

Data on Industrial Emissions in Europe: Greenhouse Gases and pollutants



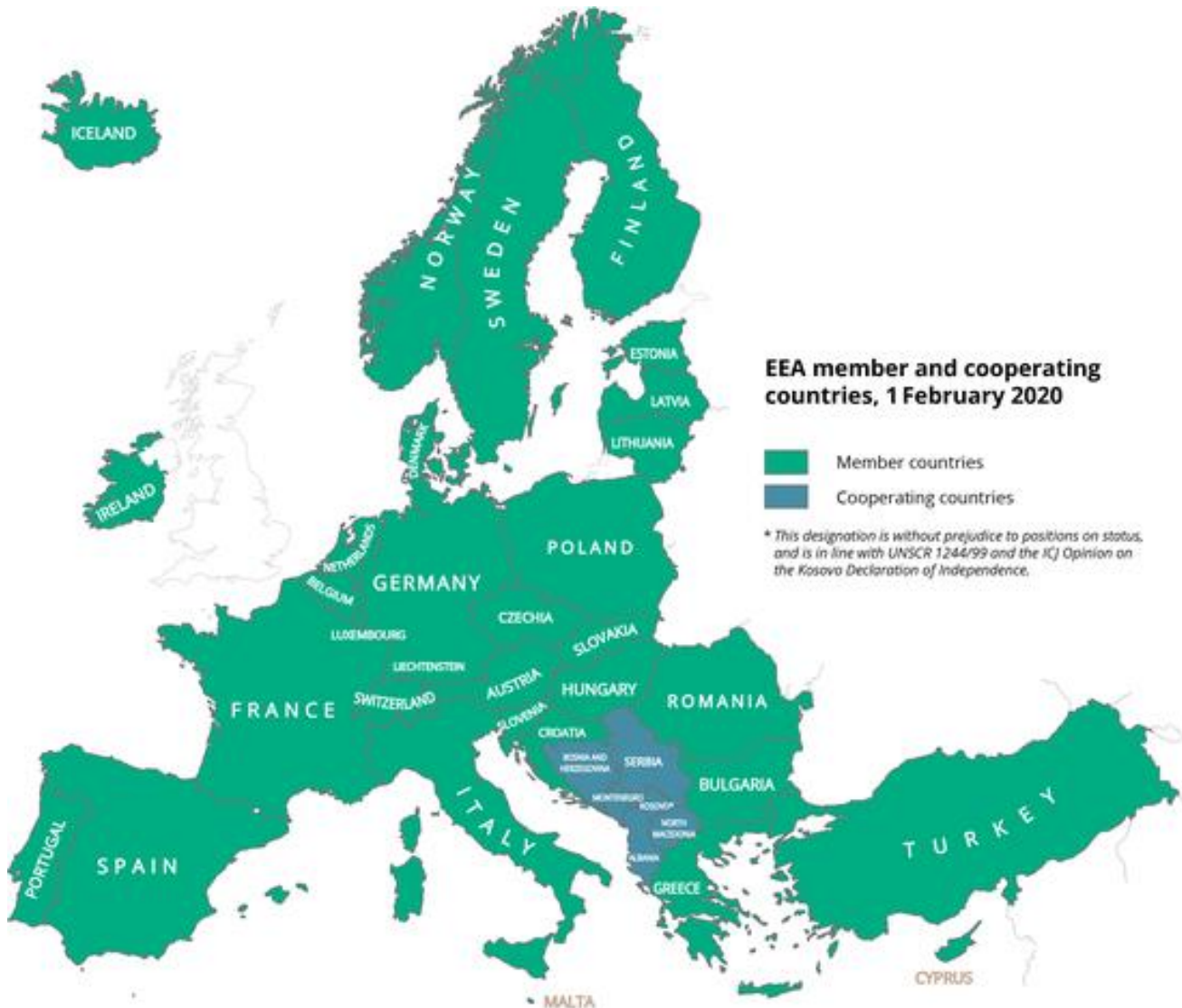
Juan Calero and Javier Esparrago | Dataharvest conference | 28 May 2021

The European Environment Agency

- An independent EU agency
- Collects, analyses, assesses and provides information on environmental and sustainability issues
- Interfaces between science and policy
- Depends upon strong networks to carry out its work



EEA member and cooperating countries



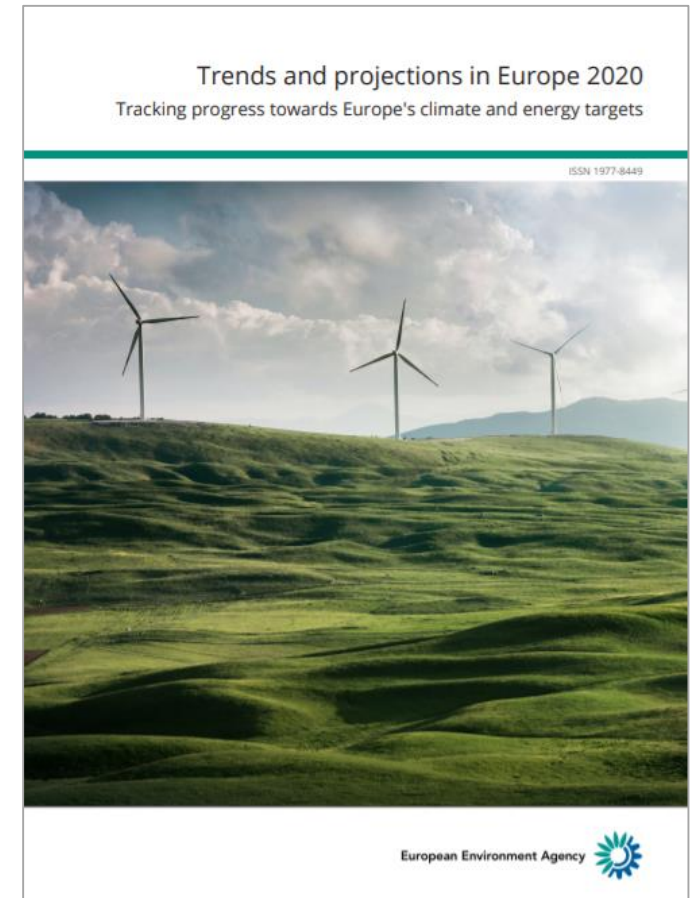
EU member states, Iceland, Liechtenstein, Norway, Switzerland and Turkey

European Environment Information and Observation Network (EIONET)

- 1800 experts from 39 countries from over 400 national institutions
- 39 National Focal Points
- 24 National Reference Centres
- 7 European Topic Centres

Monitoring, Reporting and Verification – Knowledge creation

- Data collection and QAQC
- Data and knowledge dissemination (Indicators, Briefings, Reports, Data visualisations, etc.)
- As a way to provide reliable, relevant, targeted and timely information to policy-makers and the public.
- Mission: to help achieve significant and measurable improvements in Europe's environment and to support sustainable development.



Environmental areas



Air pollution, transport
and noise



Industrial
pollution



Climate change
mitigation and energy



Climate change impacts,
vulnerability and
adaptation



Water management,
resources and
ecosystems



Marine and maritime,
fisheries and coastal



Biodiversity, ecosystems,
agriculture and forests



Urban, land use and
soil



Waste and material
resources

Main data sources for Industrial GHG emissions (1/2)

EU Emissions Trading System (EU ETS)

- World's first major carbon market and the biggest one.
- “Cap and trade” system
- Covers power generation, energy intensive industry and intra-EU aviation (≈ 10000 plants, 40% of GHG emissions)
- Focused on CO₂ but also N₂O and PFC from certain industries
- Data centralised through the EU Transaction Log (EUTL)



Main data sources for Industrial GHG emissions (2/2)

EU ETS

National
[EEA ETS data viewer](#)

Installation
[EUTL](#)
[EUETS.INFO \(unofficial\)](#)

Energy
Statistics

Energy balances and
indicators

National
[Eurostat](#)
Others (IRENA, IEA,
Enerdata, etc)

GHG
Inventories

Comprehensive account of
emissions submitted by
countries to the EU and UN

National
EEA GHG Inventory

Others

Energy efficiency
[Odyssee-Mure Indicators](#)

**Installation energy
consumption (LCPs only)**
[E-PRTR](#)

Are emissions from the Swedish paper industry decreasing? If so, why?

Emission of pollutants

- PRTR – why?
- Legal framework
- European PRTR
- EU Registry
- Publication and use of data

PRTR – why?

Pollutant Release and Transfer Register (PRTR)

- Purpose
 - Public Access to environmental information
 - Inventories of pollution from industrial sites (point sources) but also diffuse sources of pollution

- **International context**

- UN-ECE Protocol on PRTR

- Aarhus Convention concerning Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters

- 38 Parties

- Entered into force October 2009

- Data available as of 2012 (reference year 2010)

- 86 pollutants

- **European Union (EU) legislation**

- Regulation (EC) 166/2006

- Establishes the European PRTR
- Based on a previous register (EPER) and IPPC Directive (now repealed by IED)
- 33 countries:
 - 27 EU Member States
 - Iceland, Liechtenstein, Norway, Serbia, Switzerland and the United Kingdom
- Annual reporting
- Data available as of 2007 (first published in 2009)

→ Implements the PRTR Protocol + beyond

- 91 pollutants

E-PRTR - Scope

Who?

- Operators of over 30,000 facilities
- One or more 'Annex I' activities above a capacity threshold set in the E-PRTR Regulation

What?

- Releases of pollutants to air, water and land
 - Reporting threshold (per pollutant and media) (Annex II of the Regulation)
 - Routine and accidental releases
- Off-site transfers of waste
 - Hazardous waste > 2 tonnes per year
 - Non-hazardous waste > 2000 tonnes per year
- Off-site transfer of pollutants in wastewater

E-PRTR - Scope

Coverage:

- >30,000 facilities
- 65 industrial activities
- 91 pollutants

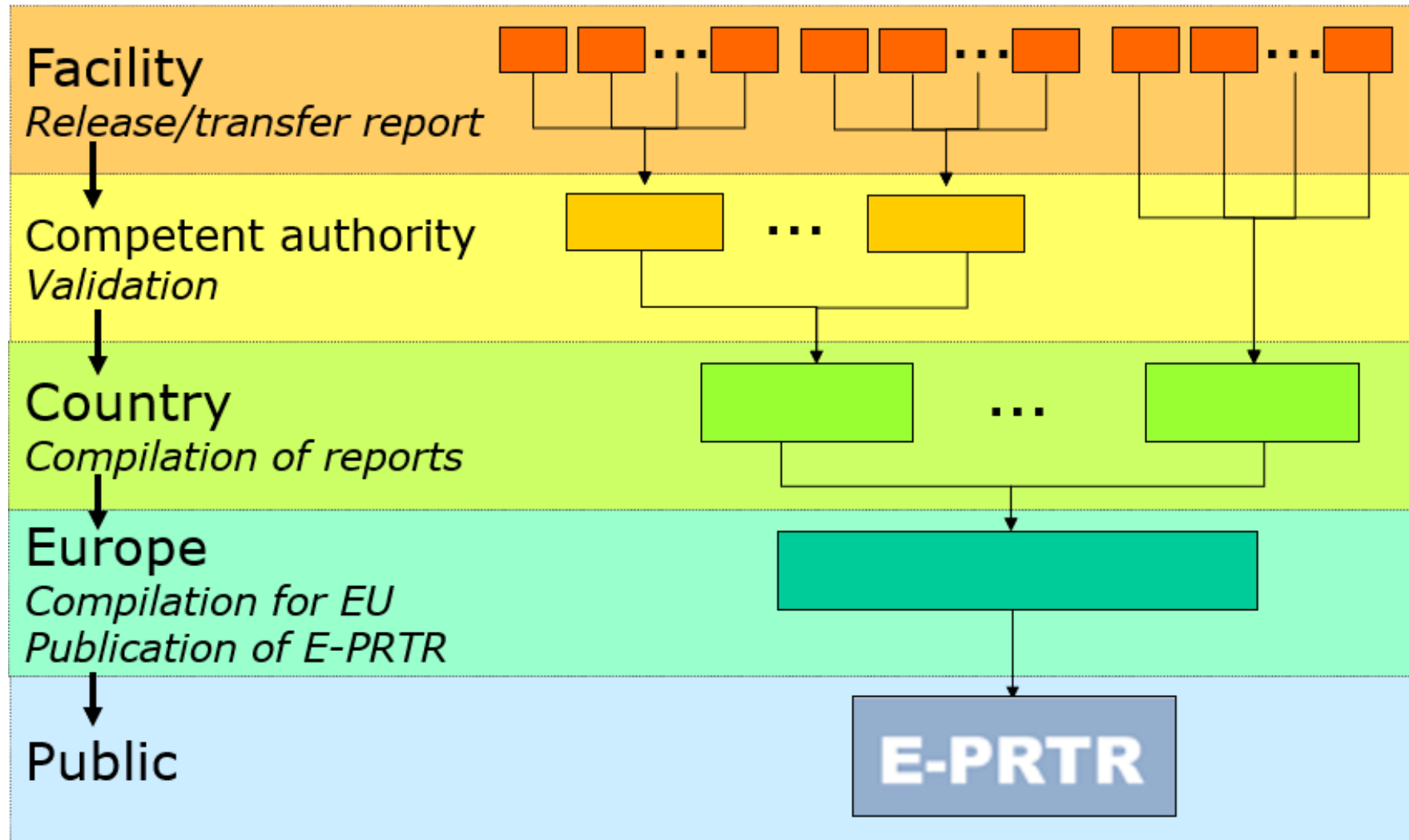
65 activities in 9 sectors:



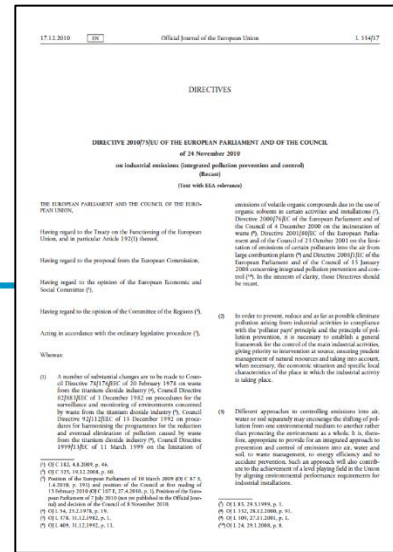
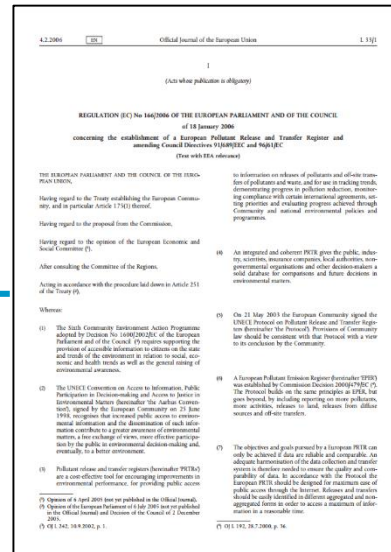
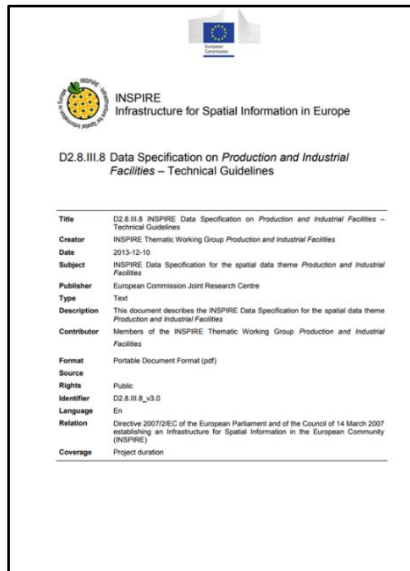
91 pollutants in 7 groups:

- Greenhouse gases
- Other gases
- Heavy metals
- Pesticides
- Chlorinated organic substances
- Other organic substances
- Inorganic substances

E-PRTR – Traditional reporting



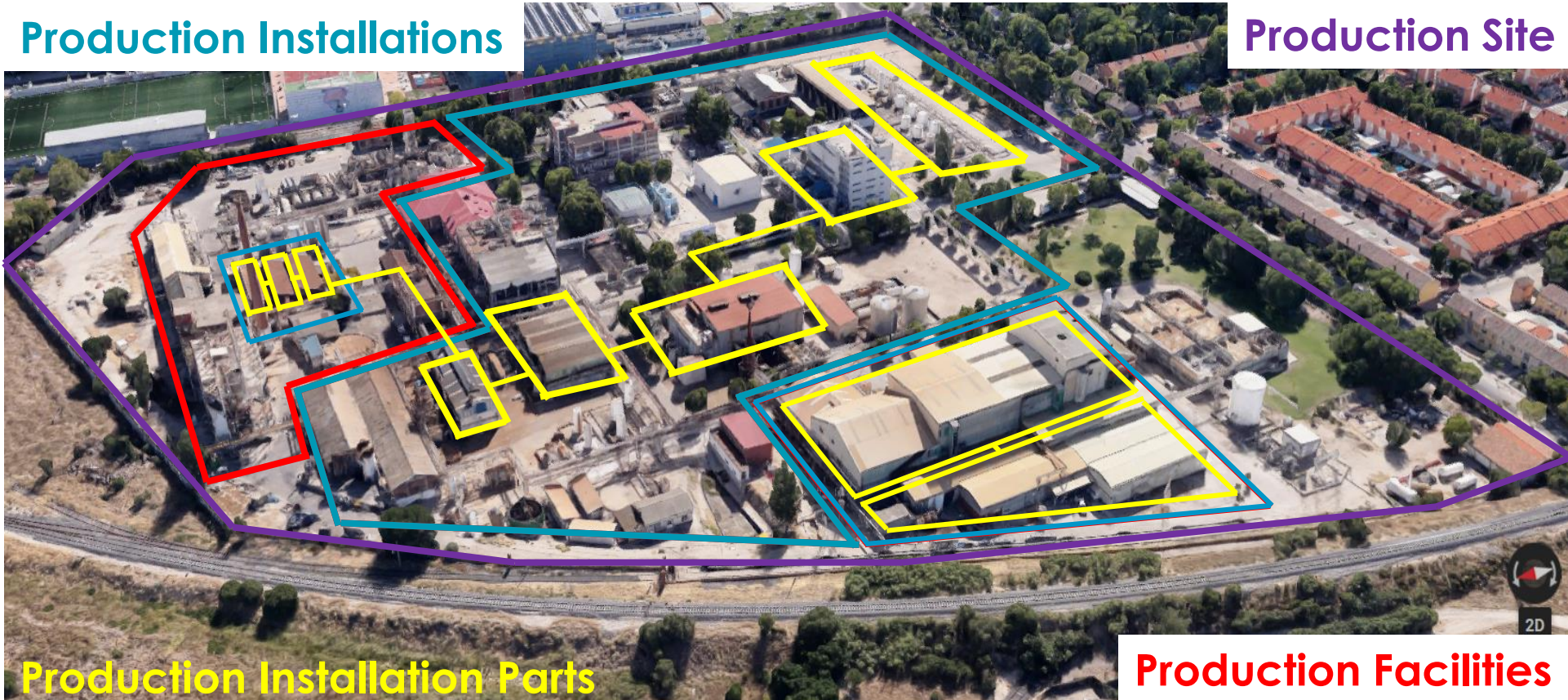
The EU Registry - Concept



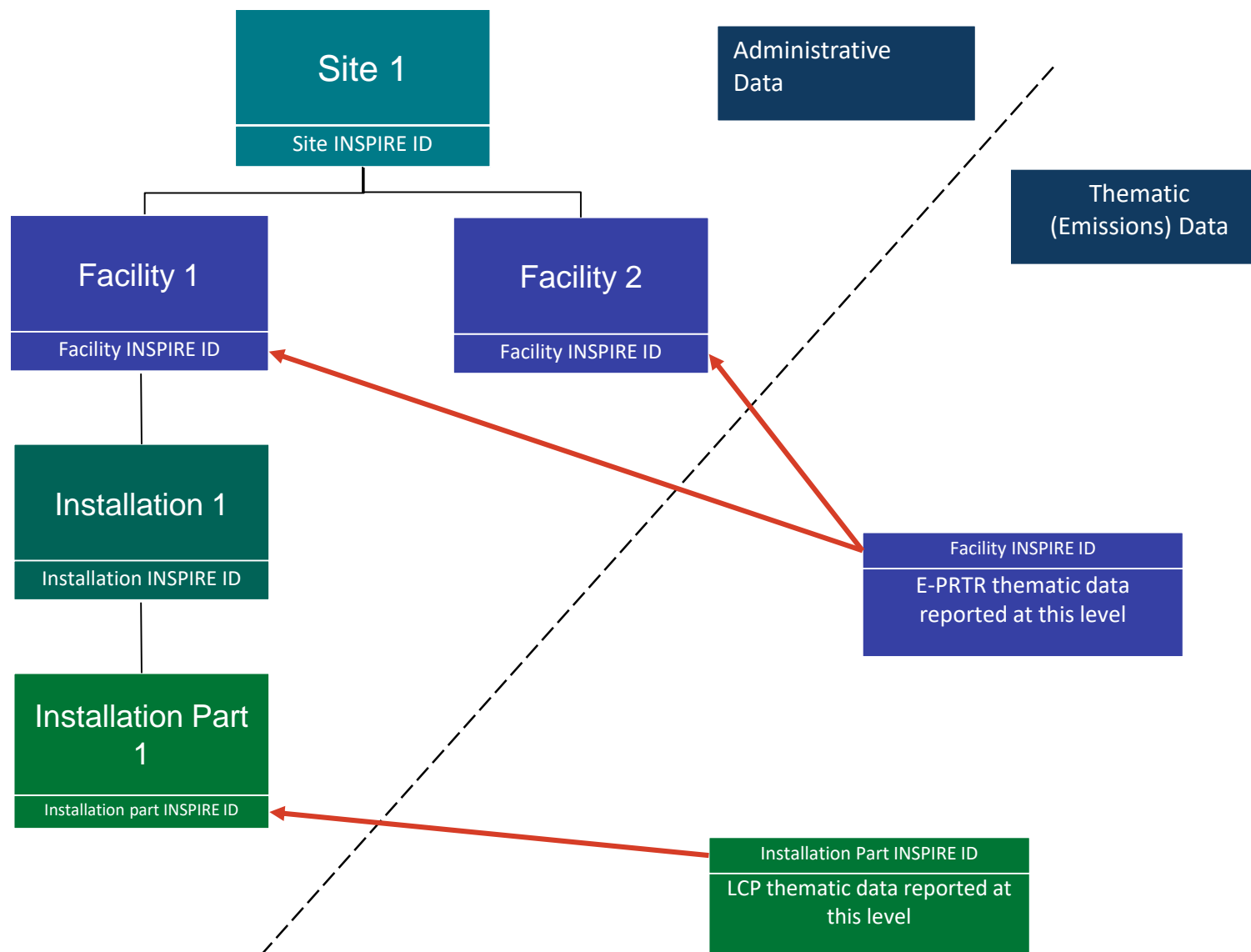
EU Registry	INSPIRE	E-PRTR	IED
ProductionSite	Correlation	Correlation	No definition provided
ProductionFacility	Correlation	Correlation	No definition provided
ProductionInstallation	Correlation	Correlation	Correlation
ProductionInstallationPart	Correlation	No definition provided	Correlation



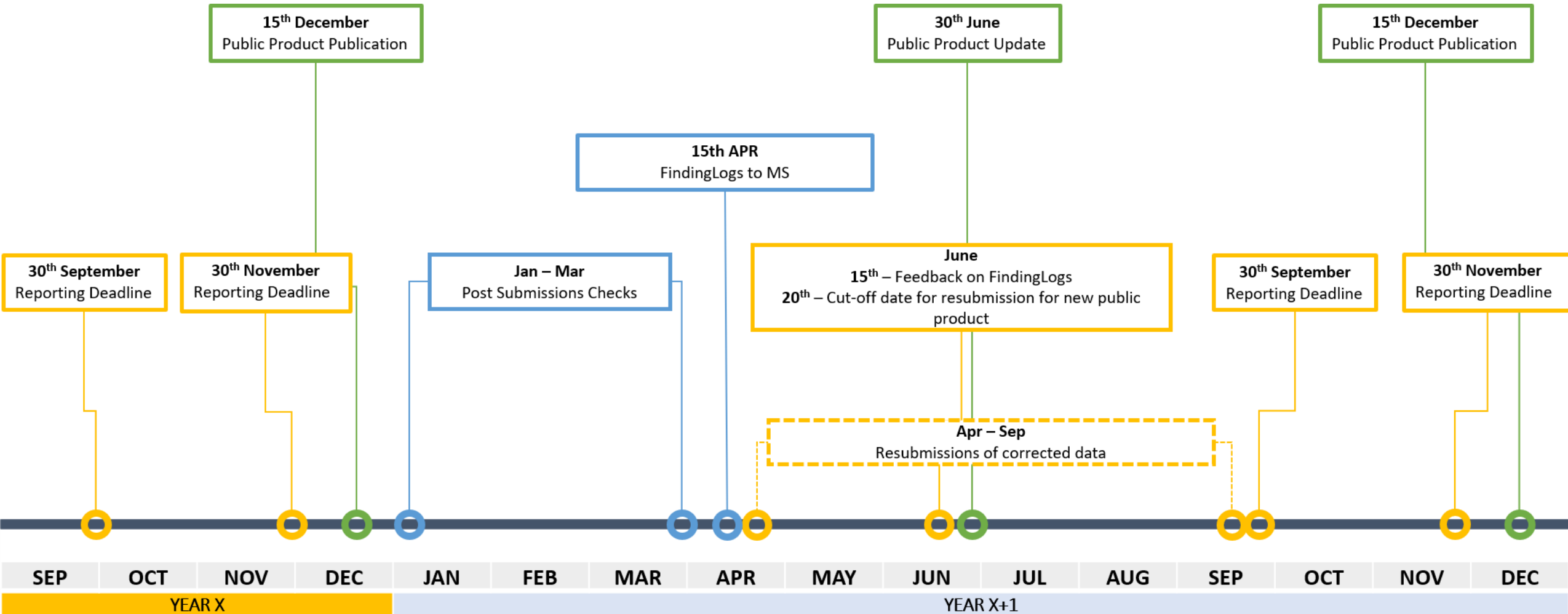
The EU Registry - Concept



Reference database + thematic reporting



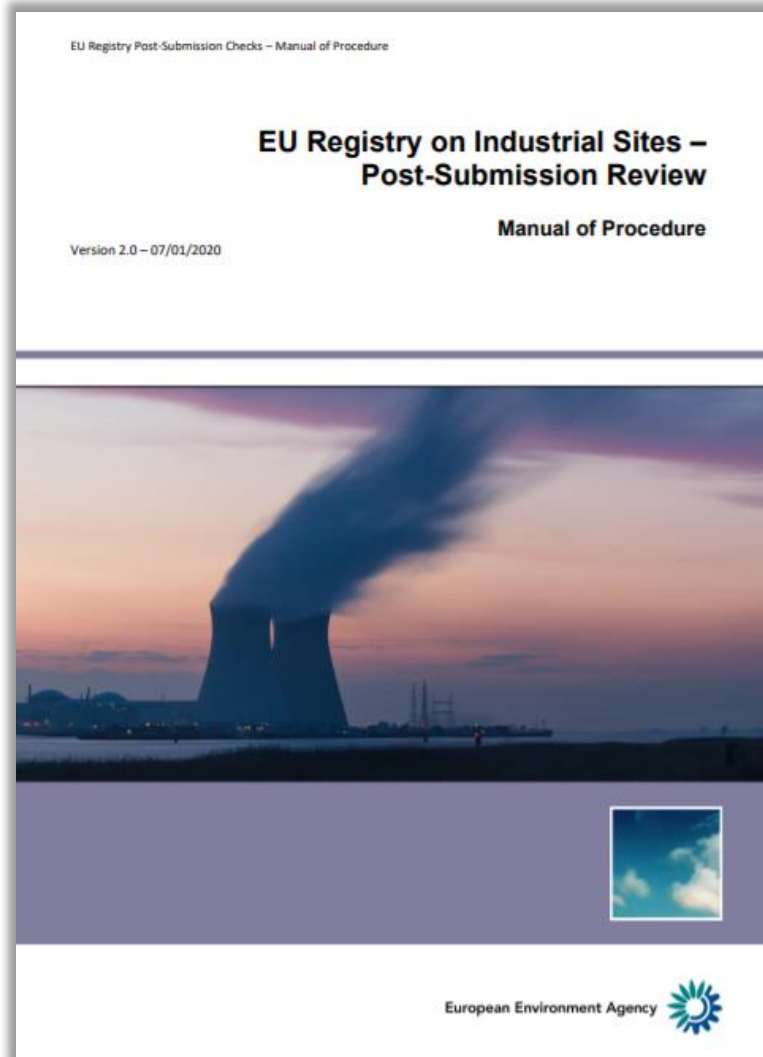
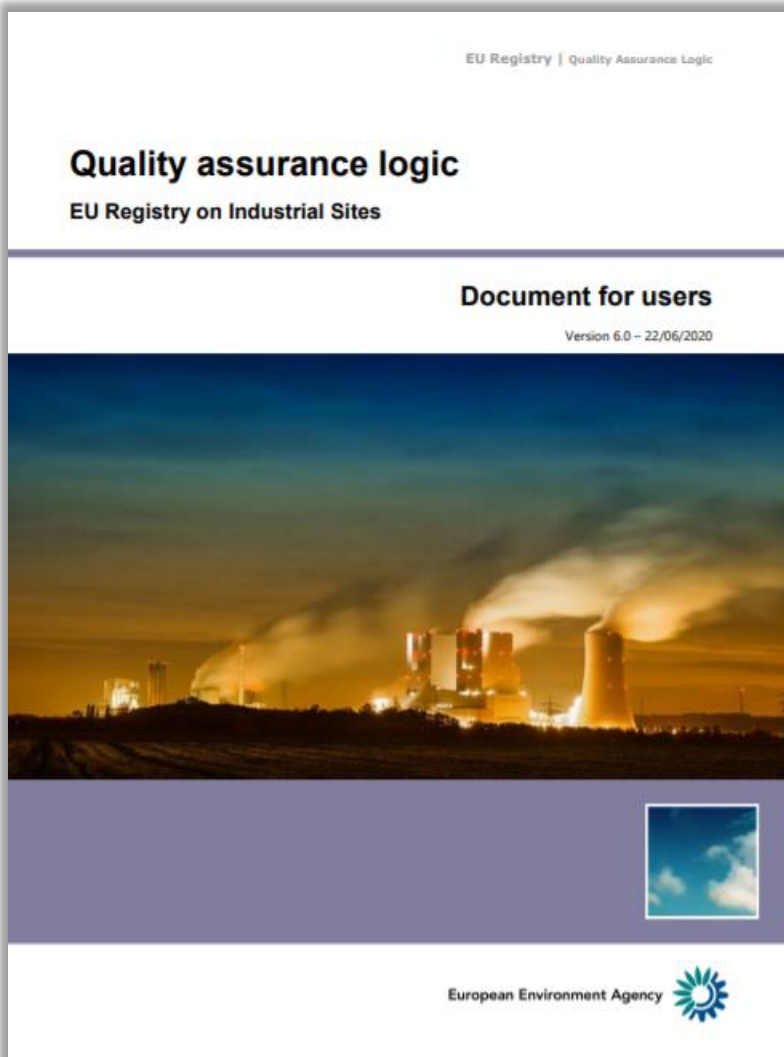
Integrated reporting process



Integrated reporting process

The integrated data includes:

- Administrative information from the entities included in the EU Registry.
- E-PRTR information on industrial facilities (i.e. releases, transfers).
- Regulatory information on IED installations.
- Information on waste incinerators.
- For large combustion plants (LCP):
 - Type of combustion plant and total rated thermal input (MW);
 - Total annual emissions of NO_x, SO₂ and dust.
 - Operating hours per year.
 - Energy input (net calorific value, TJ per year) broken down in the following fuel categories:
 - Coal, lignite, biomass, peat, other solid fuels (specifying the type), liquid fuels, natural gas, other gases (specifying the type).



Overview History **Data quality**

Results of automatic data quality checks

This page displays summary information from all automatic data quality checks. To follow the "Show more.." links to the individual feedback items.

2019_28092020_175810_v1_3.xml

- **OK:** QA completed without errors. [Show more...](#)
- **WARNING:** QA completed with warnings. [Show more...](#)
- **WARNING:** QA completed with warnings. [Show more...](#)
- **INFO:** XML Schema validation passed without errors. [Show more...](#)

1. DATA CONTROL CHECKS

C1.1	2017 reporting year versus 2018 and later reporting years	0 blockers0 warnings	
C1.2	Facility Type	0 blockers0 warnings	
C1.3	Installation Type	0 blockers0 warnings	

2. CODE LIST CHECKS

C2.1	EPRTAnnexIActivity mainActivity consistency	0 blockers0 warnings	
C2.2	EPRTAnnexIActivity otherActivity consistency	0 blockers0 warnings	
C2.3	IEDAnnexIActivity mainActivity consistency	0 blockers0 warnings	
C2.4	IEDAnnexIActivity otherActivity consistency	0 blockers0 warnings	
C2.5	CountryId consistency	0 blockers0 warnings	
C2.6	reasonValue consistency	0 blockers0 warnings	
C2.7	FacilityType consistency	0 blockers0 warnings	
C2.8	InstallationType consistency	0 blockers0 warnings	
C2.9	BaselineReport consistency	0 blockers0 warnings	
C2.10	BATConclusion consistency	0 blockers0 warnings	
C2.11	BATAEL consistency	0 blockers0 warnings	
C2.12	Article51 consistency	0 blockers0 warnings	
C2.13	ConditionOfFacility consistency	0 blockers0 warnings	

But countries need to correct this data...

E-PRTR website (2009 – 2020)

The screenshot shows the E-PRTR website homepage. At the top, there is a navigation bar with the E-PRTR logo on the left and the European Environment Agency logo on the right. The navigation bar includes links for Home, Search the register, Diffuse emissions, About E-PRTR, FAQ, Feedback, Download, Links, and Library. Below the navigation bar, there is a blue banner with the text: "A new EU industrial reporting portal is under development and it will be launched later this year. The latest reported data under the E-PRTR are available here." The main content area is divided into two columns. The left column has a "Welcome" section with a text box explaining the E-PRTR and a "Search the register" section with a green button and sub-links for Facility Level, Industrial Activity, Area Overview, Pollutant Releases, Pollutant Transfers, and Waste Transfers. Below that is a "Diffuse emissions" section with a blue button and sub-links for Releases to air and Releases to water. At the bottom of the left column are three icons for Pollutant description, Frequent Questions, and Contact & feedback. The right column has an "E-PRTR Facilities" section with a map of Europe and the Middle East showing the number of facilities in various countries. The map includes a search bar and zoom controls. The number of facilities shown on the map are: 4 (Iceland), 2 (Spain), 7 (France), 42 (Sweden), 27 (Denmark), 1697 (United Kingdom), 426 (Germany), 97 (Italy), 676 (France), 8 (Turkey), and 203 (Norway). The map also shows major cities like Stockholm, Moscow, Paris, Milan, Istanbul, Baghdad, Cairo, and Accra.

<https://prtr.eea.europa.eu/#/home>

2021: New website – Industrial emissions portal

Dynamic filter

Reporting year

Select reporting year ▾

Industry

Select industry ▾

Clear Filters



In the meantime

- Access database 2007-2019
- User-friendly Excel spreadsheets (2007-2019)
- Data completeness
- *Mapping* exercise (Historical data)
- From 2021: Production volumes

<https://www.eea.europa.eu/data-and-maps/data/industrial-reporting-under-the-industrial-3>



Thank you

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