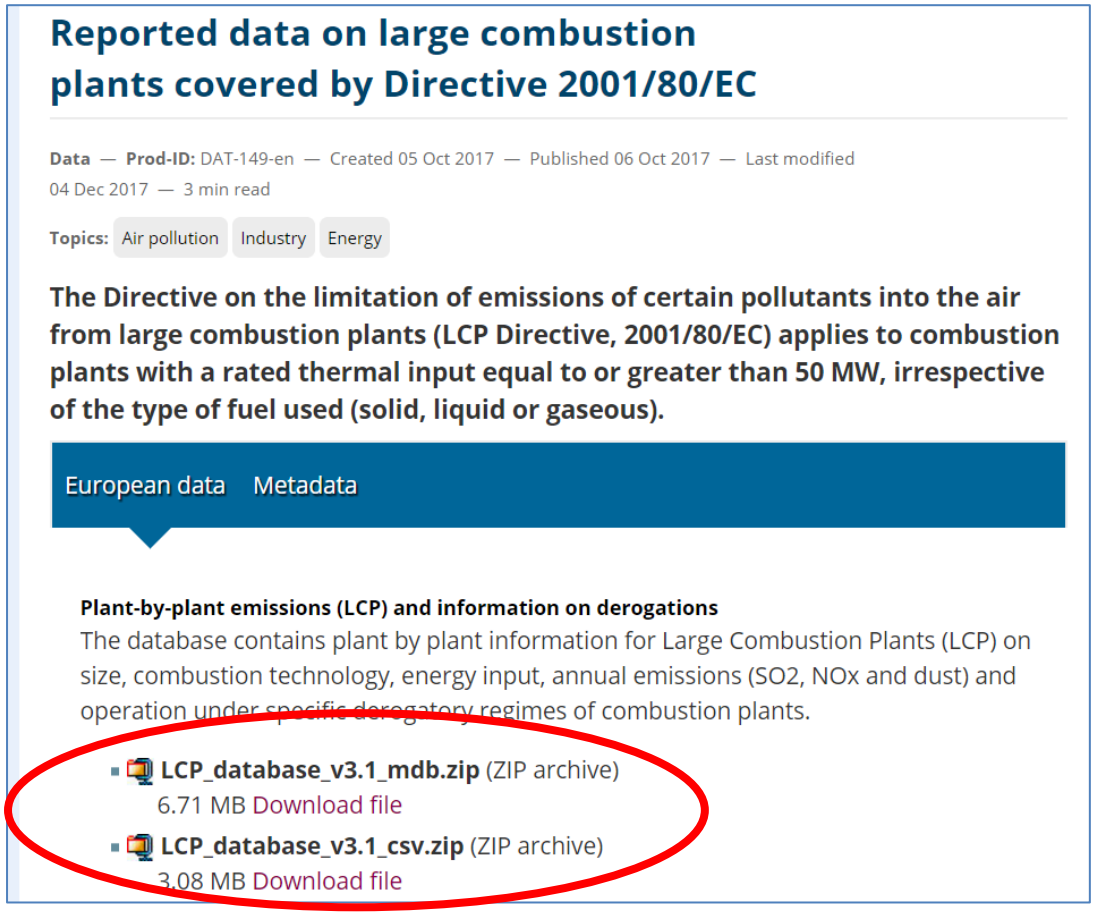
# Resubmissions of Data

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



# 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

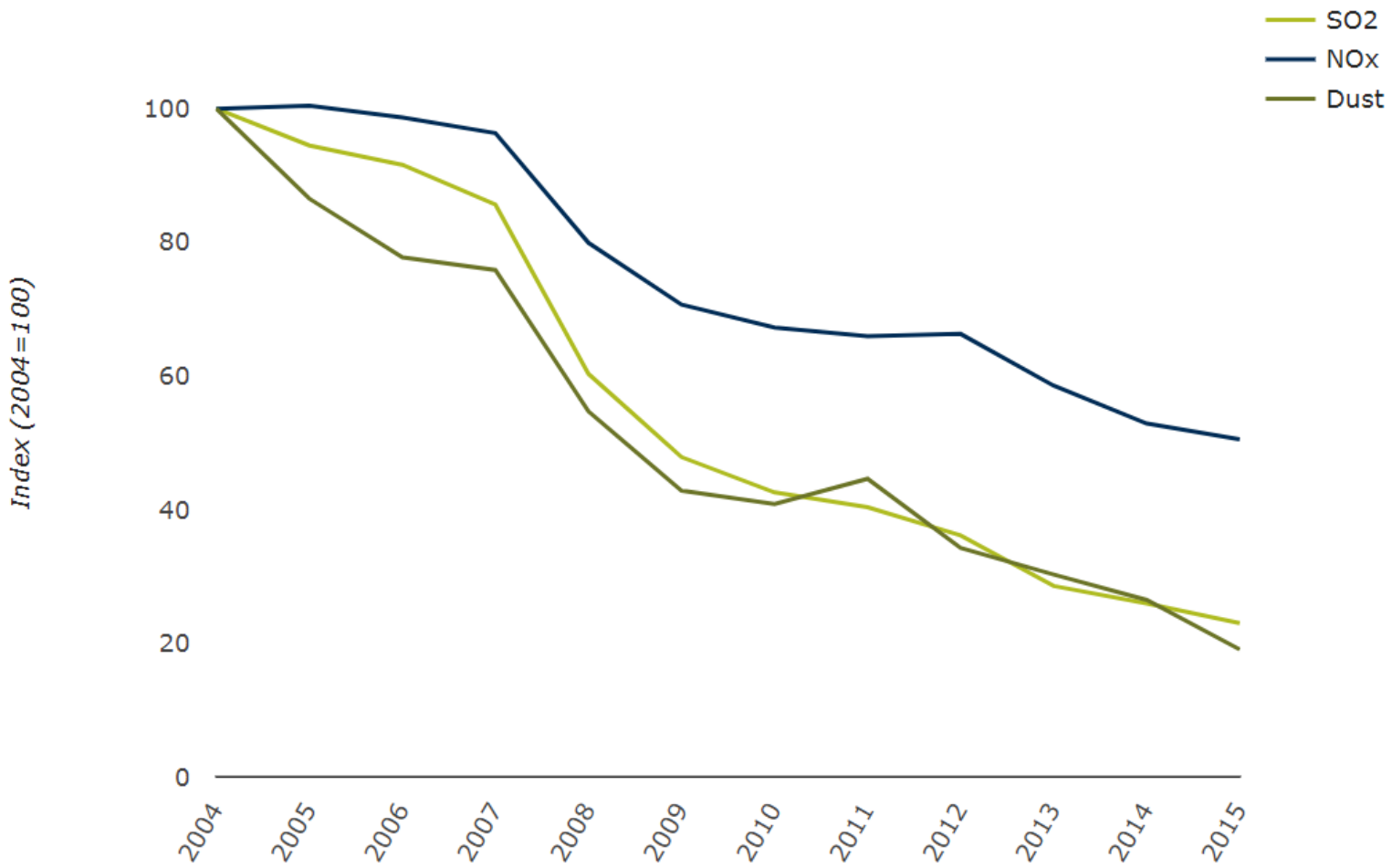
**Plant-by-plant emissions (LCP) and information on derogations**

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

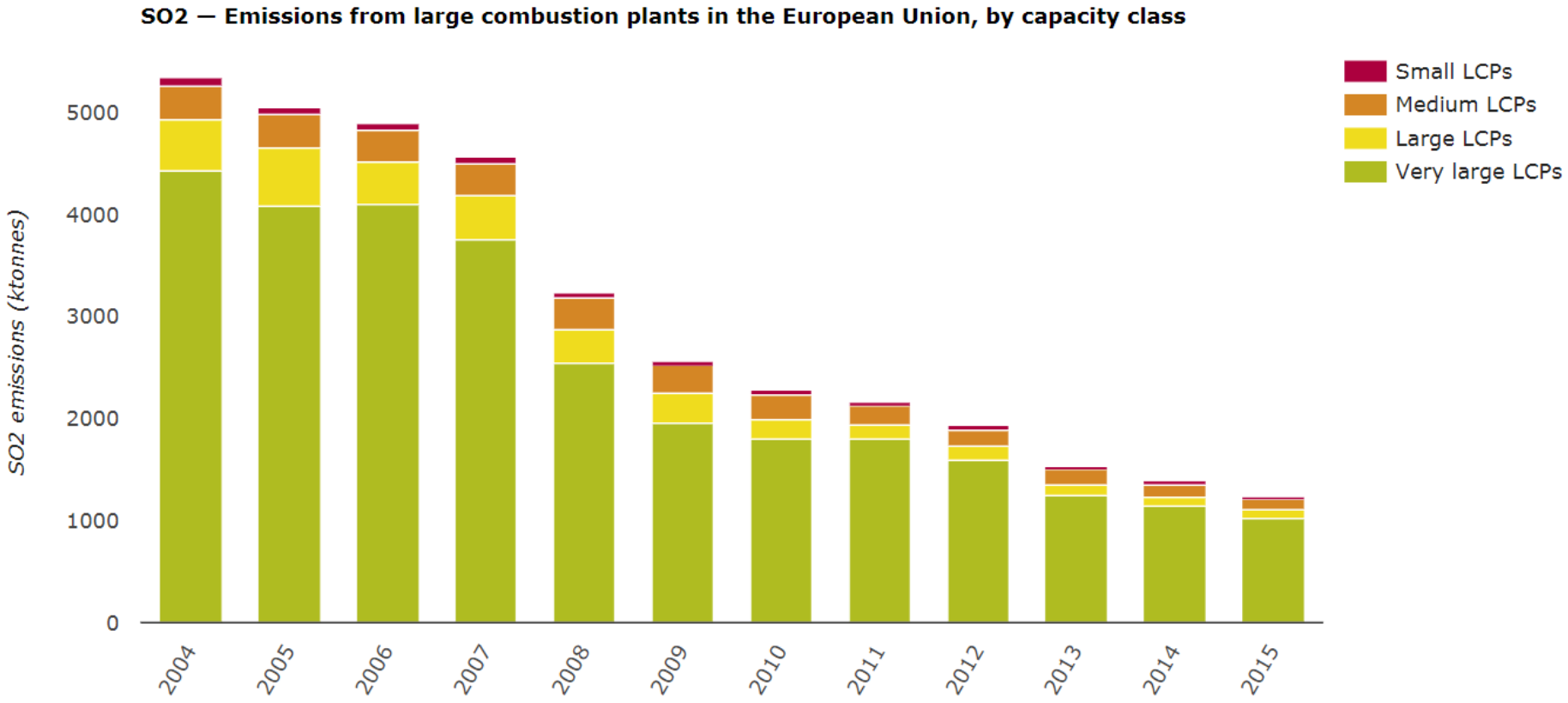
- **LCP_database_v3.1_mdb.zip** (ZIP archive)
  6.71 MB Download file
- **LCP_database_v3.1_csv.zip** (ZIP archive)
  3.08 MB Download file

# Examples of Data Usage

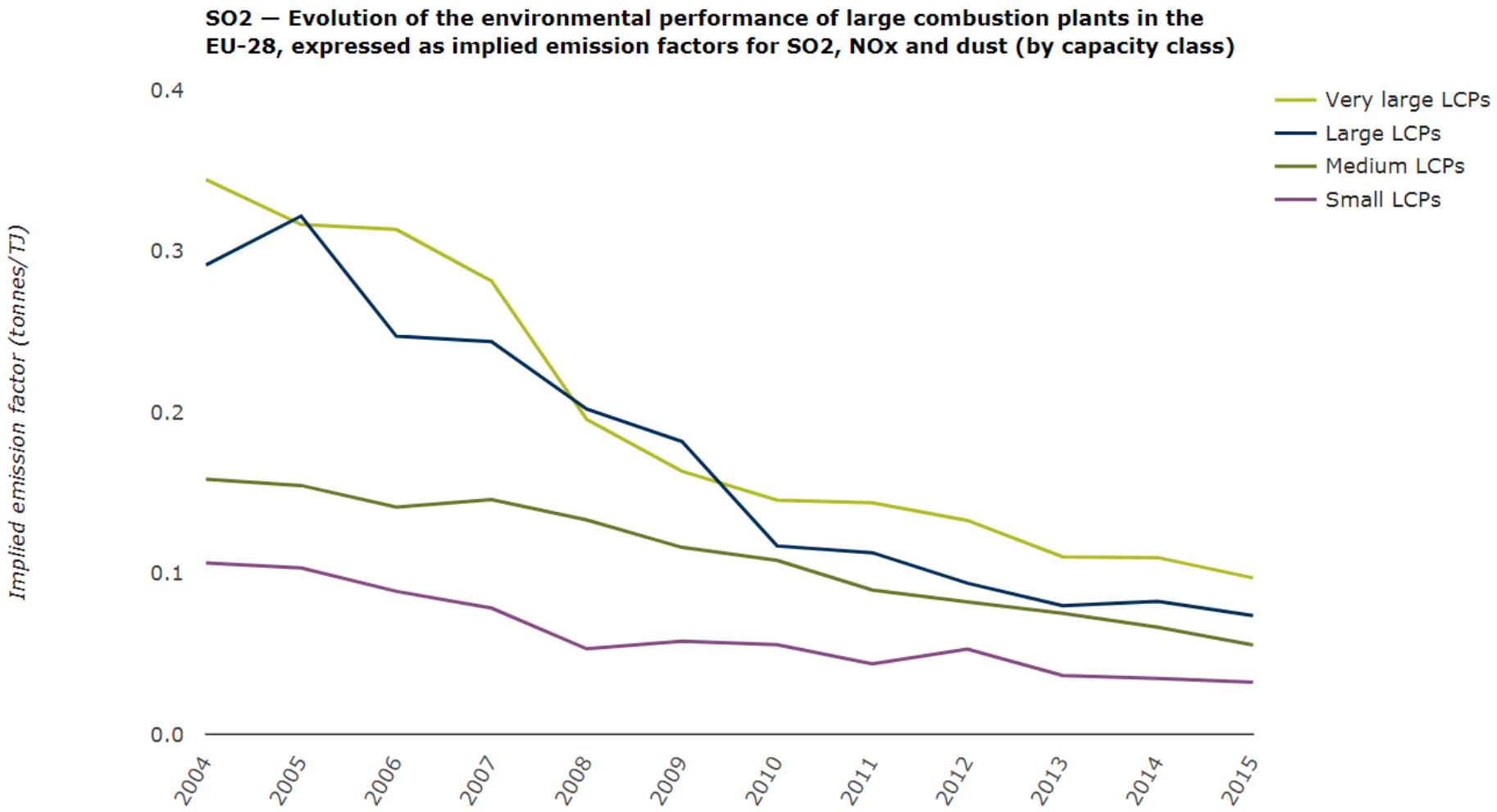
**Chart — Indexed SO2, NOx and dust emissions from large combustion plants in the European Union**



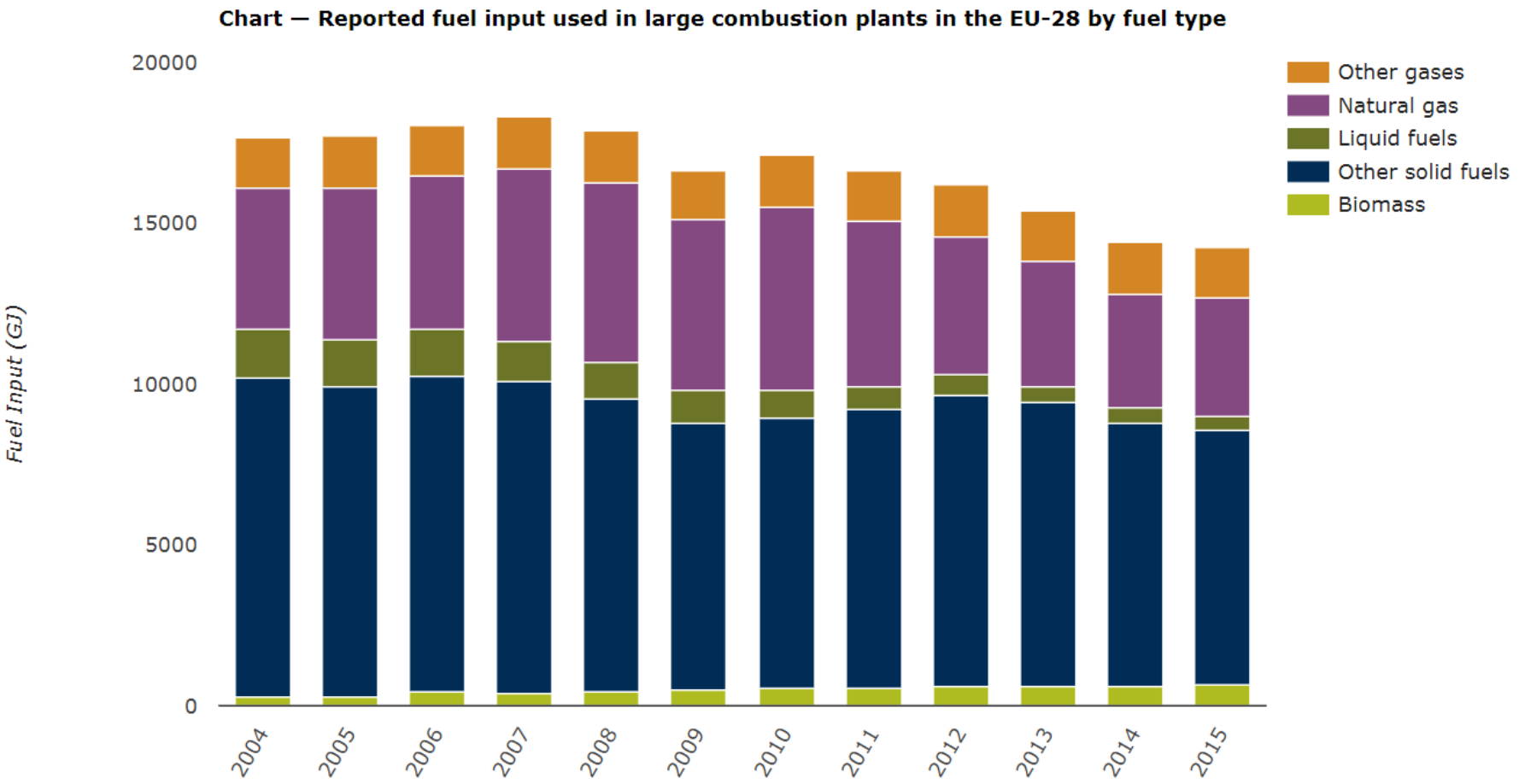
# Examples of Data Usage



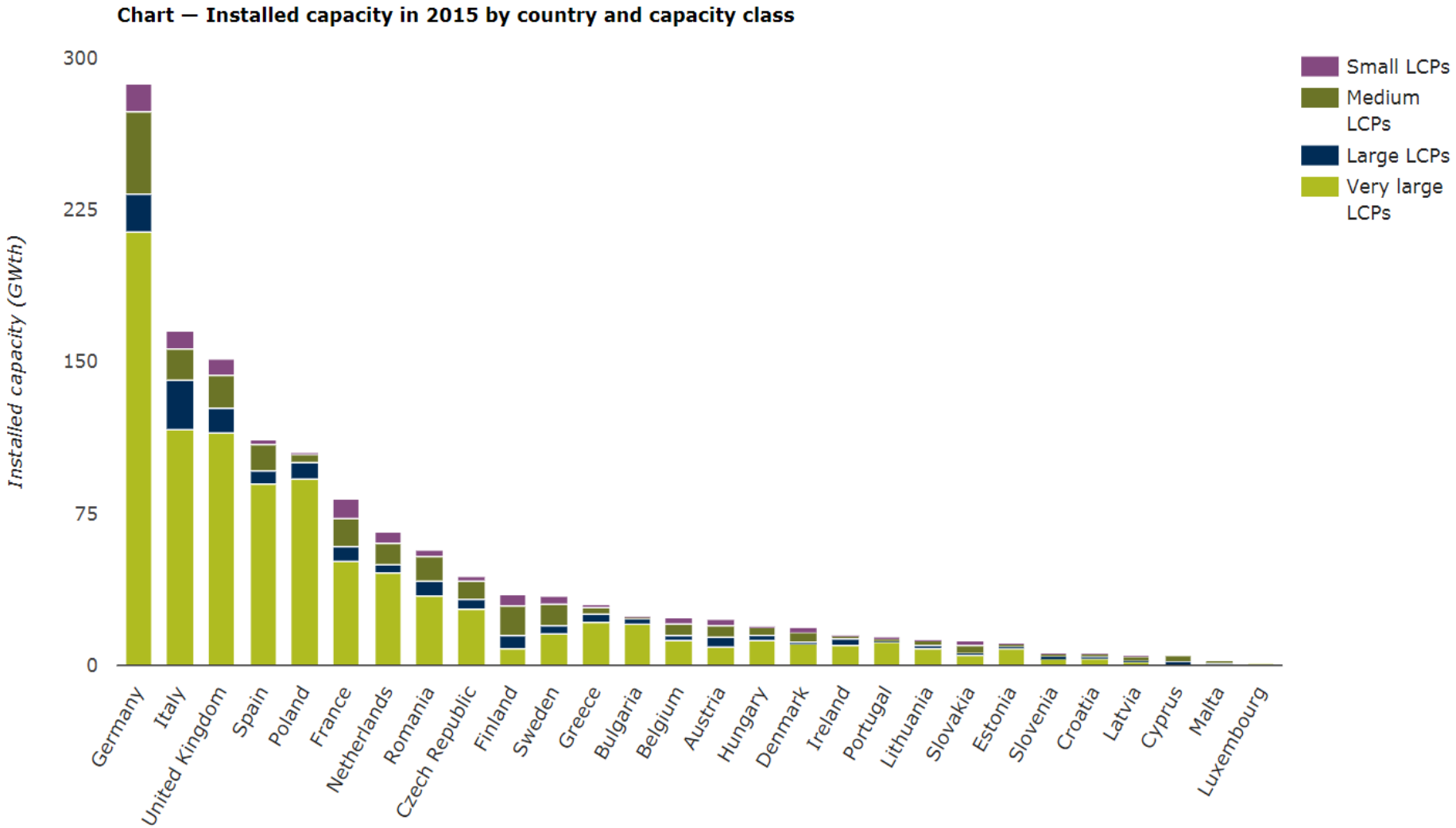
# Examples of Data Usage



# Examples of Data Usage



# Examples of Data Usage






European Environment Agency

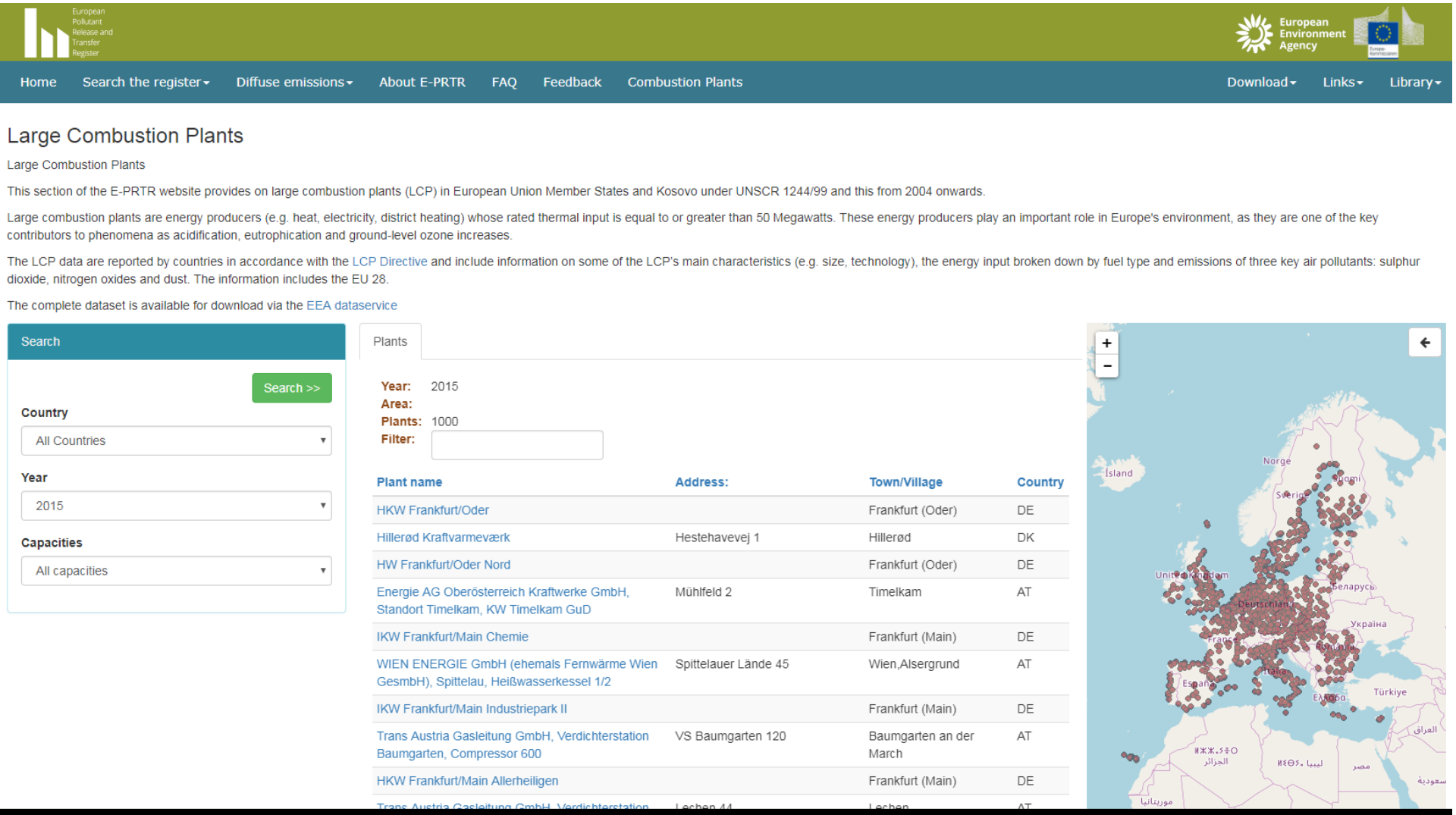
# Used in environmental research and by NGOs

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



# Demonstration of LCP Data Public Website

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



# Contact details

European Environment Agency


**Dr. Ian Marnane**

Project manager - Industrial Pollution

ian.marnane@eea.europa.eu

Phone: +45 3336 7228