Survey on development of the UNECE Protocol on Pollutant Release and Transfer Registers (PRTRs)

Questions

Based on your country/organization experiences in implementing the Protocol on PRTRs, please list the following in relation to the Protocol on PRTRs:

- What is it strengths?

Providing end-user friendly access to environmental performance information as to industrial activities is very valuable to a) identify sources of negative environmental impacts b) compare efforts made to prevent / control that pollution and c) share experience in terms of proper policy development or other knowledge sharing within the users of that information to prevent / reduce impacts of that given industrial activity.

Based on the previous considerations, the PRTR developed so far allowed to provide valuable information on point a) in relation to monitored releases of certain key pollutants to air, water and soil and amount of waste transfers. Where information on industrial activities is not available / lack of monitoring requirements exist, PRTRs are therefore a good starting point for providing minimal information to the public. Some countries / parties have implemented better PRTR systems than others this provides important lessons learned that could be draw from this experience.

- What is it weaknesses?

The EEB will only provide its assessment as to the EU PRTR system, knowledge on certain national PRTR systems / other good practice identified globally on these aspects, and other reporting issues under the Industrial Emissions Directive, it is therefore only a limited assessment and not meant to be exhaustive.

One of the fundamental limitations of the protocol or unclear provisions that have led to divergent implementation are mainly as follows:

- A reliable and transparent data flow among institutions, businesses, NGOs and other civil society actors is the basis the Zero Pollution Ambition set within the EU and global level (SDGs) will be built upon. The Aarhus Convention and very related legal frameworks to the PRTR (in the EU it is the Industrial Emissions Directive (IED) as well as the Seveso III Directive for the main industrial activities) also set provisions for improved information and public participation on industrial activities. Similarly, media or issue specific regulations (Waste, Chemicals, Air qualiy, Water quality) also

have reporting requirements which are not yet fully integrated in the other EU databases.

- 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 IED sets down provision aimed for improved access to information and public participation in decision making. However, there is a considerable reporting and monitoring deficit on those installations, as showed by the EEB's 'Burning: the evidence' report[1] https://eeb.org/most-eu-countries-failing-to-ensure-effective-access-to-industrial-pollution-information/
- Installations not fully implementing the possible Best Available Techniques (BAT) performance levels are not easily identifiable; monitoring data is outdated (2-3 years old) and not easily accessible overall. There is a significant implementation deficit at Member State level, which basically copy the minimal requirements from the EU-PRTR based on the UNECE Protocol (with a few positive exceptions like Spain, Norway, France,Ireland, Italy... on certain aspects)
- Limitations are directly linked to the formulation of the Activities covered (scope Annex I) and the limitation set on the pollutants covered / the thresholds set (many valuable information missing) Annex II , diffuse emissions from products is hardly ever reported (exception Norway)
- A weakness is the lack of integration of other environmental performance indicators (environmental quality objectives) and benchmarking possiblity of the individual facilities as to actions taken to prevent/minimase impact and stringency of permit conditions set by various countries when enforcing the standards set for those industries
- For IED activities relevant reporting – which are also covered by the E-PRTR, the situation is very different from one EU country to another, meaning that EU citizens are treated differently in their rights for effective public participation in decision making and access to information.
- The same limitation applies when comparing at global level e.g. with US and Chinese real time access information (mentioned lateron). The current reporting suffers from relevant flaws that reduce its utility and which prevent it from being a useful tool to increase public participation, guarantee transparency, benchmarking and compliance promotion activities
- These limitations weaken the usefulness of the PRTR systems for a certain user group, in particular NGO carrying out cross-country assessments. It also limits international work on assessing improvement potentials within similar industrial activites at global level.

- Are there opportunities that could exploit to its advantage?

- As we have highlighted in the Burning: the evidence' report[2] https://eeb.org/most-eu-countries-failing-to-ensure-effective-access-to-industrial-pollution-information/ there are good examples of databases at the national level and work on an improved EU centralised database is in progress. In the recent E-PRTR reporting guidelines, reporting on production volumes will become mandatory as from 2021.

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

There are many modern IT tools now available that could be used more effectively for providing new functions for data mining, improve user friendly-ness and faster sharing of information and comparison at global level. There is in generally a willingness to enable integration and comparability of data e.g. as developed under the OECD framework.

- The SDG goals as well as the new EU Green Deal with its Zero Pollution Ambition / toxic free environment goal will also require powerful indicators, monitoring and benchmarking tool to ensure all actors are on track.
- There is also strong interests of citizens to promote "citizen science". Improved availability and usability of real-time publication of environmental performance information, at least for installations with major air pollution and water protection impact, would allow citizens to compare reported emissions with measured ones and help inspectors / enforcement authorities to share workload. Some positive examples exist, but they remain the exception in the EU. A centralised data reporting with user-friendly access through mobile app has been developed by the IPE in China: the 'Blue Sky' map provides real time visualisations at facility level on wastewater and air emissions[3] http://wwwen.ipe.org.cn/

- Are there threats that could cause negative impact on it?
  To enable a benchmarking of industrial activities, certain missing information is necessary, such as production outputs and emissions from products ('diffuse' emissions). Currently, only the Norwegian industry is pro-actively publishing production output and diffuse emissions from product in a centralised database in Europe. When it comes to the EU 27, it is left voluntary to EU industry to report that information with a few exceptions (e.g. electricity output data under the ENTSO-E platform). However even then the databases are not integrated to enable integration of other installation specific reporting.
  Very often, production output data are withheld by operators on alleged grounds of Confidential Business Information (CBI), whereas legal justifications for such claims are generally not provided either.
  - Negative impacts (in the sense that PRTR are not used/developed) often relate on the design of the instruments without asking potential end-users of PRTR on what this tool should provide and not aiming for integration of the data portals at a globalised level (inter-operability of the PRTR systems beyond national borders).

Annex I - What are your country/organization experiences gained in the implementation of Annex I of the Protocol (including capacity thresholds)?

- Do you collect information, on a point source level, on activities that are not listed in Annex I of the Protocol on PRTRs? (yes/no)
  YES
    - If yes, please list additional activities (including capacity thresholds if applicable) and explain the reason for why this/these activities has/have

[3] http://wwwen.ipe.org.cn/

been added (and why these capacity thresholds have been chosen, if applicable).

This comment goes beyond the capacity threshold but is somewhat related.

- The EEB proposes to include all activities listed in any of the MEA so to streamline existing reporting obligations and mutually improve synergies in objectives to be achieved under these various MEA (in particular information exchange and compliance promotion);
- in order to allow comparison and matching of industrial activity sectors the entries should be classified according to agreed international Standard industrial Classification (ISIC) code lists. The Long Reporting Sector List (419 ISIC) or the "Short Reporting sector list" (152 ISIC) should be used as a minimum with possible matching with the NACE classification system. The same applies to the coverage of facilities / units / installation level where it should be broken down to the smallest (disaggregated) source level (in EU that would be the "installation" definition used in the Industrial Emissions Directive);
- **The reporting should change focus in terms of intended outputs / service provided by a given industrial activity**.
- Reporting on performance should follow a new approach also when setting BAT standards or performance to mean the lowest ratio 'environmental impact of industrial activity' versus 'public good/service provided', in order to promote the industrial activity with the least negative environmental impact for the provision of a given product/service. Some examples: Currently the PRTR is focussing for a sub set of energy production type (e.g. thermal power plants >50MWth) whilst the intended output of the energy sector is to provide energy. There are various ways of producing energy, the current wording focuses only on the polluting and unsustainable types of energy production, there will be a shift away from fossil-based / combustion type generation and the reporting is therefore incomplete and not up to date. The performance reporting should also be expressed as mg of pollutant / KWh net output (eletric, heat or mechanical energy) and complemented by other environmental impacts such as water and resource consumption.
- At global level the following items seem to be of common interest: energy production, water quality and supply, protein production, resource management, substitution of chemicals of concern. **"Energy conservation"** should also be added (e.g. from datacentres). Similarly, the activities falling under "waste management" should be broader to include **'resource management'** due to circular economy objectives. For water we propose to cover "**water services (water quality and conservation measures)",** where this relates to processing / providing XXX m³ of water/annum or achieving water savings of YYYm³/annum " (thresholds to be defined). This way the intended service (providing improved water supply and preservation activities will be reported upon which in turn allows benchmarking and identification on how to further optimize). The activities should be adapted to new ways of food production (e.g. which could include rearing of insects or other types of protein production). The current list is incomplete, there is no sound rationale on why a high number of pigs and poultry is covered but not other livestock such as cattle. A Possible reclassification would be "Protein production of animal and non-animal origin" or "Production of food with net ecological footprint higher than XXX" (relevance threshold to be defined in this case);
- Other activities should be added such as "**soil remediation activities and biodiversity protection measures**", "**sustainable transportation of goods**" and "**Industrial solutions for improved air quality, where measured improvement is XX µg/Nm**³" (the list of pollutants should then be further established. As a starting point we would expect all WHO critical air pollutants to be listed);

- Certain activities are obsolete e.g. asbestos production or use of leaded gasoline, it should be expected that these activities are prohibited so focus should be on compliance promotion instead of reporting (should be "0") The asbestos entry could be amended to "Decontamination activities of asbestos";
- Other environmentally impacting activities should be covered as well (e.g. aquaculture without loosing focus on the desired public good / service to be provided.

The EEB opposes the application of thresholds. **Thresholds should be removed or adapted to any of the lowest entry in any MEA or lowest applied by any given party to those MEA.** In most cases monitoring information is available and the threshold set are the detection levels of the monitoring devices, this information is therfore readily available so there is no reason to not share that available information (Spain provides a good example in this sense that they do not apply thresholds).

- **We strongly support to add (diffuse emissions from) products in the reporting activities**. As a start we suggest adding a first set of products group with default emission factors. A possible first list could be that developed by the OECD and the Nordic PRTR group, reporting by parties should be based on application of the default emission factors (see list of product group and default emission factors in the OECD Annex to the resource compendium of PRTR release estimation techniques part VI : summary of techniques for estimating releases of chemicals from products (ENV/JM/PRTR(2016)2/ANN. That includes: PAH from bitumen roofing products, PCBs from sealants in building and construction, DEHP from PVC flooring, Ethanol from car care products, heavy metals and NMVOC from plastic bags, heavy metals from boats seals, fish farming nets, vehicle brake and tyre wear, mercury containing products, micropollutants e.g. from synthetic fibres / tyres / cosmetics etc. A multi-stakeholder expert group should be tasked to complement the product groups and default emission factors to apply, define the methodology to use as well as ensure a streamlining with other databases on chemical management at a global level so to maximise synergies and policy coherence. Information on the presence of substances of concern is also generated and made available through the REACH Regulation, however this is currently limited to a limited list of SVHC and articles https://www.askreach.eu/app/ Reporting should also include the use, production and (diffuse emissions from products) of those chemicals of concern in industrial facilities.

    - If yes, what challenges have you identified during implementation? (Please list)

As part of the Burning the Evidence report findings there is a general lack of information based on the same reference used in emissions reporting in the EU BREF standards (concentration based, real time monitoring data). An EU overview of finding relevant permit conditions and compare by sectors is not possible (contrary to the US) https://cfpub.epa.gov/rblc/index.cfm?action=Search.BasicSearch&lang=en . Germany is requesting systematically fees for receiving very basic information, indirectly preventing NGOs and citizens for receiving that information. Permit writers are also often acting in the interest of operators to not disclose information (confidential business information).

Those challenges are faced under our current own LCP database project, see more information here

http://eipie.eu/storage/files/Industrial%20Plant%20Data%20Viewer%20sneak%20preview.pdf

- If yes, what is the added value? (Please list)

A larger scope of using available information (keeping in mind the intended output of the given industrial activity) would help to exchange best practice on pollution and prevention measures within that sector, level the playing field across the industry and provide more confidence of the public on corporate responsibility.
The current EU system does not enable to really compare performance of installations if this is limited to annual loads of pollution / releases but not put in relation to any useful outputs (production volumes) or other key contextual information (size of the installation, operating time, fuel input data, flow rates, monitoring results presented in same reporting format as to the BAT/BEP standards set for that industry). The added value would be increased focus of reporting on pollution prevention and reduction (Art 1), identification on where further progress can be made due to BAT/BEP uptake, better comparability of data/performance as well as enhanced public participation in compliance promotion or decision making.
A redefinition of the scope of activities covered (ratio of impact versus desired output) would also remediate limitations on system boundaries linked to regulating industrial activities e.g. upstream impacts (input materials / consumption) and downstream impacts (waste generation, diffuse emissions from products) within circular production methods in the supply chain would be better captured.

There are currently many gaps in the data-assessment for the purpose of the EU BREF reviews (PRTR showing significant limitations to cover the not yet monitored pollutants, explain changes in the release profiles, no data available due to high thresholds set etc)

- Do you collect information, on a point source level, on activities with lower capacity thresholds than those set in Annex I of the Protocol? (yes/no)
  - If yes, please list and explain why lower capacity thresholds are set.

Yes.

Example: E.g. 1 Energy generation for <50MWth (EU-ETS starts at 20MWth). There are many more combustion plants below this category. The setting of capacity thresholds is based on politics (at least at EU level), in the US the relevant category starts at 1MW el and there are powerful search functions within that database
https://www.eia.gov/electricity/data/eia860/

E.g. 2: under the Waste Gas from Chemical Industry BREF the thresholds did not make any sense, especially when this relates to CMR pollutants. A significant share of the emissions are from "diffuse emissions", so not currently monitored / abated in the same way. Solvent input data was missing in many cases.

E.g. 3: in general it would not make sense to set thresholds in relation to release of chemicals that are persistent or bioaccumulative because even small contributions will cause a concern to the environment at global level.

- If yes, what challenges have you identified during implementation? (Please list)

The main challenges faced so far have been identified under the Burning the Evidence Report precited

- If yes, what is the added value? (Please list)

- Based on your experiences from the implementation of the Protocol, are all relevant industrial activities included in Annex I to be able to collect 90%[4] of the national total from industrial activities of each pollutant (yes/no)?
  NO
  - If no, which activities are missing in your PRTR (Please list).

  As stated above the emissions from "products" are missing (see above point)

The EEB proposes to include product groups as a first set of list with default emission factors. A possible first list should be that developed by the OECD and the Nordic PRTR group and reporting by countries should be based on application of the default emission factors (provided no more accurate release information is available) and include at least the following: PAH from bitumen roofing products, PCBs from sealants in building and construction, DEHP from PVC flooring, Ethanol from car care products, heavy metals and NMVOC from plastic bags, heavy metals from boats seals, fish farming nets, vehicle brake and tyre wear, mercury containing products, micropollutants e.g from synthetic fibres / tyres / cosmetics etc. Other product groups could be as follows: furniture, nanoproducts, pharmaceuticals, personal care or cleaning products, pesticides, textiles and leather products, toys and jewellery, electronics, packaging. Reporting should be integrated with databases on substitution of chemicals of concern e.g. ECHA database, this would also help consumers to chose safer products and stimulate substitution https://www.askreach.eu/app/

- The way on how the current scope is formulated has limitations (see above)

  Further missing activities:
- include bunker fuels and international shipping /aviation this should also include emissions from docking at harbors and inland shipping. Reporting of the other air emissions per aircraft companies should be provided on annual basis. For ships in particular NOx, and SO2 e.g. by stack emissions should be subject to monitoring

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[4] According to the Guidance document for EPER implementation: According to Article 3 of the Commission Decision of 17 July 2000 (2000/479/EC) on the implementation of an European Pollutant Emission Register (EPER) according to Article 15 of Council Directive 96/61 EC concerning Integrated Pollution Prevention and Control (IPPC), *EPER aimed to cover at least 90 % of the total industrial emissions in Europe. The goal of the reporting threshold values was to minimise the reporting burden, although reporting of releases lower than the thresholds was also allowed. […] The actual numbers of the proposed threshold values had taken into account current data in the Netherlands, Germany and the United Kingdom (England and Wales) and the comments of various [EU] Member States.* In the Guidance to Implementation of the Protocol on Pollutant Release and Transfer Registers (page 19) it is further explained that *the IPPC Directive's (96/61/EC) list of activities was used for the development of the Protocol, first of all for the practical reason that many UNECE countries already were or were to become members of the EU, and thus already had systems in place to control polluting emissions from the facilities carrying out these activities. A second reason was that these activities, together with the additional ones in the Protocol, were responsible for about 90 per cent of industrial pollution.*

requirements - in particular on SO2- to be directly reported by the operator to an open access database. In a later stage the entity responsible for validating the data submitted would have to be established.
- include the non-accounted CO2 fractions from biomass but also methane emissions from natural gas or other fossil gas exploration.

Annex II - What are your country/organization experiences gained in the implementation of Annex II (including pollutant thresholds)?

- Do you collect information, on a point source level, on pollutants that are not listed in Annex II of the Protocol? (yes/no)
    - If yes, please list those additional pollutants (including thresholds if applicable) and explain why this/these pollutants has/have been added (and why these thresholds have been chosen, if applicable).

YES:the EEB is interested also on the use, production and direct or indirect release of chemicals of concern. As mentioned above, we object to reporting thresholds for chemicals of concern.

    - If yes, what challenges have you identified during implementation? (Please list)

It is hard to identify the not yet monitored pollutants e.g. watchlist substances under the Water Framework Directive, novel pollutants.

    - If yes, what is the added value? (Please list)

Not tracking the full Life Cycle of the use / production / direct or indirect release of the substance only provides a partial picture of the environmental performance of the industrial activity in question.

- Do you collect information, on a point source level, on pollutants with lower pollutants thresholds than those set in Annex II of the Protocol? (yes/no)
    - If yes, please list and explain why lower thresholds are set.
    - If yes, what challenges have you identified during implementation? (Please list)
    - If yes, what is the added value? (Please list)
- Based on your experiences from the implementation of the Protocol, have you identified any pollutants that are crucially important the environment and for human health but are not listed in Annex II? (Please list)

The comments are based on the earlier EEB submissions made to the UNECE PRTR Protocol public consultation (April 2019)

- it is not clear why the D entry column under "OECD shortlist" (ENV/JM/MONO 2014 - 32 is just listing 40 entries. The OECD "short" list is listing in its option 2 list 177 pollutants. **The EEB supports to report on the option 2 of the OECD "shortlist" (177 entries) as an absolute minimum;**

- certain emerging pollutants or wider groups of substances based on hazard criteria should be added, notably: Persistent mobile organic chemicals (PMOC), a list of (4) relevant substances identified by the scientific body of the European Commission as of very concerning is listed in the excel (see lines 134-136);
- Substances that are meeting the properties of a substance of very high concern according to Article 57 of REACH" should be added. As a minimum "Substances that are listed to the 'candidate list' referred to in Article 59(10) of REACH" should be added. Those are the highest concern chemicals identified in the EU for substitution obligations. Adding this category to the PRTR would address the reporting deficit as to presence of those unwanted substances in imported articles and promote substitution efforts worldwide;
- Entry 115 of the provided Excel overview should be amended as follows: "Substances and mixtures **which are suspected or meet** carcinogenic or mutagenic properties or properties which may affect reproduction in or via the aquatic environment" (to ensure a more precautionary approach); Entry 116 should be amended as follows: "Substances and mixtures **which are suspected or meet** carcinogenic or mutagenic properties or properties which may affect reproduction via the air" (to ensure a more precautionary approach);
- Entry 117 should be amended as follows: "Substances listed in Annex X to Directive 2000/60/EC a**nd the watch list substances pursuant to Article 8b of Directive 2013/39/EU"** (those substances are identified as priority pollutants for further monitoring, reporting and source control measures);

  The EEB objects to establish any reporting thresholds in particular for CMR or P or B or T properties or other pollutants with hazard properties of equivalent concern. If monitoring is done on a certain pollutant it does not make sense to apply reporting thresholds in order not to share that available information.

Other relevant aspects - What are your country/organization experiences gained in the implementation of other relevant aspects?

Energy consumption

- Do you collect information, on a point source level, about energy consumption today? (yes/no)
  - If yes, what challenges have you identified during implementation? (Please list)

YES: in the BREF review process hardly any information is provided. The main bottleneck is claimed confidential business information, yet this attitude varies a lot from one country to the other.

There is some information available for Large Combustion Plants (fuel input amount by type) (available on reporting by the European Environmental Agency). Norway and the US provide this information in a transparent manner. We aim to cover the fuel consumption on the EEB industrial database project
http://eipie.eu/storage/files/Industrial%20Plant%20Data%20Viewer%20sneak%20preview.pdf

If yes, what is the added value of this inclusion? (Please list)

It is a requirement under the BREF review process to address energy consumption. There is a direct correlation with climate change mitigation and resource efficiency overall.

  - If no, have you identified any obstacles for integrating the aspect in your PRTR? (Please list)

This is just an attitude problem: claimed confidential business information or claimed competition rules at EU level.

Water consumption

- Do you collect information, on a point source level, about water consumption today? (yes/no)
  - If yes, what challenges have you identified during implementation? (Please list)

Yes. We aim to cover water consumption in the EEB industrial database project http://eipie.eu/storage/files/Industrial%20Plant%20Data%20Viewer%20sneak%20preview.pdf However a limitation is that the information is not yet provided at facility level across the EU. France is a good exception on this (water consumption per facility is reported).

The intention is to cover water abstraction from mining activities, because information is not publicly available we had to do our own research that just recently started. There is generally information available e.g. WISE database, but it is not linked to specific installation breakdowns, although this information needs to be reported e.g. annual compliance report. Annual compliance reports are however not shared in an open manner to the public in most EU countries.

  - If yes, what is the added value of this inclusion? (Please list)

It is a requirement under the BREF review process to address water consumption.

Water quality, and hence its availability, is a key environmental media to protect globally. We expect that water use conflicts increase due to climate change, it is therefore of utmost important to manage and protect this precious resource at global level.

  - If no, have you identified any obstacles for integrating the aspect in your PRTR? (Please list)

Yes: there is a general deficit on reporting on water consumption. We recently faced an obstacle within the Ferrous Metals Industry BREF review, again it is just an attitude problem: industry claimed water consumption is potential confidential business information or cannot be shared due to competition rules at EU level.

Waste

- Do you collect information, on a point source level, about waste generation and waste management amount (recycled, landfilled, export)? (yes/no)
  - If yes, what challenges have you identified during implementation? (Please list)

Yes: There are limitations about identifying the relevant waste codes and waste characterization. For reporting on waste, this should also apply to reception of waste at the non-waste management sites. Information on waste classification and presence of pollutants / chemicals within the waste should also be shared (that information should be available due to the EU Waste legislation and CLP regulations). In this regard we would propose to set as a minimum the list of the 22 Substances set in the Czech PRTR. For the sake of consistency, the same R and D codes as those listed in Annex IV of the Basel Convention should be required to be used.

    - If yes, what is the added value of this inclusion? (Please list)

Waste characterisation is useful to differentiate from the various waste times and transparency is useful to ensure proper treatment options are implemented ("waste" tracking). The implementation of circular economy objectives would also be facilitated.

    - If no, have you identified any obstacles for integrating the aspect in your PRTR? (Please list)
- Do you collect information, on a point source level, about recycling rate for different waste streams according EWC?

  This would be very useful. See further information on this work at OECD level (Activity 5 Value Chain approaches to determining BAT in industrial activities, not yet published)

    - If yes, what challenges have you identified during implementation? (Please list)
    - If yes, what is the added value of this inclusion? (Please list)
    - If no, have you identified any obstacles for integrating the aspect in your PRTR? (Please list)

On site transfer[5]

- Do you collect information, on a point source level, about on-site transfer of waste or pollutants (e.g. via internal waste water treatment plant) today? (yes/no)
    - If yes, what challenges have you identified during implementation? (Please list)

See points relating to 'waste'

    - If yes, what is the added value of this inclusion? (Please list)

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[5] According to the Guidance to Implementation of the Protocol on Pollutant Release and Transfer Registers (page 23): *Movements of pollutants/waste between two installations of the same facility on the same site or adjoining sites will be an on-site transfer. For example, if one installation disposes of waste in another installation, such as an incinerator that is part of the same facility, then the disposal of waste need not be reported, as it is considered to be an "on-site transfer". However, releases of emissions from the incineration will need to be reported as releases to air and any solid or liquid waste remaining from combustion and air pollution control sent off-site for disposal will need to be reported.*

- If no, have you identified any obstacles for integrating the aspect in your PRTR? (Please list)

Storage

- Do you collect any information, on a point source level, about storage on site (either on pollutants or waste) today? (yes/no)
  - If yes, please list what information is collected.

Indirectly: See point on use of chemical substances and production volumes / purpose "technical function" to be reported, as part of green chemistry work under the pre cited OECD value chain project and EU HAZBREF project (also identifying this data gap). There is a link to the Seveso III Directive requirement, where information on the use / amount/ measures taken to control the risk of the presence of dangerous substances needs to be collected and to be provided to the public. However this information is not integrated in the other public databases (IED Registry / ECHA database).

  - If yes, what challenges have you identified during implementation? (Please list)
  - If yes, what is the added value of this inclusion? (Please list)
  - If no, have you identified any obstacles for integrating the aspect in your PRTR? (Please list)

Other aspects

- Do you collect information, on a point source level, about any other aspects (for example productions volume) today? (yes/no)
  - If yes, please list what information is collected.

Yes.

See earlier comments in relation to other aspects needed. We would like to highlight again the following aspects:

Ideally any centralised / regional reporting system should allow the following:

- single access database (e.g. for EU that would be an improved IED registry / PRTR system). National and regional authorities should be linked to this database.
- Increase database 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 compliance assessment against environmental quality standards. This includes a minimal list of permit conditions related information to be added, permit review status and production outputs information – see Burning the Evidence report for full list,
- Guarantee real time access to important data like flow rates, continuous emissions monitoring results;
- Oblige member states to provide data under a no-fee basis;
- Harmonise data structures by providing templates to parties to report under same format (e.g. IED Electronic Permit Template). Improve visibility and comparability of permit conditions, derogations, inspection reports and compliance reports;
- Improve the IED registry and revisit the PRTR to include diffuse emissions from products ,in particular from SVHC, and enable progress tracking towards SDG

achievement, with proper consultation of end-users, also by integrating information on environmental and health quality
- Monitor transposition and implementation regarding transparency in a Forum.

    - If yes, what challenges have you identified during implementation? (Please list)

    - If yes, what is the added value of this inclusion? (Please list)
    - If no, have you identified any obstacles for integrating the aspect in your PRTR? (Please list)

Specification of reporting requirements for diffuse sources

- Based on your experiences from the implementation of the Protocol, what challenges have you identified during implementation of diffuse sources? (Please list)

Diffuse emissions from products are not reported throughout the EU (the Norwegian PRTR is an exception)

Have you included specific reporting requirements for diffuse sources? (yes/no)

    - If yes, please list the reporting requirements?

see other comments on how reporting on diffuse emissions could be made (default release estimation factors based on PRTR). See reporting requirements on certain SVHC in articles under REACH

    - If yes, what is the added value of these requirements? (Please list)

see other comments on why it is useful to track content of chemicals of concern throughout the life cycle, identify the technical functions of those chemicals (what is their purpose). This will promote substitution efforts. Operators are also responsible in the design and way on how they operate a given industrial activity , hence the potential diffuse emissions from use phase or end of life (circular economy aspects) of their products (outputs) should be included. Improved transparency would enable to track the origin and fate of those chemicals and provide tools to citizens to stimulate ecodesign / allow them to exercise their right of not being exposed / choose sustainable products. Example, but limited to SVHC contained in articles https://www.askreach.eu/app/

Exchange of information related to experience gained in areas identified in paragraph 39 of the report of the development of the Protocol on PRTRs (ECE/MP.PRTR/WG.1/2019/6)

Do you use PRTR-data for:

- Reporting related to sustainable development and circular economy (yes/no)

- If yes, what approach did you use during implementation?

The EEB takes the view that parties need to lay down adequate reporting requirements that would enable the public to track progress towards the achievement of the Sustainable Development Goals (SDGs). This means the parties (e.g. EU, countries and their economic actors) would have to adapt their reporting tools accordingly and a revised PRTR could help in this way. The following design features and information should therefore be incorporated in the revised PRTR system(s).

a) design features

- Enable evaluation of global trends
- Enable evaluation of impacts of environmental policies and programmes
- Improve knowledge into human and ecosystem heath issues
- Characterise transboundary impacts of releases, waste flows and resource consumption
- Identify pollution prevention opportunities, such asrelease or consumption per unit of production, or efficiency of pollution prevention techniques
- Enable review of environmental performance and efficiency

b) possible indicators to apply to information

- Ratio of releases of chemicals and production outputs (including chemicals of concern from products i.e. "diffuse emissions")
- Ratio of recyclability of resources and waste prevention per production outputs
- Hazard ranking and fate (hazard properties of substances used in industrial activities)
- Environmental quality index (air, water, soil)
- Environmental footprint index (per capita)
- Social impacts (reduced health risks)
- Effectiveness rating of measures taken to prevent pollution and reduce impact

- If yes, what is the added value?

- Better transparency and benchmarking tools would facilitate improved implementation of EU regulation on industrial activities and assist environmental authorities with enforcement, as discrepancies and unreported breaches and violations not picked up by monitoring and reporting mechanisms could better be reported by citizens. It would also improve compliance with Aarhus obligations (access to information, public participation, and access to justice).
- The EU has failed so far to deliver user friendly IT tools on environmental performance of industrial installations, and is far behind in providing a useful and end user friendly access to already generated data andinformation by the industry. If the EU is serious about using effective digital tools to benefit citizens and drive improvements in industry, action is urgently needed.

Best practices are available, such as in Norway (PRTR model) and in Ireland. The Italian system is also rated as good. The most notable good examples on aspects highlighted above are however from outside of Europe:

- The 'Blue Sky' map, developed by IPE in China. Real time data at facility level are available on wastewater, air emissions, integrated with air and water quality information http://wwwen.ipe.org.cn/.
- The US Air Markets Program Data system https://ampd.epa.gov/ampd/. 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) https://www.eia.gov/electricity/data/eia860/
- 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 database https://cfpub.epa.gov/rblc/index.cfm?action=Search.BasicSearch&lang=en.

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. It will also help compliance promotion and citizens engagement.

  - If yes, what challenges have you identified?

It is mainly IT related. Many countries still allow operators to provide key permitting and environmental performance monitoring information on paper format, in the EU there is no agreed electronic IED permit reporting template that would enable automatic extraction and a display of results in a centralized database. Where continuous emissions monitoring is required (this is the case for the main activities under the PRTR/IED) there should be a requirement to provide access to that data on real time through a centralized server (see the example of China).

  - If no, have you identified any obstacles?

A current obstacle is languages, but in relation to permit conditions a streamlined reporting based on the electronic IED permit reporting template would allow to overcome the language barriers (permit limits / monitoring results are essentially numbers that can fit any format).

- Reporting to other multilateral Environmental Agreements (yes/no)
  - If yes, what approach did you use during implementation?

see earlier comments by EEB on integrating reporting on MEAs

  - If yes, what is the added value?

avoid duplication of reporting / best use of reporting

  - If yes, what challenges have you identified?
  - If no, have you identified any obstacles?
- Implementing the polluter pays principle (yes/no)
  - If yes, what approach did you use during implementation?

Yes but limited. (we calculate damage cost based on emissions).We use the air pollution data and apply external damage cost values to quantify the air pollution costs of certain activities, see EU lifting EU Dark Cloud, Last Gasp report and also ongoing LCP database

project using a similar approachhttp://eipie.eu/storage/files/Industrial%20Plant%20Data%20Viewer%20sneak%20preview.pdf

- If yes, what is the added value?

The externalized damage costs of industrial activities are not displayed, on the other hand operators often complain they cannot afford to pay for pollution prevention / control measures. The cost-benefit assessment is hardly ever made at company / mother company level. The global burden on disease is not reported and no causal link to the polluters is made, therefore changing this approach would finally ensure to at least visualize the scale of externalized pollution costs. Those findings would be useful to share with investors, rating agencies and also technique providers.

- If yes, what challenges have you identified?
- If no, have you identified any obstacles?

the polluter pays principle is not implemented.

- Promoting "actions to reduce pollution" and sharing pollution prevention methods (yes/no)
  Yes.
  This is of key importance to the EEB. One of the key aims of reporting is to identify where further pollution prevention / control could be possible so to prevent/reduce negative impacts at source, to enable benchmarking of similar activities and its operators. This would also foster compliance promotion.

  See more input made on this by the EEB and Ecoforum under the Quick Wins submission sent to the UNECE Secretariat on 18/01/2016.

  This is also an aim of the precited EEB industrial database project

  - If yes, what approach did you use during implementation?

Expert judgment, checking permits, interaction with technique providers. Unlike the US, the EU data reporting has a significant deficit in relation to implementation of BAT, this situation will change in the future through the IED Registry. Some information is generated when a BREF is reviewed, but this information is not widely shared nor integrated in the database reporting.

- If yes, what is the added value?

Pollution prevention / reduction is more important than reporting more accurately on damage done, if the information sharing can help to improve environmental performance then we regard this as useful information.

On the other hand full transparency and user-friendliness of data provided can help the identification of hotspots for further actions / improvement potential or compliance issues.

- If yes, what challenges have you identified?
- If no, have you identified any obstacles?

The reporting on techniques to prevent / reduce pollution has so far not been required. It should be agreed at global level to set up similar coding list for the various techniques that can be used, to enable better grouping of techniques / uptake in various sectors.

- Integrating with data and information of other sectors (yes/no)
  - If yes, what approach did you use during implementation?

Yes: we aim to integrate electricity output data (ENTSO-E) within the industrial database project, currently limited to LCPs.

  - If yes, what is the added value?

We wish to derive pollution intensity / resource consumption by useful output provided, in this case electricity / heat provided. In our view this is the more accurate way of comparing performance (instead of presenting results only in flue gas concentration of certain pollutants) or displaying load based emissions without contextual information (outputs, size etc)

  - If yes, what challenges have you identified?

Matching codes not working between ENTSO-E entries and LCP entries or EPRTR plant codes (plant codes).

If no, have you identified any obstacles?

- Improving waste-and wastewater-management reporting (yes/no)
  - If yes, what approach did you use during implementation?

Yes: we aim to integrate wastewater output data within the industrial database project, currently limited to LCPs. The PRTR information is limited and does not contain other information like origin of the water, type of recipient body, treatment techniques used.

  - If yes, what is the added value?
  - If yes, what challenges have you identified?

The PRTR information is limited and does not contain other information like origin of the water, type of recipient body, treatment techniques used, temperature etc. The PRTR is facility data whilst some reported information is at installation level. Indirect discharges (sent to Urban Waste Water Treatment Plants) are not reported under the facility information so it is difficult to identify the (upstream) source of the pollution.

  - If no, have you identified any obstacles?

High fees in Germany. Un-cooperative attitude of Member States to provide data.

Please share any other relevant information

The EEB would like to re-empahsise the comments made so far in relation to the PRTR Protocol.

Following to the comments made by the EEB at the 4th meeting of the Working Group of the Parties to the Protocol of 26th November 2015 and list of decisions adopted[6] we would like to reiterate that progress on achieving the objectives of the Protocol is made and therefore that recommendations are implemented as early as possible. In the joint EcoForum-EEB letter to UNECE 18/01/2016 some "quick wins" recommendations have been identified. Those recommendations would not require a change of the Protocol or additional technical requirements but does provide an added value to the objectives set within the Protocol. This does however not mean that the other recommendations are less relevant.

Reporting requirements or legal standards on industrial activities, at least in the EU, are similar (the same), yet implementation is not. The precited EEB 'Burning the Evidence Report' has identified common recommendations that should be implemented right away. We do not see the new IED Registry to address the recommendations in a meaningful way because environmental performance will not be comparable. We regard the Norwegian PRTR example as a good starting point, mainly because the main permit related reports and information is available on one place, data is provided with context (production volumes flow rates to air and water is also reported), and the PRTR also provides information on diffuse emissions from products. The US, Chinese and Japanese systems demonstrate that IT tools should and can be used better, competent authorities should always require their operators to provide information (this includes permit information) via electronic format and keeping in mind on how this information can be better used for benchmarking and compliance promotion.

As already provided in writing in the public consultation, the EEB would therefore propose the following minimal list of information and format of information to be explicitly required to be reported at installation level (minimal list set in the Protocol):

A: permitting and compliance related documents:

1. Environmental Impact Assessment reports;
2. Inspection reports, in electronic format;
3. Annual compliance reports (permit conditions and information allowing to assess compliance with those permit conditions), in electronic format covering all life cycle impacts of the industrial activity;
4. Operating permit in force (consolidated version), in electronic format, with possibility to automatically extract and sort within the register the emission limits applied and comparison with average level of emission limits applied for similar activity in the same country;
5. Decision making status concerning the industrial activity including the date of the latest permit review, upcoming permit reviews and contact information of competent authority with at least email address.

[6] PRTR/WG.1/2015/Inf.4 of 26 November 2015, Item 5

B: Environmental performance information

6. Flow rates for air emissions (flue gas volume expressed in Nm^3/year) and flow rates to water discharge (m3/year)
7. Concentration values of pollutants released (expressed in mg/Nm^3 or µg/Nm^3) and in absolute loads per production volumes, comparison with country wide average for same sector activity;
8. Quantities of materials, chemicals, resources including fuels manufactured, produced and used at the installation or facility;
9. Quantities of chemicals incorporated into products;
10. Water consumption (per type of water: collected rainwater,surface water, groundwater, seawater, other water)
11. Amount of waste / residues generated and waste management details (e.g. recycling efficiencies), listed with relevant hazard classification codes
12. Production volumes (outputs). For energy the information should be at least differentiated by type of fuel input and output basis (renewable/non renewable);
13. Information on pollution prevention techniques and source reduction measures, with possible search filters according to types of various Best Available Techniques / Best Environmental Practices as well as abatement efficiencies achieved;
14. Where available, information on state of soil and site in regards to presence of any pollutants and remediation actions taken;
15. Information on liability provisions applied, in particular for high risk activities;
16. Other contextual information about industry performance;
17. Possibility for freeform text submissions by the operators (e.g. explanations of change in performance information, investments or research made in pollution prevention, specific SDG goals reporting).

Better reporting should thereofore also support more effective monitoring and enforcement relating to the IED. Some related advantages of improved reporting are as follows:

- Increasing effectiveness, capacity, know-how and coordination of public authorities in charge of inspections
- Promotion of early and effective participation of civil society
- Dissuasive penalties and adequate sanctions. Under EU competition law, fines up to e.g. 10% of the undertakings global turnover may be imposed whilst some large combustion plants without any permit would get away with a few thousand euros in fines in Romania. An EU level inspection authority e.g. IMPEL should be able to order immediate suspensions of a given activity where the national authorities fail to take timely action.
  It would be useful to report more on track record of compliance by certain operators, an agrgegation of results by mother companies should therefore be possible.

More information here
http://eipie.eu/storage/files/2019%2012%2016%20IED%20permitting%20culture_NGOs%20workshop%20.pdf

General points on Data quality and timely access:

Automated Monitoring Systems (AMS) which do monitor continuously certain pollutants are required for many activities / installations covered within the PRTRs. Art 9 para 2 of the

Protocol requires to use "best available information". In our view that is (continuous) monitoring data generated in accordance to CEN/ISO standards that is up to date, which is much more accurate in comparison to calculations or other methods. For a number of pollutants Continuous Emission Monitoring (CEM) is a standard requirement for these sorts of large scale activities and is anyways required, however this large amount of high quality information is not accessible for most installations. That data should be reported on real time to the relevant register or regional registers. In case of periodic measurements, the information shall be disseminated within 1 week after obtaining the results of the monitoring campaign by the accredited monitoring body. This works in China (see centralised data reporting with user-friendly access through mobile app has been developed by the IPE in China: the 'Blue Sky' map provides real time visualisations at facility level on wastewater and air emissions http://wwwen.ipe.org.cn/), decision makers of EU often claim to be more transparent and open about data sharing, however this is not the case for industrial activities.

The provisions of the PRTR Protocol should be amended to ensure that IT access is improved in its user friendliness for various end users. Reporting of data should be made in such a way such as to ensure comparability of information at global level in light of the objectives set under Article 1. For AMS / CEMs an indication about subtraction of any confidence interval or monitoring uncertainty and indication of last calibrations of the monitoring devices should therefore be reported so to be able to compare the information reported.

Further new ways of monitoring and data generation, such as from the use of Satellites for assessing the state for the environment and compliance promotion or environmental surveillance of industrial activities should be integrated in the PRTR system(s).

Regular consultation with end users of PRTRs:

It can be helpful to set up national and regional focal points (PRTR end user organisations) which need to be consulted on an annual basis / prior to any change undertaken on existing PRTR designs and structure.

More information on other limitations linked to the IED implementation, also based on inadequacy of reporting requirements / tools and access to information / public participation concerns is available in the detailed EEB submission on the IED evaluation http://eipie.eu/storage/files/EEB%20submission%20IED%20evaluation.rar