



Using Pollutant Release and Transfer Register Data to Track Progress Towards Global Sustainability

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Presentation Outline

- PRTR background
- OECD work on PRTR
- UN Sustainable Development Goals
- OECD Framework document
- OECD's Implementation of the Framework – Project overview
- Preliminary results
- Next steps



Pollutant Release and Transfer Registers (PRTR)

A PRTR is a publicly-accessible database or inventory of chemicals and/or pollutants released to air, water, and/or land, or transferred off-site for treatment.

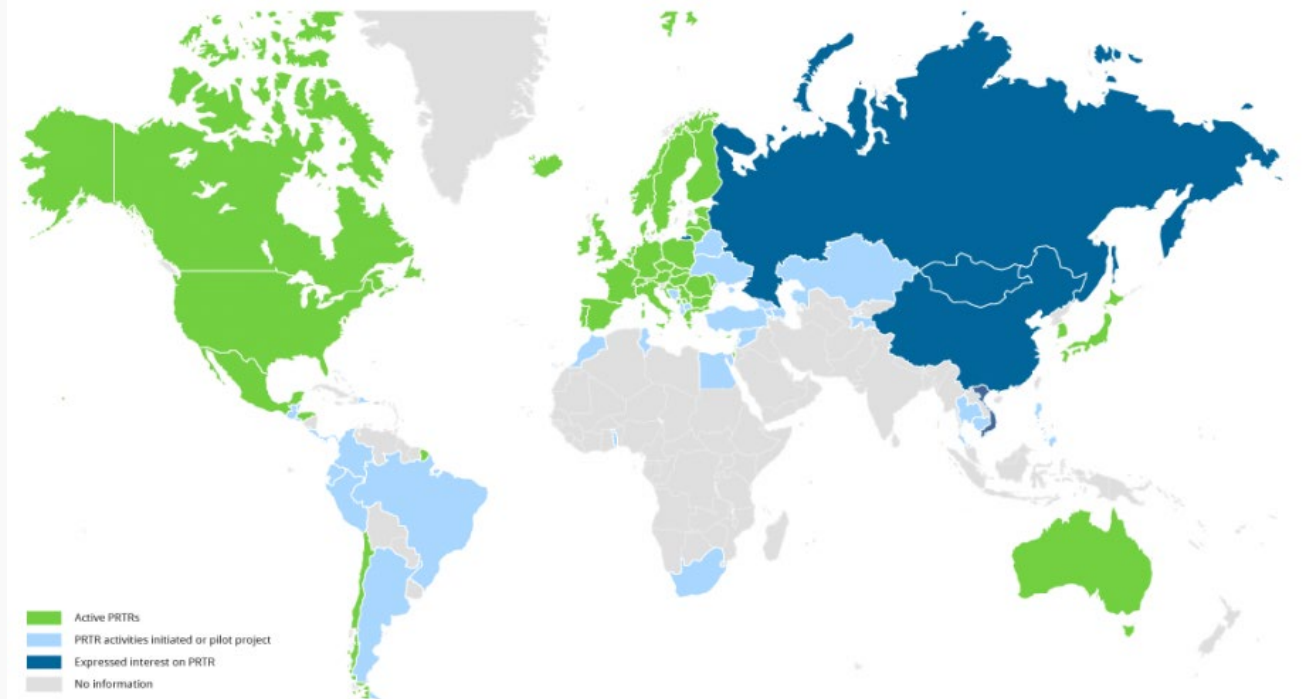
- Key Features of PRTRs:
 - List of covered chemicals/pollutants that have human and/or environmental health impacts
 - Some PRTRs are limited to certain specific chemicals while others include greenhouse gases and other pollutants such as particulate matter, nitrogen oxides, and sulfur oxides
 - Regular reporting by facilities
 - Usually annually
 - Reporting can be both on point sources as well as diffuse sources
 - Data on releases of chemicals/pollutants to air, water, and land, as well as transfers of chemical waste off-site for treatment
 - PRTR programs vary in level of detail and activities reported (e.g. waste management activities, pollution prevention activities, categories of releases)
 - Data are made available to the public



PRTRs Around the World

1986 - The US TRI Program was established as the first national PRTR program

Since then, more than 50 countries have implemented PRTRs or initiated pilot programs





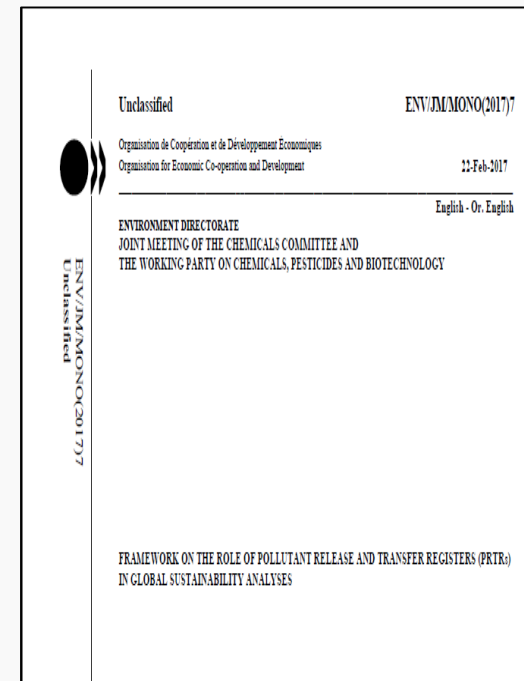
OECD Support of PRTR Activities

- OECD has been working on PRTRs since the 1992 UN Conference on Environment & Development
 - Agenda 21 calls for govts to implement and improve databases on chemicals, including inventories of emissions, with the cooperation of industry and the public
- 1996 – OECD Council adopted the Recommendation on Implementing PRTR
 - Amended in 2003; replaced in 2018
 - Calls for Member countries to establish a PRTR scheme
- 1998 – International Conference on PRTRs
- OECD Working Group on PRTR (formerly the PRTR Task Force) has produced many reference and guidance documents to support the establishment and improvement of PRTR programs globally



OECD's *Framework on the Role of PRTRs in Global Sustainability Analyses*

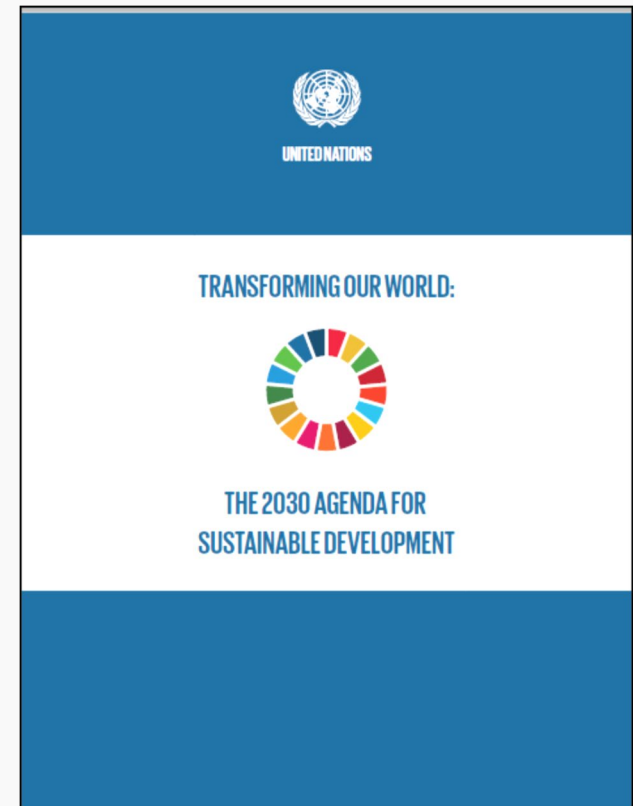
- Presents strategies for harmonizing PRTR data for use in global-scale analyses
- Provides guidance on how PRTR data from multiple PRTR systems can be used to track progress towards global sustainability
- Illustrates how data from PRTRs can be integrated
- *Framework* document published Feb. 2017 (developed from 2011 to 2017)





UN Sustainable Development Goals

- In Sept. 2015, countries adopted a set of goals to **end poverty, protect the planet, and ensure prosperity for all.**
- Published as Transforming Our World: The 2030 Agenda for Sustainable Development
 - Sets forth a plan to “shift the world on to a sustainable and resilient path”
 - Defines 17 SDGs that encompass the economic, environmental, and social dimensions of sustainability





OECD's *Framework* document is Aligned with UN SDGs

- Section 2.4 of the Framework document:
 - “Using PRTR Data to Assess Progress toward Sustainable Development Goals”
- The Framework identifies the goals and specific targets most directly relevant to PRTRs



OECD's Implementation of the *Framework*:

How to use PRTR data to assess progress towards achieving the Sustainable Development Goals

- **PRTRs:** Select PRTRs that represent geographical diversity and can provide sufficient trend data on common chemicals
- **Chemicals:** Select a manageable but diverse group of priority chemicals to demonstrate application of PRTR data to track SDGs
- **Rationale for selections:** Develop a construct for the pilot application of PRTR data to evaluate SDGs most relevant to PRTRs



OECD's Implementation of the *Framework*: *Selecting PRTR systems from which to collect data*

PRTR systems included in the project:

- Australia
- Canada
- Chile
- European Union *(may include additional data from individual countries not stored in the E-PRTR)*
- Japan
- Mexico
- United States *(in addition to TRI chemical data, the National Emissions Inventory [NEI] will serve as a source of data for PM and SO₂)*



OECD's Implementation of the *Framework*: *Selecting pollutants to include*

Pollutants included in the project:

- Benzene
- Tetrachloroethylene
- Di-(2-ethylhexyl)phthalate
- Ethylbenzene
- Styrene
- Sulfur dioxide
- Particulate matter
- Nickel & nickel compounds
- 1,2-dichloroethane
- Dichloromethane
- Trichloroethylene
- Cadmium & cadmium compounds
- Chromium & chromium compounds
- Mercury & mercury compounds



OECD's Implementation of the *Framework*: *Selecting SDGs to track*

- Goal 3. Ensure healthy lives and promote well-being for all at all ages
- Goal 6. Ensure availability and sustainable management of water and sanitation for all
- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 12. Ensure sustainable consumption and production patterns
- Goal 16: Promote peaceful and inclusive societies for sustainable development provide access to justice for all and build effective, accountable and inclusive institutions at all levels



OECD's Implementation of the *Framework*: *Selecting an SDG Target most suitable for application of PRTR data*

- Target 12.4 is most directly relevant to *readily-available, comparable* PRTR data
- Tracking Target 12.4 by media (air, water, soil/land) will simultaneously provide information to track Targets 3.9 and 6.3
 - Further exploration of other Targets may come in later stages of this project as additional data is compiled

Target 12.4: By 2020, achieve the environmentally sound management of chemicals... and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment.



OECD's Implementation of the *Framework*: *Conducting data analyses*

Determine scope of analyses:

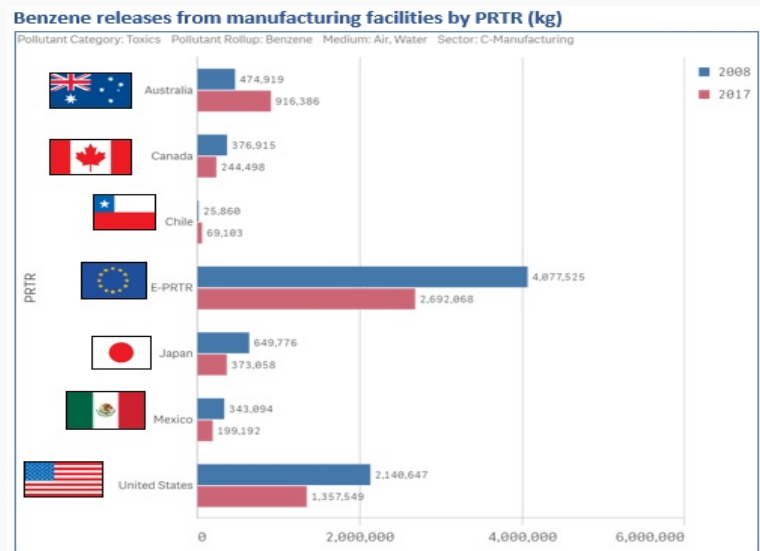
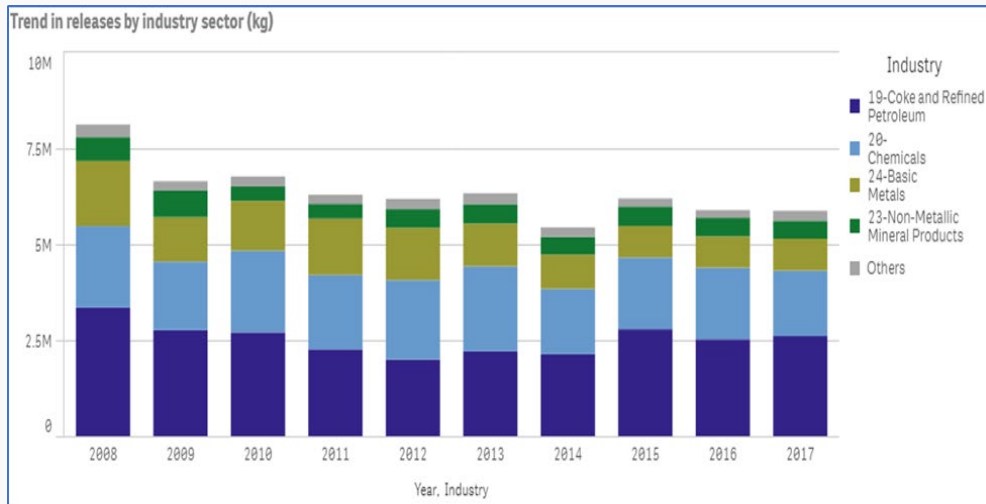
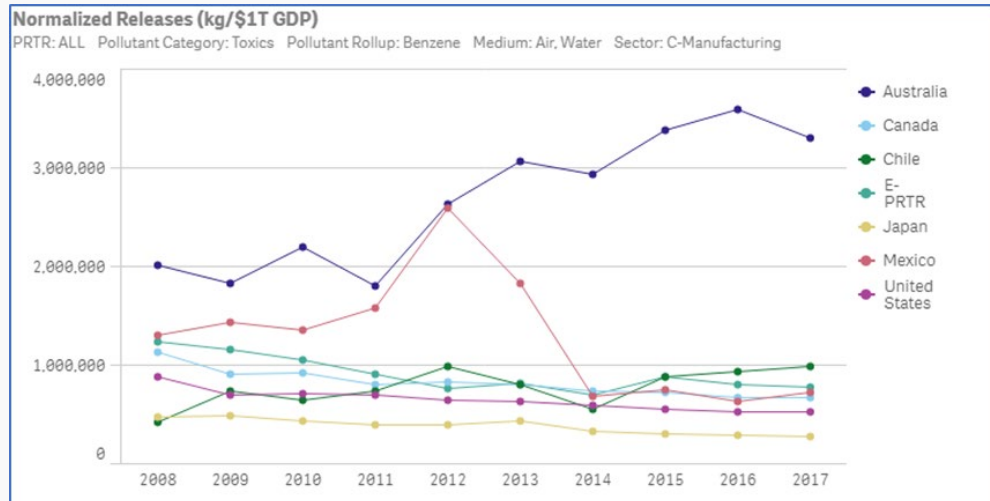
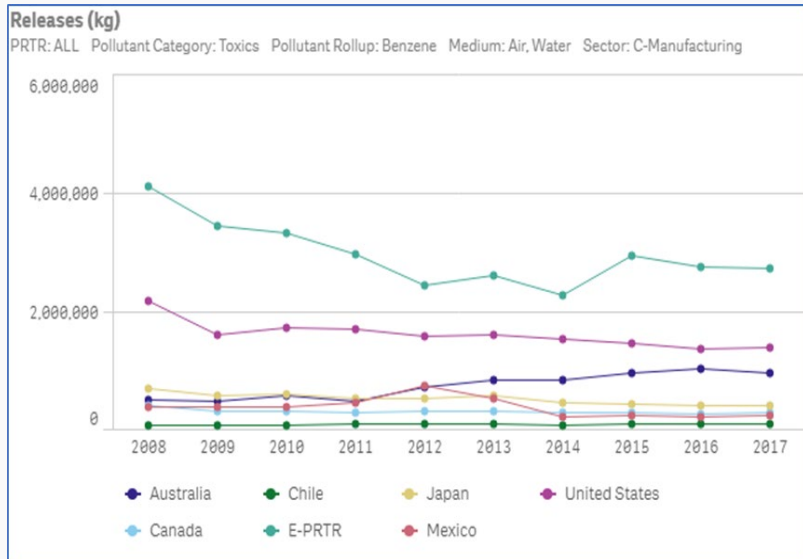
- Focus on manufacturing sectors
- Focus on on-site pollutant releases to air and water (applicable to Target 12.4; allows for the inclusion of the UN's toxicity characterization factors)

Analyses to investigate:

- Snapshot analyses – chemical-specific profiles; most recent year of data
- Trend analyses – 2008 to 2017
- Comparative analyses between PRTR systems
- Toxicity-weighted release quantities
- Economic information as an indicator (e.g. kg released/\$ value added)
- Other potential variables (e.g. regulatory activity)



Implementation: Data Viz Application





OECD's Next Steps

- Continued analysis using data visualization application
- Compilation of analytical results in various formats
- Dissemination to stakeholders through various outlets

Further out...

- Potential to apply methodology to additional SDG Targets
- Adding data on additional chemicals and/or sectors to data visualization application
- Expanding scope to include other PRTR systems
- Using this methodology as the foundation for more extensive global-scale PRTR analytical projects



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