

Industrial Plants Data Viewer (IPDV)

Background briefing

08/09/2020 FIN

Contents

Why this Database?	
What does the IPDV do (main features)?	3
ssues faced during the project phase	4
Best practice examples: open access systems	
Worst / bad practice examples	1
mproving the database: contributions	14
Next steps and plans:	19
Acknowledgements	2(
EEB contacts	2(
Annex	2

Why this Database?

A reliable and transparent data flow among institutions, businesses, NGOs, and other civil society actors is the foundation the Zero Pollution Europe will be built upon. The Aarhus Convention and the EU regulatory framework already set rights for improved information and public participation on industrial activities. The E-PRTR Regulation provides stakeholders with basic information on annual emission loads and waste transfer from the EU's largest industrial facilities. Similarly, the 2010 Industrial Emissions Directive (IED) sets down provisions for improved access to information and public participation in decision making. **Yet there is a considerable reporting and monitoring deficit on those installations, as showed by the 2017 EEB's 'Burning: the evidence' report¹. Installations that do not fully implement the possible Best Available Techniques (BAT) performance levels are not easily identifiable; permit conditions are not displayed, nor**

¹ https://eeb.org/most-eu-countries-failing-to-ensure-effective-access-to-industrial-pollution-information/



comparable; monitoring data about emissions to air and water are outdated and not easily accessible overall. Water quality and quantity relevant information is not available in a user-friendly manner.

The EEB's 'Burning: the evidence' report, published in 2017, included policy recommendations aiming for a EU single-access database: an improved IED registry for national and regional authorities to refer to. Such a database should:

- Increase usability by providing useful search filters;
- Allow better benchmarking of real-time environmental performance, and better use of information
 for other purposes (e.g. BREF reviews) or wider compliance assessment against environmental
 quality standards. This includes a minimal list of permit conditions related information to be added,
 such as permit review status and production outputs information;
- Guarantee real time access to important data, like flow rates and continuous emissions monitoring (CEM) results;
- Oblige member states to provide data with no fees;
- Improve visibility and comparability of permit conditions, derogations, inspection reports, and compliance reports (requiring new reporting formats due to language barriers).

For more details, see section 6 of the EEB's briefing 'An EU Industrial Strategy for achieving the 'zero pollution' ambition set in the European Green Deal'².

Due to inertia by the European Commission and many member states to fulfil the above-mentioned key features, the EEB decided to develop its own database through in-house research.

The EU has so far failed to deliver user-friendly IT tools on environmental performance of industrial installations and is lagging behind in providing proper access to information that is already generated by the industry. If the EU is serious about using effective digital tools to benefit citizens and drive improvements in the industrial sector, action is urgently needed.

Providing such tool is not to an NGO responsibility, but the job of the European Commission and member states, which are legally bound to enforce environmental and human health protection legislation. However, due to the lack of progress at EU level, and to the limitations of the IED Registry launched by the EEA, we decided to take the first steps. **The main aims of the EEB IPDV are to:**

- Increase accessibility to publicly available quantitative information, bringing together plant-level data on emissions, fuel and water use, production, efficiency, and other environmental impacts all in one place;
- Allow easy assessment of compliance of Emission Limit Values (ELVs) with Best Available Techniques (BAT), Associated Emission Levels (BAT-AELs), and trends in compliance over time, in a few clicks
- Allow comparison of plants performance, and of the level of ambition in national permitting

² https://eeb.org/library/an-eu-industrial-strategy-for-achieving-the-zero-pollution-ambition-set-in-the-european-green-deal/



- Increase transparency and accountability by providing a platform which brings together a variety of key permitting documents, including permits, compliance reports, monitoring results, environmental inspection reports and derogations applications, and overcoming language barriers (e.g. through the "compare plants" function);
- · Provide a mechanism for operators and competent authorities to provide additional data and documents, or to correct erroneous information in the public domain.

What does the IPDV do (main features)?

We decided to create a first database on Large Combustion Plants (LCPs) > 50MWth because most data are available on these installations, and due to priority action linked to the Europe Beyond Coal (EBC) campaign³.

This is a first attempt to implement the recommendations made by the EEB in its 'Burning: the Evidence Report', through a database built in-house with the contributions of our EBC project partners, which aims to collect information and make it available to the public in a more user-friendly manner4.

This first version of the data viewer displays plant-level information for power stations, CHP plants feeding into the electricity grid, and district heating plants with a thermal capacity > 50 MW. The time period covered goes from 2004 to the latest year covered by the LCP database (currently 2018), at annual resolution.

Information is so far limited to EU member states, including the UK. Further countries did report information on LCPs but were not included at this stage, because most benefit from derogations of the BAT standards through the Energy Community Treaty. This is the case for Bosnia and Herzegovina, Georgia, Kosovo (under the UNSCR 1244/99), Montenegro, North Macedonia, Serbia, and Ukraine. Those countries may be included in the second version.

The main features of the IPDV are described in a sneak preview presentation. The database allows to search for, visualise and download the following key information:

- Plant details and documents (combustion types, utility, and plant size/fuel categories)
- o Abatement techniques information on air pollution controls
- o Regulatory information such as permit limits applied for the main air pollutants (NOx, dust, SO2 and mercury), derogations applied or granted
- o Key permitting and enforcement documentation (permit, compliance reports, monitoring data, other relevant documents)

³ https://beyond-coal.eu/

⁴ https://eeb.org/most-eu-countries-failing-to-ensure-effective-access-to-industrial-pollution-information/



- Emissions results (expressed in concentrations and loads), also presented under the various compliance scenarios (strict BAT / lenient BAT, or safety net IED limits) for air, and associated health costs calculation for each scenario
- Fuel consumption and water consumption (in progress)
- Where matching was possible with other databases, energy efficiency and electricity generation output information
- Wastewater discharge information (currently this is limited to total suspended solids, cadmium, mercury, average temperature, and flow). The data has been disseminated for France only.
- o Land grab for lignite plants, aiming to visualize the scale of annual soil removal due to lignite mining and combustion.

For more information on how the data was generated and on the methodology used, please see the IPDV Methodology note (V2 January 2020)

Key figures and features

The first version of the IPDV provides:

- 790 entries with emission monitoring results data and extracts on emission limits set
- 11 480 files and documents (permits, compliance reports, emission data) uploaded to publicly available SharePoint (36.5GB of data)
- Powerful search filters to target derogations and BAT level compliance by fuel type, size, category, and country or utility
- A tool to enable comparison of plant categories, national permit practice, external health impacts damage cost (currently on air pollution only)
- Release and consumption data for water (currently only tested / available for France)

Issues faced during the project phase

The EEB and its partners faced a range of serious challenges during the project implementation. For many member states, the national data portals are either absent (e.g. Germany, the Netherlands) or do not contain the requested information. Therefore, the EEB did request key information through so-called 'access to document requests' (an illustration of the template used is provided <a href="https://example.com/hemes-scale-english-eng

⁵ https://eebidp.sharepoint.com/:b;/s/IndustryDatabase/ESid8b7zMc1Khvlsgud80V8BVawlSn7Hb48YqNb6mFeF9w?e=bnT6oV



For other countries where a national database exists, the access to document requests were submitted as a last resort. An overview of the request sending date, acknowledgement of receipt date, and date when we consider the request met, as well as overall findings related to the national database and processing of the request and issues encountered is provided in the Annex.

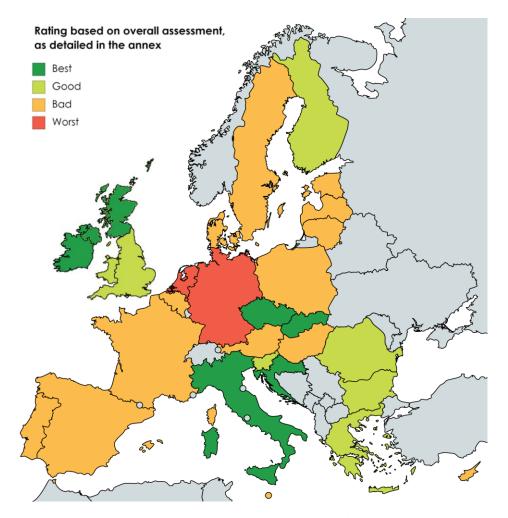
Legally, the competent authorities are required to provide a response within maximum one month from the request, with a possible extension by another month in case of high volume or complexity of the information being systematically granted. However, this deadline was hardly ever respected, despite several reminders by phone and e-mail. In addition, the EEB made it clear that much of the information had to be compiled and reported by 30 September 2019 the latest, due to IED reporting requirements⁶. The EEB provided a standard response in this case, also when fees or confidential business information claims where raised (the standard response is available here.

The main country-relevant findings are provided in the annex to this briefing, and are graphically summarized in the map below.

⁶Notably COM implementing decision 2018/1135 of 10 August 2018, https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1598368222161&uri=CELEX:32018D1135

⁷https://eebidp.sharepoint.com/;b:/s/IndustryDatabase/EbQoGQz9NOBApikcZMS0pS4Bc07mWISTx5TVmUd9zhvR-q?e=kAuc6S





NOTE: This rating relates only to LCP relevant information, constitutes an assessment of national database system in place (user friendliness & quantity of information available) Higher ratings applied to availability of compliance report related information (CEM, monitoring results). In no way this rating reflects the ambition level of permit conditions or enforcement practice of those member states.

Overall, **the situation is far from satisfactory**. The main shortcomings identified in terms of data access are as follows⁸.

• Continuous emissions monitoring results for air (in concentrations) are often not held by the authority and therefore "not available"; when available, this information is outdated. This is an awkward situation given that the IED requires continuous emission monitoring (in concentration) of SO2, NOx and dust for LCPS 100MWth, and CO for gaseous fuels - for the latter exceptions refer to SO2 and dust, and for oil fired LCPS the sulphur content of input fuel may be used instead.

⁸ This does not represent the situation of all member states, but of the majority.



Mercury shall be measured at least once per year for coal and lignite combustion (by latest August 2021 continuously due to 2017 LCP BREF). Operators are required to transmit to the competent authorities the results of emission monitoring "at least annually", as required in the permit, to verify compliance with permit conditions according to (Article 14(1) of the IED. Therefore, authorities are supposed to hold the information, unless there is a clear enforcement deficit which constitutes a breach of IED requirements.

- For water relevant information (discharge and consumption), the information is only available at plant level in paper format, and was therefore not yet integrated, with the exception of France, which provided a country level data-extract in user friendly format.
- The contents of **Environmental Compliance reports are not harmonised at the EU level** and sometimes not even within the same country and it is rare that countries report the required evidence to assess compliance with permit conditions.
- **Significant language barriers and outdated information on operating permits** make it difficult to get an up-to-date overview on the standards in force.
- Countries such as **Germany** and **Poland still apply fees for providing basic information**. In **Germany**, and especially in **Hessen and Sachsen**, the amount initially intended to be charged are excessive and constitute a disguised barrier that hinders data transparency.
- Many competent authorities still keep documents in paper format (notably in Germany and Poland), or provided information such as CEM results in photocopies which were sometimes not readable (in the UK).
- Some competent authorities are more worried of revealing claimed business information than of public accountability and transparency, and apply lengthy procedures (notably in Germany and the Netherlands). This is in stark contrast with the helpful attitude shown by authorities in Denmark or to a lesser extent Sweden in providing the requested information.

As the situation tend to vary from one region to another, it is only possible to highlight here a snapshot of the "best" and "worst" practice examples on specific issues linked to online database systems on LCPs.

Best practice examples: open access systems

• Italy is regarded as one or "the best" practice example for compliance promotion related systems overall and deserves a 10/10 mark in terms of data quantity relating to environmental benchmark assessment.

The Italian Environmental Ministry (Ministero dell'Ambiente e della Tutela del Territorio e del Mare) has set up a user-friendly system that is very transparent and contains a wealth of permit related information. *An illustration is provided for the plant Torrevaldaliga Sud – Civitavecchia (LCP-D D codes IT0396, IT0397, IT0398). The main documents have been saved under the plant ID code IT0396 under the IDPV database.*



Their main search webpage⁹ allows to download the main compliance relevant information in zip format¹⁰.

The most recent compliance report information refers to 2019 and is provided <u>here</u> as an illustration. The file contains the following information:

- A summary document based on a common reporting format (<u>separate stand-alone download</u>). <u>This 27 pages document provides all the main environmental performance information for the period concerned, such as operating hours, fuel amount and type, energy generation, emissions in tonnes / concentrations/ per MWh generated, water relevant data (emissions and consumption), residues / waste, noise, impacts (immission), malfunctioning information or calibration of measurement devices.</u>
- Various details with monitoring results for water and air as part of the 'Allegati', including: detailed information on operation hours, consumption, energy production (Capitolo 4); CEM concentration data (air), and specific emission factors in a user-friendly excel format, and in pdf (Capitolo 6); immission monitoring results in the air (Capitolo 7); water emission concentration monitoring results and accreditation evidence by test labs (Capitolo 8); detailed information on waste quantities and type in a user-friendly excel format, and in pdf (Capitolo 9), accreditation evidence from test labs water (Capitolo 11); consumption monitoring and input controls in a user-friendly excel format (Capitolo 12); water consumption and recycling results in excel format (Capitolo 13), further water relevant information (temperatures at generator and discharge point), also in a user-friendly excel format (Capitolo 14), fuel input sampling relevant information (PCI SNAM 2019).
- For many of the other assessed plants the report also contains the calibration tests (QAL1 and QAL2) of the automatic measurement systems applied.

Permit review relevant information is available <u>in another section</u>. For instance, it indicates whether an IED permit review has started for this plant, the deadline for submission of comments, and whether the assessment is still ongoing. Details of documents provided are all available in electronic format at <u>the relevant weblink</u>.

If the 2017 EEB's 'Burning: the Evidence' report were to be updated, the Italian system would be upgraded as "green" (good) on almost all counts, and especially for to the amount of information available.

The search filters could be improved to allow further search per type of IED (sub)category; at the moment, the main five types can be filtered, and it would be valuable to identify the latest consolidated permit in

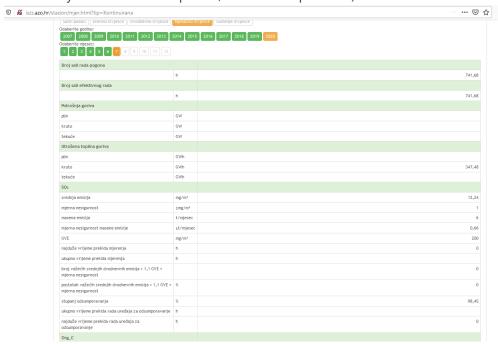
⁹ The main search webpage is the following: https://va.minambiente.it/it-IT/Ricerca/AIA. The documents can be downloaded under the section 'Documenti procedura di Prima AIA per installazione esistente' → 'Documentazione aggiuntiva – Attuazione → Attivita di vigilanza e controllo → Report Gestore'.

¹⁰ See here for this example plant https://va.minambiente.it/it-IT/Oggetti/Documentazione/1908/3302?RaggruppamentoID=2005&pagina=2



force. If those minor modifications were made, the Italian system would be one of the best in the EU as it stands.

- **Ireland** has been rated as one of the best systems under the 'Burning: the Evidence' report. It is however less performant on providing the CEM data concentrations. In most cases the results are presented for the plants but not the raw monitoring data. In some cases, results are also reported in loads and not in concentrations. This is a shortcoming for enabling BAT compliance assessment.
- Croatia has the right infrastructure in place to enable direct tele-reporting and publication by the operators of the CEM data for air emissions concentrations and other operating data on real time. Almost real time CEM data results for air are accessible online. However, this is limited to a small set of plants, and often information is incomplete, possibly due to non-functioning tele-reporting/AMS (e.g. TE-TO Zagreb PT2 reported it was in operation in 2019 for about 5000 hours without any NOx emissions reported, which is not plausible).



Screenshot of the Croatian system making available the CEM (conentration) and other operational information, example is for Plomin 2 (2020,July).

• The Czech Republic has also a good national reporting system in relation to permitting information and compliance reports. The current illustration is for Melnik I: illustrative example of a compliance report is for Melnik I and contains a series of good features. A summary on the ELVs applied (which are lax, but at least very transparently reported). The compliance report provides an embed weblink to the relevant monitoring results that would allow assessment with the relevant permit conditions,



e.g. validated CEM data, the calibration tests for the AMS, and residues sampling (POPs etc), noise sampling results, water relevant information for the year concerned, often also provided in a user-friendly excel format. However, the background evidence is not always provided for each plant. In addition, the Czech system has very useful and smart search filters for the advanced search function. The summary home page of each plant lists relevant elements such as the name and location of the plant, the type of wastewater discharge, the consolidated permit link, as well as information on subsequent amendments, inspection reports, the compliance reports section, and links to other relevant information and databases (such as the PRTR/waste register reporting). If all plants made publicly available the necessary evidence for assessing compliance with permit conditions, including the not yet validated CEM results¹¹, the CZ system would be a good system of minimal to share information.

Furthermore, certain **industry operators** provide a pro-active dissemination policy. Although those

examples are rare (see Italy and Croatia), remarkable ones are: Example 1: the operator of the CHP Moorburg plant, which provides monitoring results on air and water almost on real time on the company website. A missing feature is the possibility to download annual raw monitoring results in Excel format. Moreover, the latest annual report dates back to the reference year 2018, as the 2019 report is not yet available 12. Example 2: the system of Slovakia, which ensures that monitoring results of the CEM AMS system and the non-continuous emission monitoring results are directly made available on the respective company websites. The following illustrations are for Slovnaft owned LCP, the CEM is available on a daily basis, and discontinuous monitoring data is available for all the relevant IED installations. A similar illustration is provided for the plants owned by Bratislavska Teplarenska, a.s. (nondownloadable), and Slovenské Elekrarné. By selecting "protokoly emisných hodnôt z prevádzky elektrární" all the CEM AMS protocols can be downloaded, in user friendly excel format. By selecting "Výpuste závodov do životného prostredia", environmental reports with useful air, water, and consumption data can be downloaded by month, which is also a very useful information. This very good industry practice is due to Sloviakia's forward looking national policy in terms of transparency and timely access to information, set within the Slovakian Act no 137/2010 amended by Act no 318/2012 §15 on air emissions, and requiring online reporting of the monitoring

Despite these best practices, EU industry reporting is far behind the standard practice in third countries, possibly also because the EU decision makers have not yet figured out to offer the suitable IT infrastructure for doing so. It is therefore not possible to judge on whether this is a lack of will of

results for medium and large combustion plants.

¹¹ A court case, triggered by Frank Bold Society to make sure the other CEM data (not yet 'validated') are made directly available to the public is still pending.

¹² Latest check on 19/08/2020



transparency by the industry operators or rather a lack of will by competent authorities and the European Commission to design the right IT infrastructure at EU level.

Good examples from outside the EU include:

- **Norway's** PRTR model¹³, which provides information such as flow rate, permits and output data correlation, all displayed in interactive graphs and downloadable in excel format, while the facility homepage allows to download all relevant documents. The raw CEM data is missing, but concentrations can be calculated thanks to reporting on flow rates and production volumes.
- The 'Blue Sky' map, developed by IPE in **China**, which provides real-time data at facility level on wastewater and air emissions, integrated with air and water quality information¹⁴.
- The **US** Air Markets Program Data system¹⁵. Through this system, hourly averaged raw monitoring data can be downloaded at unit and monitoring location level, with various search filters and queries options, such as abatement techniques types and boiler or fuel types. Online publication occurs just one day after submission to the US EPA. A very detailed information on technical plant configurations, fuel use, observed performance, and detailed filters for various abatement techniques for power plants is available since 1990, and reported to the US EPA. The reporting thresholds are much lower than in the EU (all electric power generation starting at 1MWel)¹⁶. In the US, thanks to forward looking IT reporting requirements, it is possible to compare any permit conditions set across various industry sectors with powerful search criteria in a few clicks. Mexico and Canada are also included in the permit database¹⁷. Language barriers are dealt with, which the EU failed yet to do an equivalent system would save a lot of time to identify those installations having implemented certain techniques (BAT), compare performance and track compliance at an EU level.

Worst / bad practice examples

• **Germany** represents one of the worst examples for access to information and data availability. First, there is no federal level database on IED activities which would enable a user-friendly search and download of relevant documents. This means that competent authorities have to be identified for each and every plant. Obtaining such simple information from the competent authority tend to entail back and forth forwarding of emails before an answer can be obtained. Secondly, competent authorities in many Bundesländer do not seem to be aligned to a culture of transparency and serving public interest first, despite an "established culture" on industrial activities, due to its scale.

¹³ https://www.norskeutslipp.no/en/Frontpage/

¹⁴ http://wwwen.ipe.org.cn/

¹⁵ https://ampd.epa.gov/ampd/

¹⁶ https://www.eia.gov/electricity/data/eia860/

¹⁷ https://cfpub.epa.gov/rblc/index.cfm?action=Search.BasicSearch&lang=en



This is a non-exhaustive list of the issues hindering the German reporting system:

Application of fees to process requests. Germany is one of the very few countries, together with Poland, to apply a fee for providing environmental information. One of the most striking example is the one of Saxony: when the EEB requested information about 25 plants, the public servant of the competent authority (LANDESDIREKTION SACHSEN Referat 44 | Referat Immissionsschutz) indicated that a fee of up to 50.000€ could be charged. Only after objections were raised, those fees could be reduced to a more reasonable level but still in the 300-500€ range. The CA of Hessen were the most aggressive in insisting for fees: the Regierungspräsidium Darmstadt charged the EEB 600€ for answering a request on 16 LCPs, and sent the payment request in the holiday period so it could add some extra fees. The Regierungspräsidium Kassel also charged the EEB another 358€ for answering a basic request on 4 plants. The initial fee indicated in first e-mail exchanged with the CAs summed up to 14 523€, plus 50.000€ for Saxony (for the 25 plants mentioned above), which the EEB managed to object to in many cases.

In most cases, including Bavaria, the CA accepted the objections and provided the data free of charge. For Baden-Württemberg possible cost claims are still pending, however the EEB is optimistic that a "green" local government would reconsider whether it is appropriate to charge NGOs fees when the overall aim of obtaining that information is compliance promotion for the largest air emitters in the region. As the EEB refused as a matter of principle to pay more than 20€ for obtaining electronic copies of the operating permit and emission data results, many requests were not processed further in Germany, which explains the important data gap for that country. For comparison, some Polish authorities charged a fee in the range of 20€ for providing a CD full of data and documents and manually filling out the Excel working sheets provided by the EEB.

Not providing information on CEM results (blackened out) or compliance report. As incredible as it sounds, some air concentration emission monitoring results have been blackened out, in a remarkably untransparent move by the CA. This is the case for Germany's biggest lignite plant (KW Neurath)¹⁸, owned by RWE and located in North Rhine-Westfalia. The Landesamt für Natur, Umwelt und Verbraucherschutz von Nordrhein Westalen (LANUV), which is the authority in charge of enforcement on those installations benefits from an IT based access database on those installations (notably on permitting procedures and monitoring data on air). It is therefore unacceptable that the authorities do not provide access to the data content in a pro-active manner, while they could do in a few clicks.

In some cases, the CA insists it needs to "ask for permission" to the industry before providing information that is related to environmental reporting or required under the permit conditions) and to be disseminated under the IED framework, to check whether the reports contain "confidential business information".

The German system of reporting on IED activities needs a complete overhaul at the federal level¹⁹. Despite similar regional competence structure, the UK has managed to set up - at

¹⁸ See CEM folder of plants DE5069 – DE5075.

¹⁹ See notably recommendation no 9 provided by the EEB in the context of the ongoing LCP BREF transposition in German law (13. BImSchV) https://eeb.org/library/eeb-submission-to-german-draft-law-implementing-the-2017-lcp-bref/



least partially - very well-designed systems, i.e. Scotland, Wales, and Northern Ireland (see Annex of this briefing).

• Countries like the **Netherlands and Poland** lack a centralised national database to allow user-friendly access to installation-related information. **The Netherlands** lack a publicly accessible national portal and no emission data are available online from the regional authorities. The structure of permitting authorities is complicated: the CAs' geographical areas do not correspond to Dutch provinces, and different authorities hold data on air and water emissions. Despite short legal deadlines for access to document requests of 2 to maximum 6 weeks, substantial time and effort is needed to identify the CA and to avoid that the CA cuts corners in answering requests.

Poland is the other member state, Germany, to request the payment of a fee for providing basic data. However, the Polish fees can be judged as "reasonable" (about 20€ for a DVD full of information) in comparison with the German ones. The biggest issue is linked to competence of about +250 Competent Authorities (Voivodship), which makes this an almost impossible quest for non-native speakers to identify the right contacts.

The EEB recommends that Austria, Poland and the Netherlands take inspiration from Italy, the Czech Republic or Ireland to fix their reporting systems.

Countries such as **Austria**, **France and Spain** have made genuine efforts to provide a centralised IED database, with useful search filters.

For **Austria**, some permits or inspection reports can be located after regional level research, but it is impossible to find compliance report information with background evidence such as CEM data. It is however positive to note that the Austrian system is due to improve significantly, so this is a matter of updating the content²⁰.

In **France**, the Environment Ministry provided detailed data at country level on water release (concentrations, flow, discharge type) and consumption information (by origin of water) in a user-friendly excel format, and the EEB expects that the same can be done for air release information.

In **Spain**, the database is linked to the PRTR reporting tool. However, by taking a closer look at the checked LCPs, data availability is very limited and incomplete, and varies from region to region. No annual compliance report relevant information, notably on CEM concentration results, could be located, despite this information being held by competent authorities, and being publicly available on some regional websites. In the case of the Spanish LCP Alcudia, the <u>national portal</u> does not integrate the available information from the <u>local authority database</u>, which provides the full CEM datasets.

Therefore, even if Austria, France and Spain are listed under the "worst / bad" category, those countries cannot be put at equal footing to the previously mentioned member states: Spain does report on emissions without reporting threshold(s), and it does include water consumption data; the latter is also

²⁰ The national IED portal indicates that annual compliance reports (Emissionsberichte) should be made available soon, as well as other key documents https://secure.umweltbundesamt.at/edm portal/cms.do?get=/portal/informationen/ie-richtlinie-und-ippcanlagen.main



the case for France. Another positive feature of the French database is that the main homepage of the facility concerned displays the quantities of dangerous substances used, its legal classifications and details on operational status according to the (French and IED based) nomenclature.

For these reasons, France and Spain could be upgraded to "green" status if those few improvements were made to their national systems, taking inspiration from the "best practice" examples above.

Improving the database: contributions

The EEB recommends to develop a EU centralised database, ideally based on the Italian, Irish and, to some extent, Czech models described above for what concerns compliance reporting, and on the Chinese "Blue Sky" or the Croatian IT infrastructure for real time access to monitoring information. These systems work because of forward-looking reporting requirements set by the competent authorities and collaborative industry.

The first version of the EEB's IPDV is based on in-house research (two full time interns with ad-hoc support by the EEB industrial production team) of what could be compiled in a limited amount of time. Users are encouraged to contribute with data, documents, comments, and corrections where data is missing or appears incorrect in the viewer. This will allow the tool to provide more updated and reliable information that would benefit the users and serve the general objective of increasing fact based and transparent reporting.

The main gaps concern the following aspects, with variations from country to country:

- More recent continuous emissions monitoring (CEM) results (in concentrations) on the pollutants subject to this monitoring requirements (NOx, SO2, dust and CO, NH3, mercury), yearly averaged results for 2018, 2019, 2020;
- Up to date permit conditions (emission limits), with indications on averaging periods;
- Water consumption data and release information for 2018, 2019 and 2020 (annual average), with focus on TSS, hg, cadmium, flow, temperature and wider consumption data, also on mining activities;
- Fuel specs information on lignite (e.g. mercury and sulphur content, water content and heating value);
- Abatement techniques in process of implementation for lignite combustion (NOx, hg)

Any user can do this by emailing **industrydatabase@eeb.org**, requesting permission to upload information to the <u>EEB Industry Database Project SharePoint site</u>, and uploading the information via <u>the dedicated form</u>.



The EEB provides a readout of the main ELVs identified to date from permit research and annual average results from continuous emission monitoring and periodic measurement of air pollutants (NOx, SO2, dust and mercury), this <u>readout will be updated constantly and is available here (status 08/09/2020)</u>.

Everyone has a role to play

Your contribution to fill current gaps in the IPDV coverage are precious and welcome, irrespective of the contributor's background and affiliation. The EEB considers that certain user groups should play a specific role to improve the current situation, as highlighted in the section below.

What utilities and companies can do:

Some operators provide environmental performance information (such as monitoring results on air and water emissions) directly on their company websites that are updated on a daily basis for the CEM results. We are aware that the companies can directly tele-report the AMS monitoring results "in real-time" to any publicly accessible server (as it is the case in China) and company websites in Slovakia.

Utilities are strongly encouraged to provide the CEM data results directly to the EEB. Those utilities willing to set up a live-link reporting channel to automatically update the information can send an email to christian.schaible@eeb.org and industrydatabase@eeb.org.

The EEB will include a ranking of utilities in terms of transparency and pro-active data dissemination in the next version of the database, or communicate about it through dedicated campaign work.

What technique providers can do

Once the consolidation of data is made, the EEB will provide dedicated briefings on countries and utilities covering their track record of permit ambition level, compliance with BAT standards, and investment in pollution control.

Laggards and frontrunners will therefore be identified and exposed in the public media. Updating the technique relevant section may allow technique providers to identify LCPs where there is improved pollution prevention uptake potential, thus providing a business opportunity for technique providers while at the same time improving compliance promotion with BAT standards.

Technique providers have up to date information on which techniques the operators have implemented, plan to implement, could implement but resist due to cost implications to the operator. In case the information is provided with the explicit request to remain "anonymous", the EEB will strive to ensure transparency while respecting the request of the technique provider.



What member states' ministries and competent authorities can do

The EEB has already assessed national databases in terms of accessibility and user friendliness of data in its "Burning: the evidence" report published in 2017. Recommendations for improvements are contained in that report²¹, and updated in section 6 of the briefing "EU industrial strategy for achieving the 'zero pollution' ambition set with the EU green deal (large industrial activities)"²².

However, many member states did not make any progress since then, and the EEB had to rely on time-consuming access to documents requests to obtain basic information. In addition, over eight months after such requests were issued, some countries have not provided yet the requested data.

These request cover environmental information that cannot be considered confidential. It is therefore a responsibility of public servants to act in a pro-active and transparent manner and ensure this information is disclosed and available to the public. The EEB calls on national ministries and competent authorities to help fill the gaps, and work towards an improvement of the EU reporting systems on industrial activities²³.

What the European Commission and European Environmental Agency can do

The EEB is not entrusted with the role of 'guardian of the treaties', but the European Commission is. Properly designed reporting obligations and proper control over the way information is reported are essential to obtain a EU-wide, user-friendly and multi-purpose data reporting system that includes sufficient, high-quality data from the EU's largest industrial activities. However, the EEB has registered examples of a complacent 'laisser-faire' attitude which hinders the development of an efficient reporting system, as reported below.

Example 1: the EEB alerted policy makers that the Commission's Implementing rules on IED reporting²⁴ need an urgent review and improvements to enable forward-looking reporting that would serve various objectives, including benchmarking and compliance promotion. Yet no improvements were made, and the European Commission decided to apply reporting obligations to the absolute minimum required by law. Although failures in the national reporting systems had been highlighted in 2017 via the 'Burning: the evidence report', the European Commission ignored those remarks and findings and have not yet taken any adequate infringement actions against failing member states.

Example 2: the EEB alerted the EEA and the European Commission that big lignite plants had suddenly vanished from the LCP-D reporting. This is the case for the following plants and unit: Schwarze Pumpe, Jänschwalde units, Lippendorf, and Boxberg units. All those plants do co-incineration of waste, and even

lex.europa.eu/search.html?DTN=1135&DTA=2018&qid=1597830036800&DB_TYPE_OF_ACT=decision&DTS_DOM=ALL&excConsLeg =true&typeOfActStatus=DECISION&type=advanced&SUBDOM_INIT=ALL_ALL&DTS_SUBDOM=ALL_ALL

²¹ https://eeb.org/publications/61/industrial-production/47539/burning-the-evidence.pdf

²² https://mk0eeborgicuypctuf7e.kinstacdn.com/wp-content/uploads/2020/03/EEB-basic-elements-on-Industry-Strategy-IED-FIN-1.pdf

²³ See notably section 6 of this briefing: https://eeb.org/library/an-eu-industrial-strategy-for-achieving-the-zero-pollution-ambition-set-in-the-european-green-deal/

²⁴https://eur-



get away with laxist ELVs on SO2. We requested that those plants were manually put back in the data reporting, and recommended to take action against the German government. BUND Saxony and the EEB triggered a specific complaint against the Lippendorf plant in 2016, but the European Commission have not taken legal action so far. Furthermore, the German national draft laws implementing the LCP BREF seem to continue the application of those derogations in breach of IED requirements, and again provide for a derogatory and permissive pollution regime to those operators²⁵. At the same time, the European Commission (DG COMP) needs to assess if state aid by the German taxpayers worth billions of € shall go to the very same lignite operators. Considering the situation, it is unclear whether the European Commission will take a coherent approach in terms of implementing the 'polluter pays' principle.

Example 3: the EEA has recently published IED registry data containing 2018 data. Reports from many countries including Germany and France were due back in September 2019, but still contain fake URL links and 'dummy' placeholders that do not refer to the required documents. Furthermore, a matching to the old LCP-D ID codes is often impossible, the main reason being that countries are not required to report data in a consistent way. Instead of rejecting those reports and require all countries to do report the information properly, the EEA decided to publish the data.

Some countries also indicate (at least transparently) that they do not comply with their legal obligations under the IED. In the UK, reports indicate that Art 15.4 derogations have been granted, but the weblink with the justification is "not available", which is a clear breach of the legal requirements. The EEB is unaware whether the European Commission triggered an infringement procedure.

Example 4: the EEA also reports emission data which are extreme to a point that they seem implausible. This is the case for certain Serbian plants which reported mercury emissions to water exceeding 100kg (Kostolac A 197kg, Kostolac B 409kg, Nikola Tesla Morava 615kg) in 2017. When alerted by EEB staff that such data were either wrong or revealing a serious issue, the EEA proceeded merely to send clarification emails to the Serbian authorities, without taking any further action to ensure the data were corrected or the pollution was prevented. This issue is not only relevant in terms of environmental impacts, it also affects wider scientific findings: according to current data from the EEA, combustion plants are responsible for 6% of mercury emissions to water within the EU28. These three units in Serbia alone (Kostolac A and B, and TE Morava) would bring that number up to almost 40%. It is disturbing that data reporters may simply indicate that data is based on "other measurement/calculation methodology", without clarifying the background and methods used. These issues deserve due attention and follow-up.

Example 5: instead of improving the data situation on industrial activities, the EU was the only party to object to the improvement of the parent PRTR protocol through a formal review of the global level PRTR (Kiev protocol), talking on behalf of the member states. The position taken by the Commission and its member states aimed to weaken the favourable conclusions reached to push for a review (see <u>Agenda Item</u> 6). The EEB therefore provided an <u>alternative suggestion</u> to considerably improve the EU position. Some of the EEB's suggestions were picked up in the <u>final compromise proposal</u>. By objecting improvements to the

²⁵ See main critique points on the draft law here (in German) https://eeb.org/library/eeb-submission-to-german-draft-law-implementing-the-2017-lcp-bref/



protocol, the European Commission had promoted the lowest common denominator of national governments' interests, instead of defending the public interests and data transparency.

To improve the data reporting situation, the EEB calls on the European Commission and the EEA to:

- Reject any IED Registry reports that are either incomplete or contain misguiding information, such as dummy placeholders or fake weblinks;
- Initiate infringement proceedings against member states that fail on proper reporting, make the information public, and block pending state aid decisions until these issues are fixed;
- Reject "disappearing plants" (e.g. the German lignite units), and reintegrate data manually;
- Amend without further delay the Commission Implementing rules on IED reporting²⁶ to achieve the following main objectives:
 - o To set an EU IED permit report template for ELV reporting
 - o To require direct and instant reporting (e.g. to the EEA) of the continuous emissions monitoring for air and monthly averaged water pollutants
 - To set harmonised reporting standard and require sharing on annual compliance report information (Art 14(1) point d of the IED)
- Improve integration of EU data-reporting, and notably:
 - Enable ENTSO-E matching with LCP-D Ids;
 - Enable the integration of water data (e.g. WISE);
 - Set metrics for production volumes (E-PRTR)

More generally consult with NGOs and the public, and include them in this process, because they are an "end user" of that information. Those points were already made during a sneak preview exchange with the European Commission and the EEA²⁷.

²⁶ https://eur-

lex.europa.eu/search.html?DTN=1135&DTA=2018&qid=1597830036800&DB_TYPE_OF_ACT=decision&DTS_DOM=ALL&excConsLeg_=true&typeOfActStatus=DECISION&type=advanced&SUBDOM_INIT=ALL_ALL&DTS_SUBDOM=ALL_ALL

²⁷ See EEB presentation to EU COM and EEA of May 2020 https://eebidp.sharepoint.com/:b:/s/IndustryDatabase/EdBLTxBr-h1Gicifsi CBqYBC3FnfLaV754Bb3jGB6QC2w?e=vVnnPn



Next steps and plans:

First of all, the EEB aims to complement the ELV and CEM overview document, to achieve at least an 80% coverage in terms of useful capacity output and to cover all reporting years including 2020.

In a second phase, the EEB will:

- Integrate water relevant impacts, such as consumption and discharge information from the power plants, as well as lignite mining related impacts. We wish to enable a visualisation of hidden, externalised costs due to water use and pollution from the operators of those power plants;
- Integrate fuel specific information on the lignite burned (sulphur content and mercury), to correlate with declared stack emissions;
- Update the information on abatement techniques installed, with focus on NOX and mercury for the lignite plants.

For the second version of the IDPV we also wish to enable the following features:

- Present emission intensity per output, e.g. x g pollutant/kwel output for CO2, NOX, SO2, dust and mercury;
- Include scorecards per plant category, mother companies and utilities, as well as for countries in terms of ambition level in permitting and health impacts;
- Include top and worst performers information factsheets.

Furthermore, we wish to extend the database to other industrial activities -and notably: to refineries, iron and steel and cement. However, this step is subject to availability of financial resources and contributions of interested citizens.



Acknowledgements

The EEB would like to express foremost its thanks and appreciation to Valentina Weiskopf and Andreea Popa, the EEB's database assistants, for their tireless efforts, commitment, and patience to search and process all this information in various languages. Further important contributions to the project were made by colleagues of the industrial production team, in particular Jean-Luc Wietor for datasheet management and processing, and Goran Kovacevic and Aliki Kriekouki for country specific research. The EEB is also grateful for the supportive contributions received from Europe Beyond Coal network, namely Laura Otýpková of Frank Bold (CZ), Greenpeace Eastern Europe, Massimiliano Patierno of IIDMA (ES), Alexandru Mustață of Bankwatch (RO), Meglena Antonova of Greenpeace (BG), and Katarzyna Harpak of ECF (POL). Communications outreach support and material were produced by Roberta Arbinolo of the EEB.

Appreciation also goes to those public servants of the competent authorities that showed dedication and effort in providing the requested information in a timely and user-friendly way. You know who you are.

Many thanks also go to the team of AETHER, namely Richard German, Justin Goodwin, Georgina Mansell, Lucy Garland and Mark Gibbs, for having shown patience and professionalism in pulling up the database and interface work with the many – and sometimes last minute - requested changes.

Last but not least, the EEB would like to thank ECF and the Oak Foundation for providing funds to recruit our database assistants and cover fees for the IDPV infrastructure design and database work.





EEB contacts

Input form:

https://eebidp.sharepoint.com/sites/IndustryDatabase/Lists/userinputform/AllItems.aspx

Database administrator functional mailbox:

industrydatabase@eeb.org

Main contact for other issues and author of this briefing:

Christian Schaible

Policy Manager for Industrial Production

European Environmental Bureau E-mail: christian.schaible@eeb.org



Annex

Country	ATD request sent	Date receipt acknowledged	Date data was received	Main issues/overall appreciation (access to information)
AT	21/10/2019 16:59		21/01/2020 19:43	The original did not reach the competent authority until several weeks later due to a misunderstanding. The Austrian website provides the basic infrastructure but needs to be filled with more data (e.g. compliance reports and related information is still missing). Permits are not yet available for all installations. https://secure.umweltbundesamt.at/edm_portal/cms.do?get=/portal/info_rmationen/ie-richtlinie-und-ippc-anlagen.main
BE	Flanders and Wallonia regions - sent on 5/11/2019; Brussels region - sent on 21/11/2019		Flanders 25/11/2019 Brussels 12/12/2019 Wallonia 15/7/2020	Authorities honored our requests partially, but substantial effort was needed in particular for Flanders and to a lesser extent Wallonia to get the request processed. Flanders and Wallonia have acceptable provisions that could be improved, but Brussels lacks any online portal (Brussels does not have any active LCP). For Flanders and Wallonia, neither compliance reports nor CEM data for the majority of plants are available. Database checked: http://environnement.wallonie.be/emissions-industrielles/ and http://www.geopunt.be/
BG	15/11/2019	n.a.	n.a.	Very basic but 'clean' structure of the website: http://registers.moew.government.bg/kr/ Both ELVs and permits could be found and were filled by our NGO contact of Greenpeace. Only minor issue with some files being uploaded in jpg - thus not translatable.
CY	10/12/2019;6/1/ 2020 follow-up	15/1/2020	7/2/2020	Cyprus sent us (almost) complete documents, except for CEM data – but they did send the summary of annual average emissions. Permit relevant information is available on the national IED website: http://www.moa.gov.cy/moa/environment/environmentnew.nsf/All/7E06 F57D7BF182F8C2257F620027EB2F?OpenDocument
CZ	10/12/2019 6/1/2020 follow- up email	8/1/2020	8/1/2020	Authorities directed us to their national website and kindly explained (in English) the step-by-step guide on how to navigate the search function and find the documents. As mentioned in the best practice examples, their system is one of the best and very well-structured; documents were easily found, except for the unprocessed monitoring data, which is "not available upon request", but a pending court case of our member Frank Bold Society may hopefully require this information to be included too. In some cases, the embed CEM monitoring results and evidence are not made directly available on https://www.mzp.cz/ippc/ippc4.nsf/search.xsp . The process could be further improved if a RSS feed / email notification system could be added, like for the Irish system



DE	09 -16.10.2019	n a	n a	DE has been described in detail in the "worst example" section
DE	03 - 10. 10.20 19	n.a.	n.a.	DE has been described in detail in the "worst example" section.
				Complicated situation to access information due to absence of a
				centralised, country-wide database. Fees were charged, depending on
				the region and on the attitude of the person in charge. CEM/compliance
				report relevant information is not publicly available, and there is no
				collection of all relevant data at the federal level. In some cases, CEM
				results obtained through formal requests have been blacked out
				(censored). The permit in force is not always shared in electronic format.
				Examples of regional registers:
				NRW: regional IT infrastructure available but not publicly accessible
				https://www.lanuv.nrw.de/umwelt/industrieanlagen/mehr-zum-
				thema/anlagen-informationssysteme/komponenten-des-
				informationssystems-stoffe-und-anlagen-isa#c7545, Arnsberg
				https://www.bezreg-
				arnsberg.nrw.de/themen/u/umweltinspektionen 6/do ivu anlagen/index.
				php
				Baden-Württemberg: inspection reports https://rp.baden-
				wuerttemberg.de/Themen/Umwelt/Seiten/Industrieemissionen.aspx
				separate links by sub-regional competence <u>S</u> , <u>KA</u> , <u>FR</u> , <u>TÜ</u>
				Brandenburg:
				https://mluk.brandenburg.de/mluk/de/umwelt/immissionsschutz/industri
				eanlagen/ (inspection reports/permits)
				Rheinland-Pfalz: https://sgdnord.rlp.de/de/arbeits-immissions-und-
				verbraucherschutz/immissionsschutz/industrieemissionen/ (inspection
				reports/permits)
				Mecklenburg-Vorpommern https://www.regierung-
				mv.de/Landesregierung/lm/Umwelt/Immissionsschutz/Ueberwachungspl
				an-Industrieemissionen/ (inspection reports)
				Bavaria:
				https://www.regierung.mittelfranken.bayern.de/aufg_abt/abt8/abt84010
				<u>EU-Rili Ueberwachungsprogramm.htm</u> ,
				Saarland:
				https://www.saarland.de/muv/DE/portale/immissionsschutz/informatione
				n/industrieemissionsrichtlinie/veroeffentlichungen/veroeffentlichungen n
				ode.html (permits/inspection reports)
				Thüringen:
				https://tlubn.thueringen.de/umweltschutz/immissionsschutz/anlagenbez
				ogener-immissionsschutz/genehmigungsverfahren-nach-
				bimschg/immissionsschutzrechtliche-genehmigungen-fuer-anlagen-
				gemae / inspection reports



DK	31/10/2019 11:10	04/11/2019 13:52 (Ministry of Environment and food)	n.a.	In Denmark the LCP data is managed by one central authority (EPA) and several regional authorities. The authorities were very collaborative. We were sent a contact list of regional authorities containing indications on the different competencies. There is a national portal in place, https://dma.mst.dk/soeg/ , that is mapview based, with search filters for the IED activities. Whilst the structure looks good, the content and the quantity of available data are very limited (permit review decisions, inspection date, or enforcement action as well as Seveso III related reporting are published) but there is no compliance report relevant information as well as evidence (monitoring results). An illustration is for Esbjergværket: https://dma.mst.dk/vis-virksomhed/b6234388-5280-40a2-bd9c-07e9aaff33ea
EE	13/11/2019 16:50	19/11/2019 09:40 (the email was forwarded to the Ministry of the Env responsible authority)	12/11.2019	The Estonian authorities have been extremely responsive and collaborative. Most of the data is accessible on 2-3 websites: https://kotkas.envir.ee and https://www.envir.ee/et/eesmargid-tegevused/keskkonnakorraldus/saastuse-kompleksne-valtimine-jakontroll-0 ELVs were difficult to assign at LCP level due to multiple stacks at the same plant not corresponding to LCP-D entries and CEM data could not be found. The authorities have so far shown the willingness to collaborate on this issue by filling in an excel table.
ES	8/11/2019	2/12/2019 - confirmed via phone; 6/2/2020 - follow-up email		Spanish authorities showed willingness to help, but in the end our request remained unanswered. The only data we got (incomplete and just for the biggest coal plants) was from the Spanish EEB member IIDMA. Some local authorities provide up to date information on CEM but need to be searched for, e.g. Majorca http://www.caib.es/sites/atmosfera/es/emisiones de apcas con autoriza cion ambiental integrada-84871/ The national portal is ready to integrate the permits, consumption data, or other emission results (concentration) but it seems the local authorities have not populated the central register, mainly designed for PRTR purposes. Positive to note is the absence of reporting thresholds and information on water consumption and fuel use. http://www.en.prtr-es.es/informes/fichacomplejo.aspx?ld Complejo=99
FI	12/11/2019 17:49	N.a.	n.a.	In Finland there are several authorities handling the request. We have received a substantial amount of data mostly stored on clouds and well labelled according to LCP plants. Permits can be found on the national register: http://www.avi.fi/web/avi/ymparisto
FR	5/11/2019; 21/22/2019;	18/12/2019 - redirected to their website		French authorities were very hard to reach (several phone calls, e-mails sent to a couple of email addresses) and not collaborative.



	ı	25 /5 /2222	I	
		25/5/2020 -		The national website does have a search function with useful search
	5/12/2019	documents not		filters https://www.georisques.gouv.fr/risques/installations/donnees#/
	3/12/2013	found, thus we		No compliance reports/CEM data (monitoring results) were found for the
		sent a follow up		relevant plants. For many of the assessed plants, no permit in force, nor
		request		
		10 (5 (0000)		latest inspection report was publicly available. Illustration here: EDF LE
		12/6/2020 - they		Havre LCP.
		asked to contact		After following up with the Ministry we were told that the CA should and
		local authorities		will deal with the request – which has not happened yet. After several
		24/6/		
		24/6/ - request		email exchanges with the Ministry we were finally told that they
		sent to 10		forwarded our request to local CAs and we should receive data by end of
		departments –		August. CEM data was received just on 31/08/2020 for 3 LCPs in Corse
		no reply until		and 5 LCPs in Bretagne, further data arrived recently but could not be
		this date		processed for that reasons.
				On the other hand, the French Ministry managed to provide detailed
				data on water release and consumption relevant information, in Excel
				format an at country level. This is also due to the improved reporting on
				water aspects (release and consumption).
				https://www.georisques.gouv.fr/risques/registre-des-emissions-
				polluantes. It is a serious shortcoming that this does not work (yet) with
				air relevant information.
				air relevant information.
				A positive feature of the French database is that the main homepage of
				the facility concerned displays the quantities of dangerous substances
				used, its legal classifications and details on operational status according
				to the (French and IED based) nomenclature, for Seveso sites that
				information has however been removed.
				momation has nowever been removed.
GR	20/12/2019	8/1/2020	30/1/2020	Most permits and compliance reports (incl. CEM data) are available on-
				line. On the other hand, there is no centralised database, the search
				function of the available databases does not allow for a quick, effective
				search, and the CEM data are not available in excel format to allow
				further analysis. These factors make the data less accessible and the
				whole process of data resaearch and analysis unnecessarily burdensome.
				Permits are available in the following websites: http://aepo.ypeka.gr/ and
				https://diavgeia.gov.gr/search?advanced=true
				Compliance reports are available here: http://www.ypeka.gr/el-
				gr/Environment/Environmental-Permission/IED-registry
				The site http://aepo.ypeka.gr/ further includes a dedicated 'inspections
				database', but this is only accessible to authorised users.
				The national authorities were very cooperative in clarifying how the
				system works and direct the researchers to the information. They further
				provided additional compliance and inspection reports. Where
	I	l	l	Fig. 1.1.1.1. The state of the



				compliance reports were provided, those are quite detailed and satisfactory. Mercury emission monitoring results is incomplete for the lignite plants,
				despite the legal requirements.
HR	05/11/2019			The Croatian IT infrastructure is positive on enabling real-time access to CEM (air) and other operational data, but the content seems rather limited and not always up to date due to disfunctions of the AMS / telereporting. http://iszz.azo.hr/stacion/mjer.html?tip=Kontinuirana (see 'Best practice' section). Permits and other compliance information could not be located for all plants.
HU	7/1/2020	25/2/2020		Hungarian authorities were very collaborative, and sent us complete data. There is no data / documents provided however through their national IED portal: https://ippc.kormany.hu/
IE	31/10/2019 15:46	28/11/2019 16:50	10/02/2020 19:18	The Irish data took longer to deliver than expected because a 'late decision letter' had to be issued in Dec 2019. In general, the Irish website is one of the best examples. However, CEM data are not always expressed in concentrations but loads, the raw monitoring data results were in many cases not available which is a shortcoming. The portal provides however very useful tools for advanced interaction e.g. RSS feeds, email notifications. http://www.epa.ie/terminalfour/ippc/index.jsp
IT				Access to document requests did not need to be sent because the national website of the Ministry of Environment is rated as one of the best practice examples for the purpose of this project. https://va.minambiente.it/it-IT/Ricerca/AIA .The Italian system could be even further improved if the search form allowed further filters per IED sub-categories. The Italian model should serve as an inspiration to other countries
LT	26/11/2019	23/12/2019 - extension requested	7/1/2020	A national database provided the permits, however no plant search function is available (all plants are listed in tables per region). No compliance report or CEM data are available online. http://gamta.lt/cms/index Lithuanian authorities only sent us a summary of air and water emissions; no detailed CEM, inspection reports or compliance reports were sent to us.
LU				There is no national database available and no LCP in operation, so the country is not part of the assessment.
LV	7/1/2020; 13/2/2020 follow-up email	18/2/2020	25/3/2020	Authorities replied with a bit of a delay, but they did provide us with links for permits/compliance and inspection reports/water data and only summaries of emissions data; their website http://www.vpvb.gov.lv/lv/piesarnojums/ is well structured but the search function is limited (search only by plant/operator name, location and reporting period). No compliance report or CEM data available online.



MT	31/10/2019+ 4/11/2019	9/1/2020	16/1/2020	Although with a small delay, the Maltese authorities provided us with complete data, including detailed CEM. Permits are made publicly available on the national IED portal, but other compliance report related information, including CEM, could not be located. https://era.org.mt/topic/ippc-installations/
NL	10 ATDs sent on 4/11/2019			Netherlands was one of the most problematic cases, firstly because they do not have a national supervisory authority, thus we had to communicate with several regional authorities via phone calls/emails. The majority also asked for extensions, and some did not respect the maximum 6 weeks extension period set in the national law. They were also very hard to persuade due to their exaggerated concern regarding "business sensitive information". We managed to gather (little) CEM data, permits and a few inspection reports, but response to our request is far from complete.
PL	05/11/2019 11:32	n.a.	n.a.	Poland has both good and bad examples when it comes to the delivery of data. Due to the sheer number of responsible authorities in the country, it is difficult to keep an overview. Some authorities have provided us with very detailed information on LCPs. Sometimes fees were charged but these were kept to very reasonable levels (20-40 Euros) for efforts made, considering we received many documents in return (full DVD). On the other side, we continue to receive requests for extensions, almost 9 months after sending the original access to document request
PT	10/12/2019; 6/1/2020 follow up email		24/3/2020 - data received but incomplete	After several attempts, Portuguese national authorities responded to our ATD but did not quite understand our request. Instead of annual compliance reports they sent us the EPTR reports (instead of concentration based CEM data they sent emissions in loads per year). As for inspection reports, they only indicated the dates of the last inspections without sending any documents or links. We managed to download the permits from their national portal at this site https://ladigital.apambiente.pt/ , but nothing more. We are still waiting for the correct data to be sent.
RO	09/10/2019	15/10/2019	5/12/2019	The local authorities have the responsibility to upload documents on their counties' websites (which all have the same structure, making it easy to navigate, although there is no search function). National authorities were very responsive and completed our ATD with data available on the local websites, but for many plants data was not always available. Since the ATD was sent we have noticed documents being constantly uploaded, but the coverage is still not complete, with CEM data in concentrations almost non-existent. http://www.anpm.ro/web/apm-bucuresti/autorizatia-integrata-de-mediu
SE	5/11/2019	5/12/2019; - link provided but not	7/1/2020	The national authorities were very quick in their response but did only provide permits and the annual reports used for PRTR reporting (emissions in loads). They provided us with a list of local authorities but



F	T	I	1	
		working; USB sent next day		did not automatically transfer the request to the responsible competent authority. Several follow up requests were therefore sent to the local supervisory authorities in regards with CEM data and inspection reports. Whilst the latter was provided in a timely matter and with no issues, the responses for CEM data requests were not positive. Almost all of them replied saying that they "request such data only if they see means to it", or "their authority does not have legal rights to formally request the operators to make such information available if they don't think it's necessary in the supervision of the plants". This is a serious shortcoming given that the Annual compliance reports as per IED Article 14(1) point d of the IED precisely ask for the operators to provide to the competent authorities the necessary evidence allowing compliance assessment with permit conditions, which should include the CEM (in concentration) results/raw data. Therefore, they should hold that evidence/information (without having to ask the industry). The national IED portal contains the basic information, not all permits are available though: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Rattsinformation/Rattsfall/IED-avgoranden/Dispenser/
SI	5/11/2019		10/12/2019 - data received via DVD,but it was cracked 12/12/2019 data received via weblink	Slovenian authorities replied in a timely matter, providing us with very detailed data, except for inspection reports. It seems that only permits are available on the national website http://okolje.arso.gov.si/ippc/tabela/14
SK	07/01/2020 and 29/06/2020	No	N.A.	Two of the first ATD requests were ignored. Phone calls had to be made to trigger a response. Permit and inspection report are available on the public database: https://www.enviroportal.sk/ipkz . CEM data is made available via the company websites, which is thanks to a forward looking Slovak IPPC/IED national legislation (set within the Slovakian Act no 137/2010, amended by Act 318/2012 requiring medium and large combustion plants to put online the monitoring data). We consider this practice a good industry practice example, especially because happening at country wide level (see best practice example section). This is the main reason why we did overall rate the Slovakian system as good, since this is an exemplary case – alongside the Croatian IT infrastructure - on how to make CEM data available on almost real time. Examples are provided here for illustration: Slovnaft https://slovnaft.sk/sk/o-nas/trvalo-udrzatelny-rozvoj/spravy-a-ukazovatele/ams-protokoly/024-teplaren-fgd-1-2/ / non continuous monitoring data https://slovnaft.sk/sk/s-nas/trvalo-udrzatelny-rozvoj/spravy-a-ukazovatele/ams-protokoly/024-teplaren-fgd-1-2/ / non continuous monitoring data https://slovnaft.sk/sk/s-nas/trvalo-udrzatelny-rozvoj/spravy-a-ukazovatele/ams-protokoly/024-teplaren-fgd-1-2/ / non continuous monitoring data https://slovnaft.sk/sk/s-nas/trvalo-udrzatelny-rozvoj/spravy-a-ukazovatele/ams-protokoly/024-teplaren-fgd-1-2/



				teplaren-fgd-1-2/ and Slovenské Elekrarné https://www.seas.sk/publishing (by selecting "protokoly emisných hodnôt z prevádzky elektrární" all the AMS protocols can be downloaded, in a user-friendly excel format. By selecting "Výpuste závodov do životného prostredia", environmental reports with useful air, water, and consumption data can be downloaded by month, which is also a very useful information.
UK	14/11/2019 10:34	N.A.	N.A.	UK authorities are divided into Northern Ireland, Wales, Scotland and England. All four authorities were very collaborative, responded to our requests and provided the data in a timely manner. For England, follow-up requests had to be sent for missing CEM data, some of which was blurred due to badly made scans. Their online portal(s) were not checked in detail; however, whilst permits are available, it is very difficult to locate them by plant. Neither compliance reports nor CEM data are made publicly available. The portal of Wales offers a satisfactory search function, permits can be quickly located, and other information such as compliance reports, CEM results and permit review related exchanges are made transparently accessible or can be easily requested. Scotland's system is one of the best in the UK, and is also very well structured. It offers a good search function that links to an online library with the main type of documents by category. An illustration is provided for the Grangemouth CHP plant (UK0171). There is a "adverts and representations" folder, a "formal docs" folder and a "monitoring and reports" folder. In the last one all CEM readings of the quarterly reports are uploaded, as well as in user friendly excel format, the latest data is from end of April 2020. The EEB was made aware later that the beta version went online, therefore many CEM data for Scotland were not yet processed by the release date The system of N. Ireland is equally good, very similar in structure to Ireland's system. It has enough of the required content available in user friendly manner. There is no LCP example, but this cement plant (Lafarge) can be checked as an illustration. The Reporting section contains CEM results. Wales http://www.naturalresourceswales. England https://www.naturalresourceswales. England https://www.gov.uk/government/collections/industrial-emissions-directive-ied-environmental-permits-issued Scotland https://www.sepa.org.uk/
1	I	i	1	14. ITEIGITA TILLES.//appsu.uaera-til.gov.uk/tpt/