

## New PRTR-data 2015 in thru.de

### Summary report

Since 28.03.2017 data has been made available at [www.thru.de](http://www.thru.de). This concerns data of the reporting year 2015 and corrected data covering the period 2007 – 2014 of the PRTR (Pollutant Release and Transfer Register).

Exactly 5.240 facilities in Germany exceeding threshold values reported data on pollutants and waste transfer operations.

We have compiled following information: pollutants most often released, source of the release, amount of hazardous waste reported.

For the first time slightly decrease of reported facilities

The number of facilities has grown from 4.496 to 5.307 in the period from 2007 to 2014. For the first time since 2007, a slightly decrease of reported facilities was noticed for the reporting year 2015 (see figure 1). Mainly facilities from the sector waste and wastewater management and in particular Installations for the recovery or disposal of hazardous waste Receiving > 10 tonnes per day as well as from the sector Intensive livestock production, especially pig farming > 2000 place (over 30 kg) reported less facilities in 2015.

### Total number of facilities by year

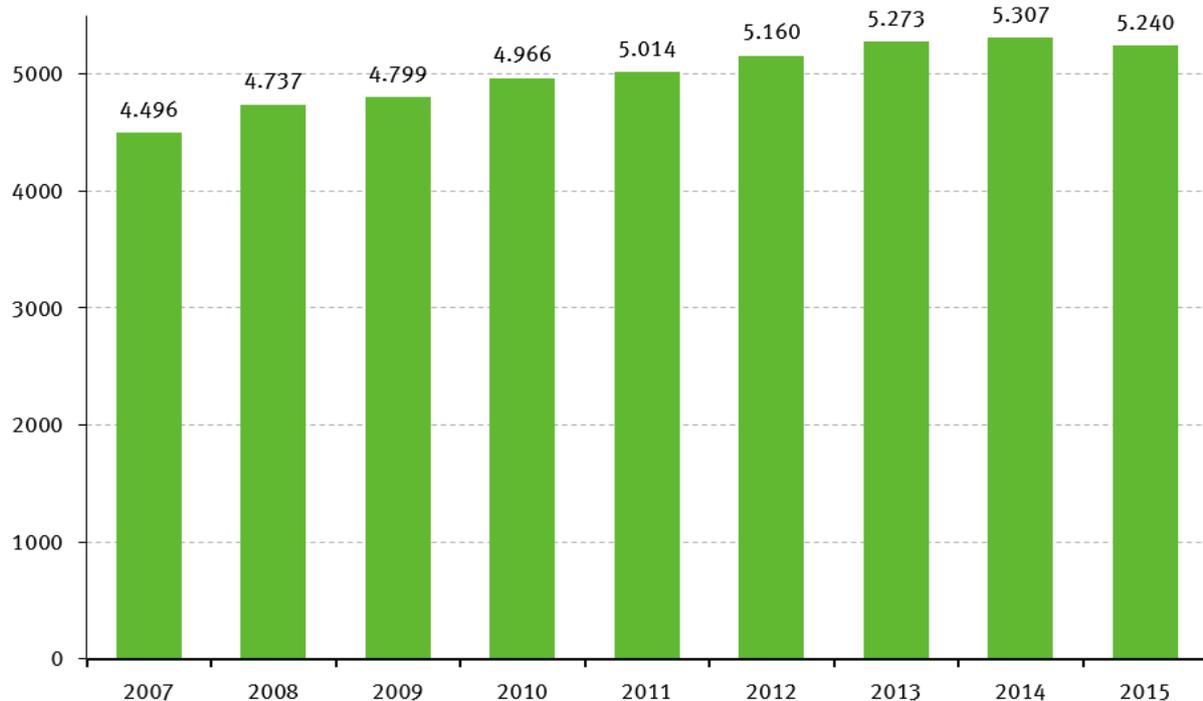


Figure 1: Total number of facilities by year

94% of facilities that provided data in 2015 were already reported in 2014. 380 facilities exited the register while 313 new facilities were added in 2015 (see figure 2).

The main reason for the fluctuation was exceedance or falling below threshold values (c.f. [E-PRTR-Regulation](#)).

### Number of phased-out facilities and facilities newly reported 2015

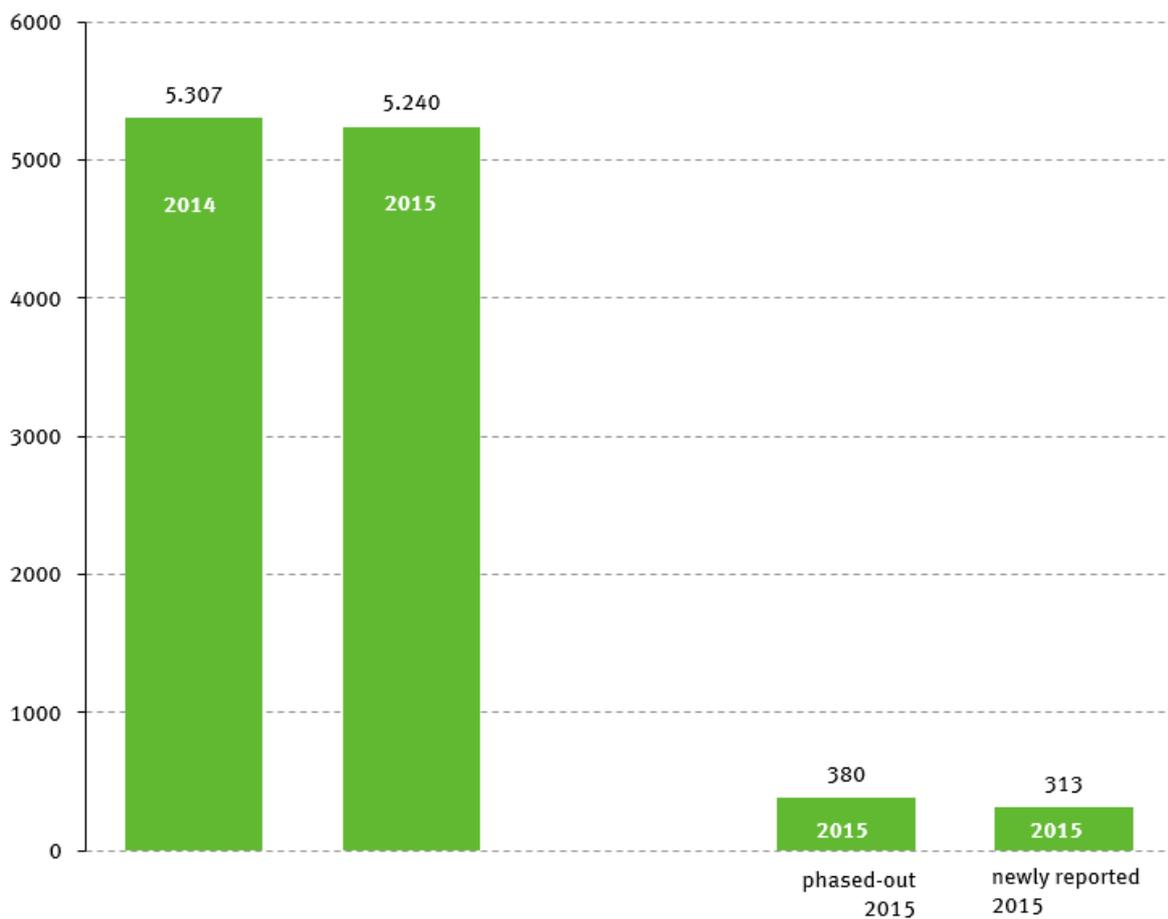


Figure 2: Number of phased-out facilities and facilities newly reported

The largest number of PRTR facilities were in North Rhine-Westphalia

As expected, the most populated federal state North Rhine-Westphalia and largest federal states Bavaria and Lower Saxony cover the majority of facilities while the city states Berlin, Bremen and Hamburg have the lowest number of facilities with reporting obligations (see figure 3).

### Number of facilities by federal state 2015

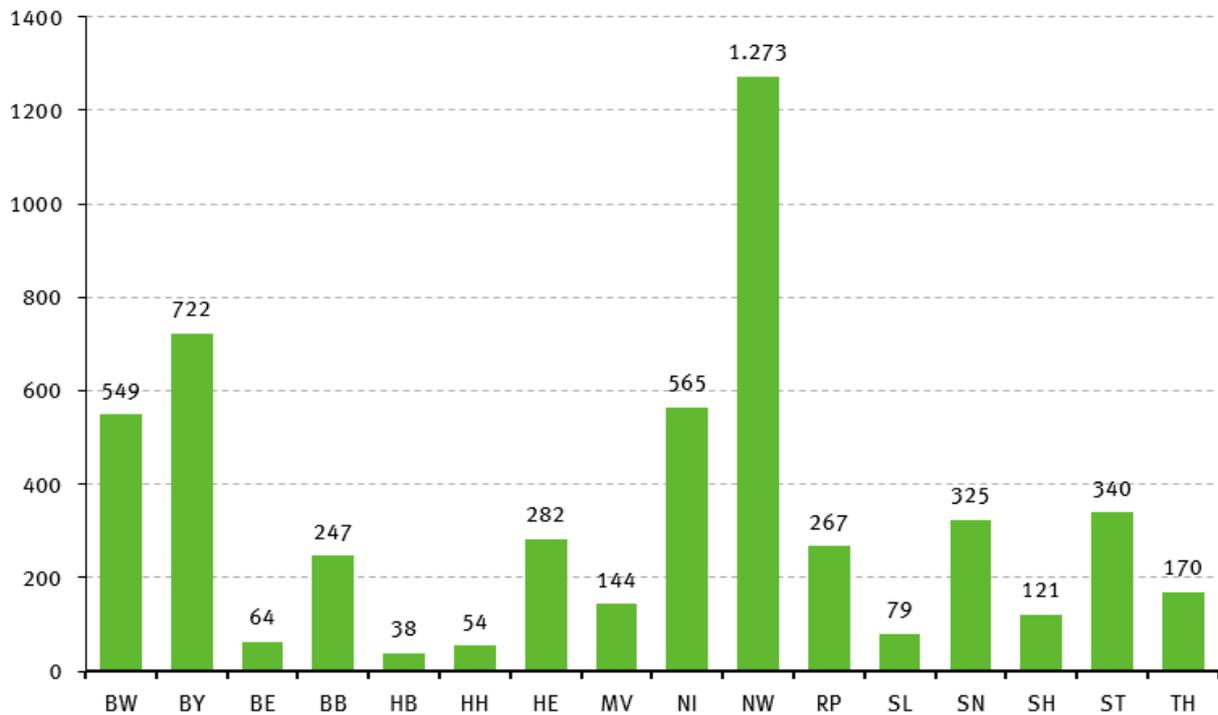


Figure 3: Number of facilities by federal state 2015

### Most facilities are subject to reporting due to waste transfer operations

Thru.de distinguishes releases to air, water and land, transfer of substances contained in waste water and transfer of hazardous and non-hazardous waste (see figure 4).

Figure 4: Most facilities (84%) in 2015 that reported data belong to the waste transfer sector. More than 2/3 of all facilities transfer more than 2.0 tonnes of hazardous waste, while 30% transfer more than 2.000 tonnes hazardous waste.

28% of facilities cause air pollution. The number of these facilities remained relative constant.

The number of facilities that release pollutants into waste-water treatment plants (e.g. urban waste-water treatment plants) was slightly larger than those with direct releases into water bodies. About 8% of both of these facilities are subject to reporting obligations.

The share of facilities that released substances into land remained very low (0.05%) for years.

Many facilities reported both release of substances and transfer of waste. Therefore, summing up of percentage may exceed 100%.

### Number of facilities by compartments 2007-2015

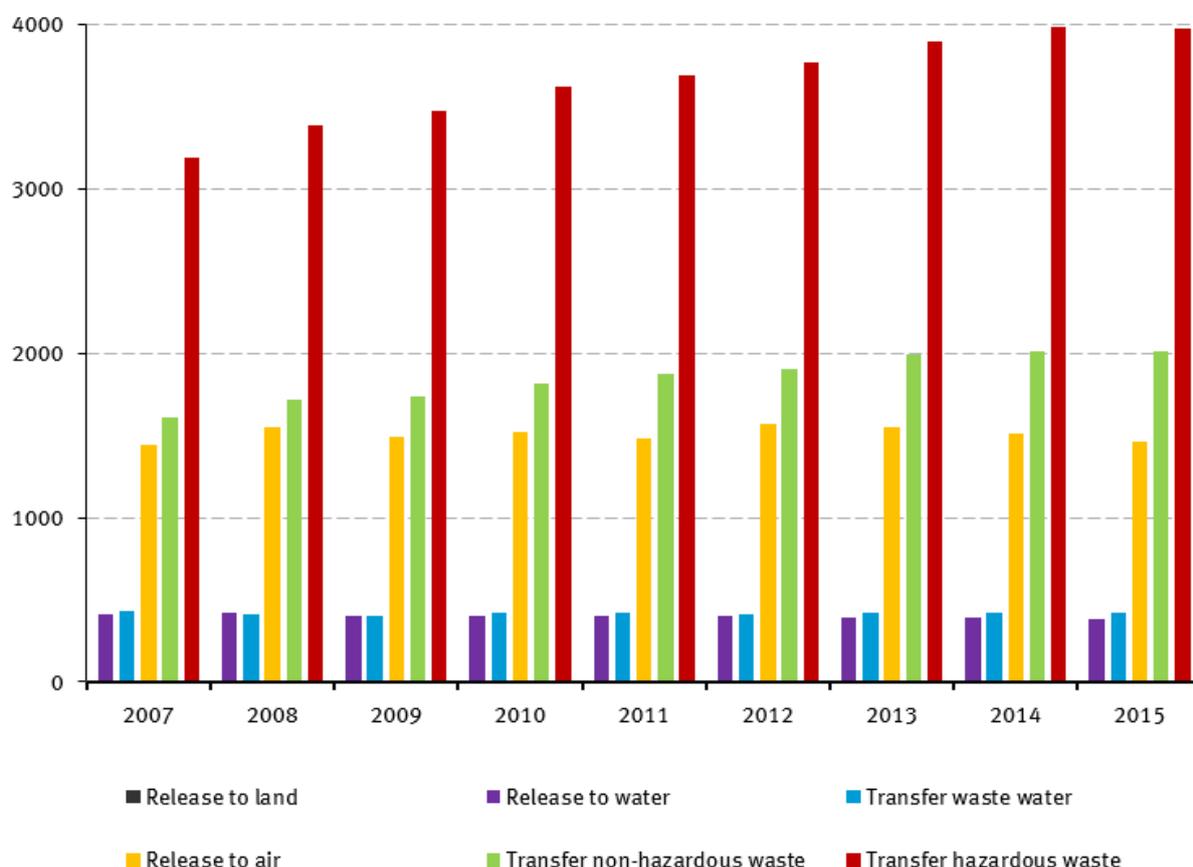


Figure 4: Number of facilities by compartments 2007-2015

### Intensive animal farming and rearing caused high air pollution

About 1.465 PRTR facilities reported air pollution in 2015. More than 600 of these undertake intensive animal farming. Most reported were Ammonia emissions ( $\text{NH}_3$ ). About 50% of facilities for rearing of pigs (at least 2.000 pigs with more than 30 kg) exceeded the threshold value (10 tonnes ammonia per year). These facilities released about 6.200 tonnes - the largest amount of ammonia in 2015 (see figure 5).

A slightly decrease was noticed for reported facilities from the sector Intensive livestock production in 2015 compared to 2014, due of emission reduction measures like the integration of waste air purification plants or of multiphase feeding for pig farming.

Landfills (capacity >10 tonnes per day, total storage >25.000 tonnes) and waste-water treatment plants (> 100.000 population equivalent) were the main sectors of facilities that reported data within the sector Waste and wastewater management.

The energy sector came third with its thermal power stations and other combustion installations (> 50MW) that cover 86% of all PRTR facilities' reports.

### Number of facilities releasing air pollution by sectors 2015

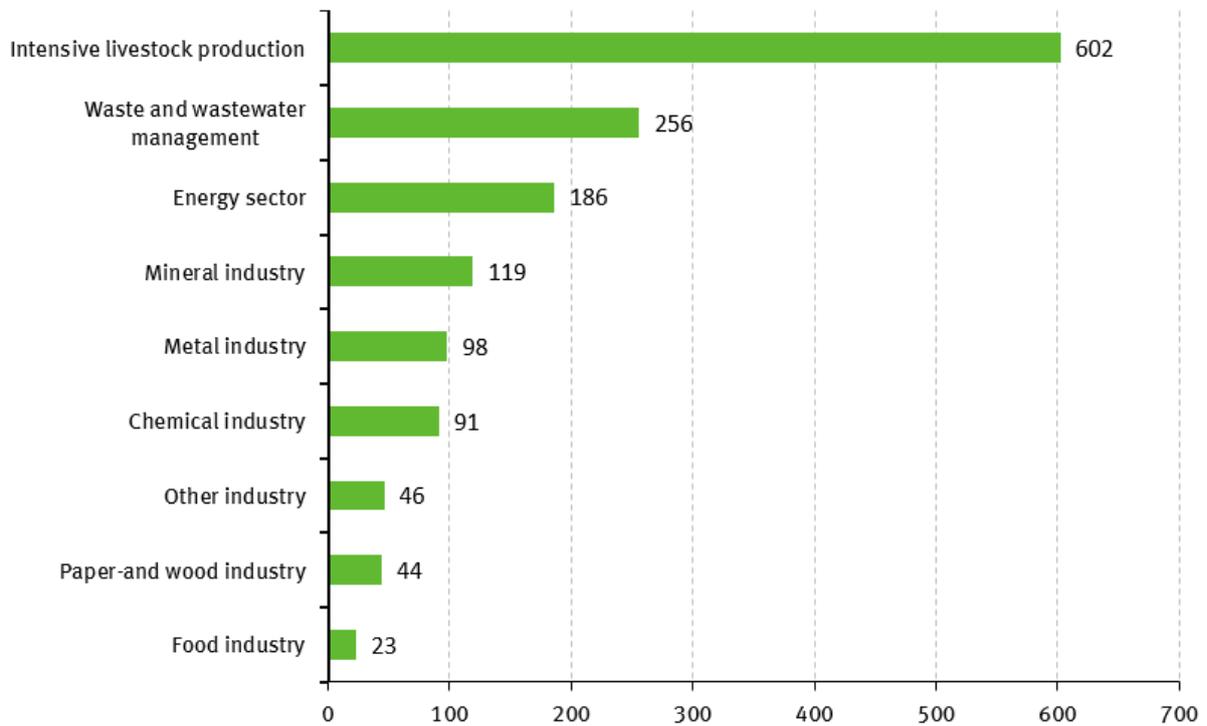


Figure 5: Number of facilities releasing air pollution by sectors 2015

### Urban waste-water treatment plants release most substances into water bodies

About 382 PRTR facilities reported releases of substances into water bodies. 58% of these belong with 222 facilities to the sector Waste and wastewater management. Within this sector, about 208 facilities have a capacity larger than 100.000 PE (population equivalent) thus were the main share of PRTR facilities reported data (see figure 6).

The sector Chemical industry (49 facilities) and Paper and wood production and processing (31 facilities) scored second and third respectively of PRTR facilities reported data.

Note: Release to water bodies only included direct releases.

## Number of facilities releasing water pollutants by sectors 2015

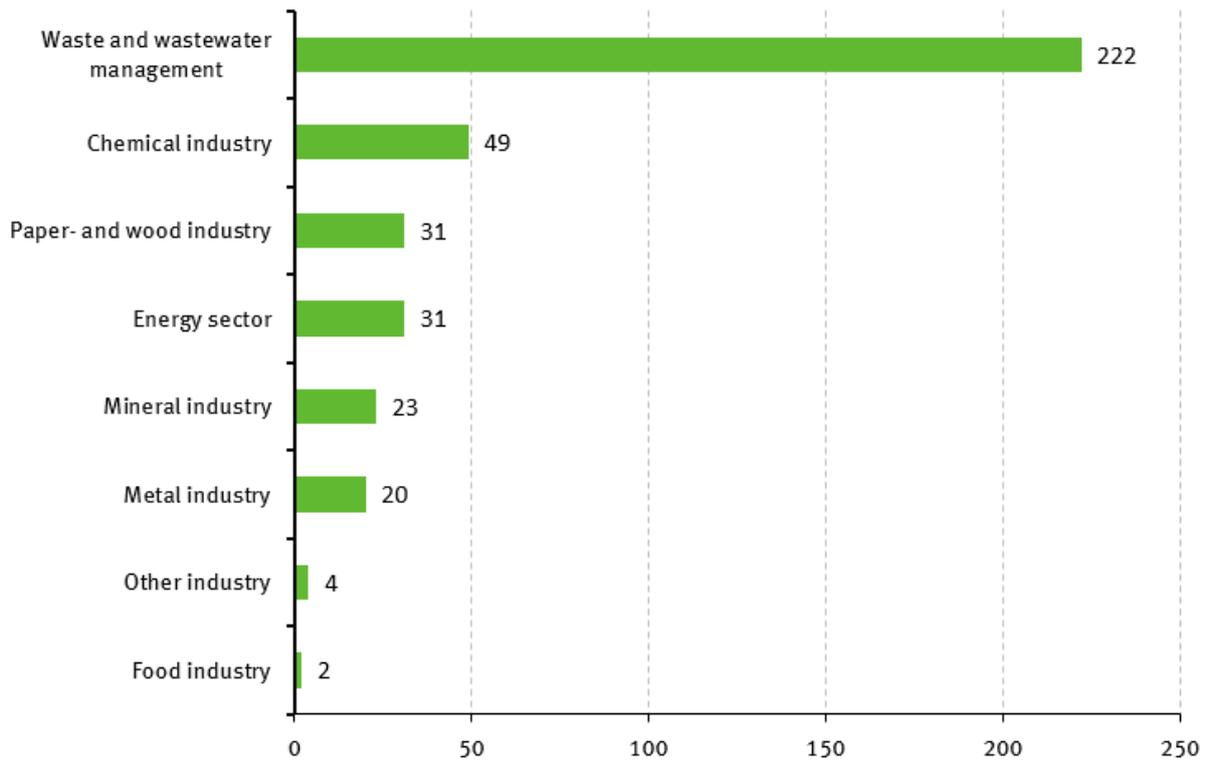


Figure 6: Number of facilities releasing water pollutants by sectors 2015

### Chemical industry and Food industry caused the main releases to water bodies

About 425 PRTR facilities reported the release of substances into external waste-water treatment plants in 2015.

Chemical industry (152 facilities) and food industry (142 facilities) caused the main releases to water bodies (see figure 7).

Within the sector food industry about 64 facilities for treatment and processing of milk >200t/d make the largest share of PRTR reports.

Facilities for the production of basic organic chemical (mainly for basic plastics materials) make the largest share of reports from the chemical industry.

Indirect discharger means discharge of pollutants contained in waste water outside the facility. This rule overwrites the indirect discharge regulation as the offsite transfer of waste water may also be done through mobile means (tank-trucks, container).

## Number of facilities by sectors releasing pollutants into waste water 2015

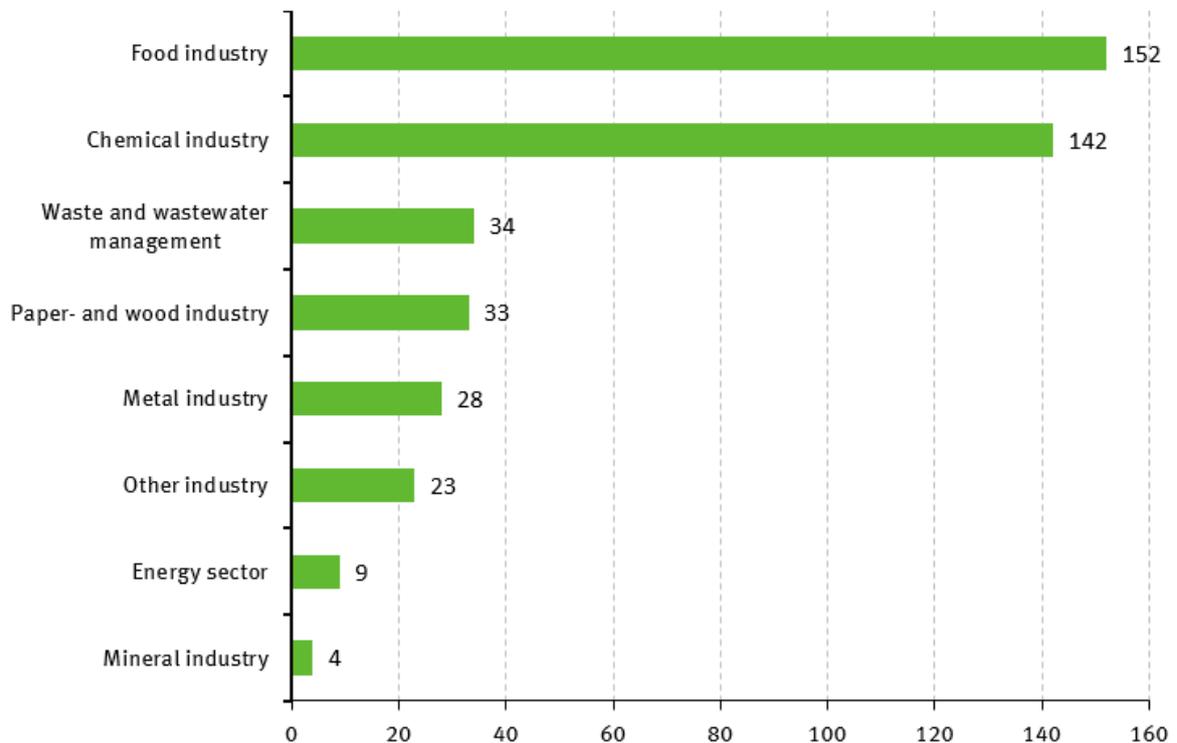


Figure 7: Number of facilities by sectors releasing pollutants into waste water 2015

### The TOP10 pollutants and their causer

The 10 pollutants that cause the main releases into the environment (air, water, land, waste water) are our “TOP10 pollutants”. Figure 8 shows the main originating sectors that had large releases in 2015.

The main originator for Carbon dioxide emissions ( $\text{CO}_2$ ) was the energy sector, here the Thermal power stations and other combustion plants >50MW.

Chlorides (total amount of releases to air, water, land and waste water) were released from the mineral industry and the chemical industry in similar quantities. The release into land had the largest share with relevant amounts inserted into the ground (injection). Chlorides also stemmed from Waste and wastewater management facilities headed by urban WWTPs.

The Metal industry was the main polluter of Carbon monoxide (CO) emissions. Nitrogen oxide ( $\text{NO}_x$ ) and Sulphur oxides ( $\text{SO}_x$ ) emissions stemmed mainly from the energy sector. The mineral industry, especially coal mining, was the main polluter of Methane ( $\text{CH}_4$ ) emissions followed by landfills.

Total organic carbon (TOC) was mainly released from the chemical industry, followed by food industry and Waste and wastewater management (mainly WWTPs). TOC covers the release into

water plus amounts transferred with waste water. WWTPs released the largest amounts of Total nitrogen.

The sector Other industries released the largest amounts of Non-methane volatile organic compounds (NMVOC). This included facilities which use solvents for surface treatment (e.g. paint application facilities). Intensive farming was the main polluter of Ammonia emissions (NH<sub>3</sub>).

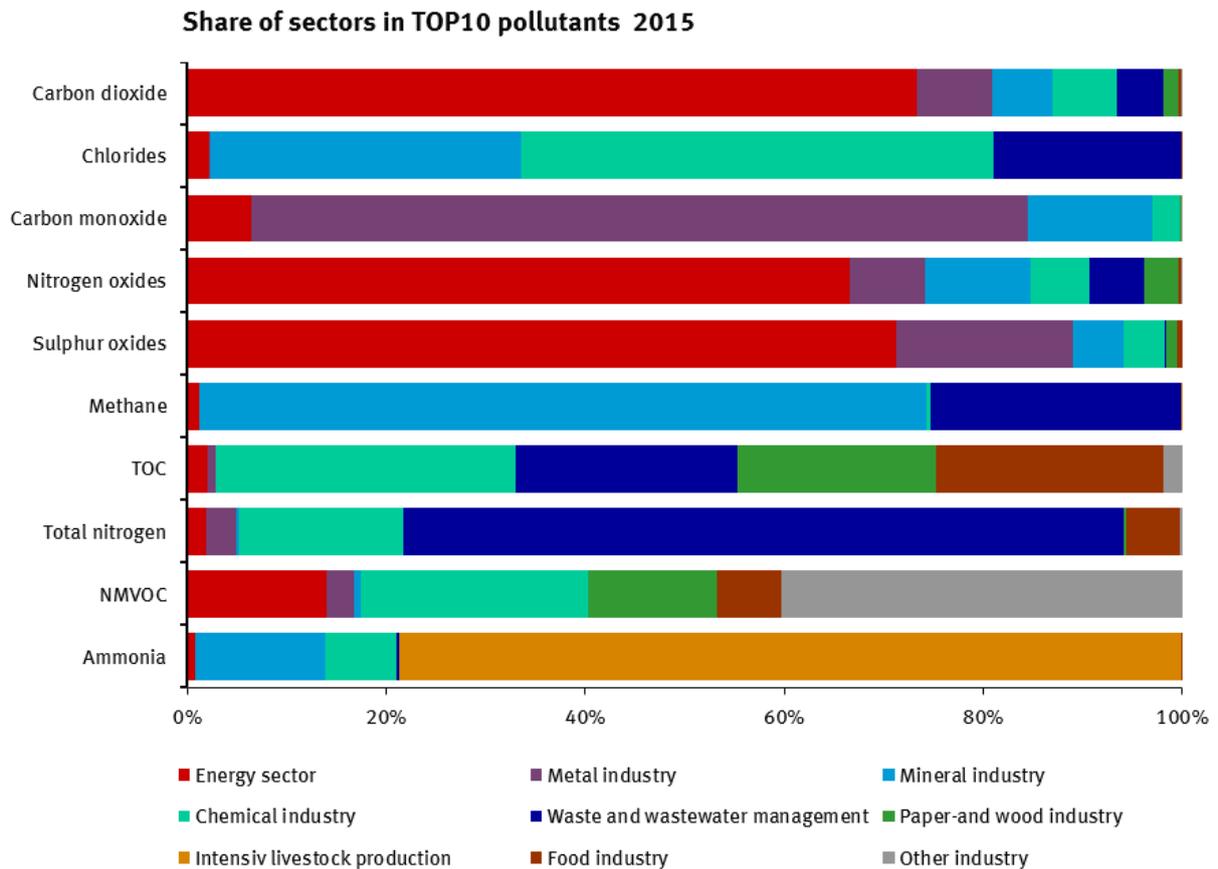


Figure 8: Share of sectors in TOP10 pollutants 2015

### Ammonia emissions from intensive farming – the most reported pollutant

PRTR in 2015 contained 2.664 reports covering 35 air pollutants originated from about 1.465 facilities. (see figure 9).

Ammonia emissions were most reported with 655 reports of which about 602 reports stemmed from intensive farming.

A slightly decrease of reported facilities was noticed for reported facilities from the sector Intensive livestock production in 2015 compared to 2014, due of emission reduction measures like the integration of waste air purification plants or of multiphase feeding for pig farming.

419 reports covered emissions of nitrogen (NOx) and 397 reports carbon dioxide (CO<sub>2</sub>) emissions. Reports for both pollutants came from the energy sector.

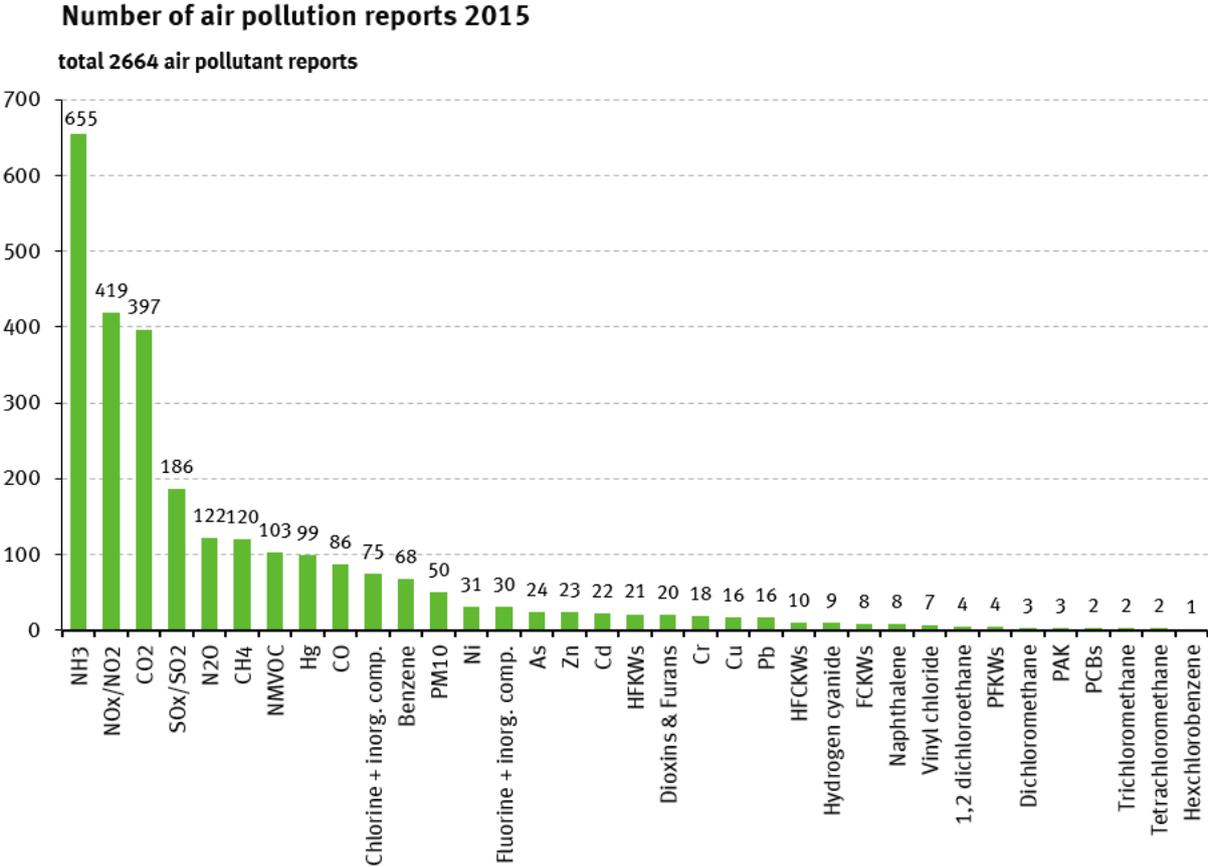


Figure 9: Number of air pollution reports 2015

### Releases into water mainly stemmed from urban WWTPs

PRTR in 2015 contained 1.818 reports covering 34 water pollutants originated from about 382 facilities in this compartment (see figure 10).

Zinc was the most reported pollutant (243) followed by reports for TOC (225) and Nickel (221). Reports for all three parameters mostly stemmed from urban WWTPs: Zinc with 176 reports, TOC with 157 reports, and Nickel with 164 reports.

## Number of water pollution reports 2015

total 1818 water pollutant reports

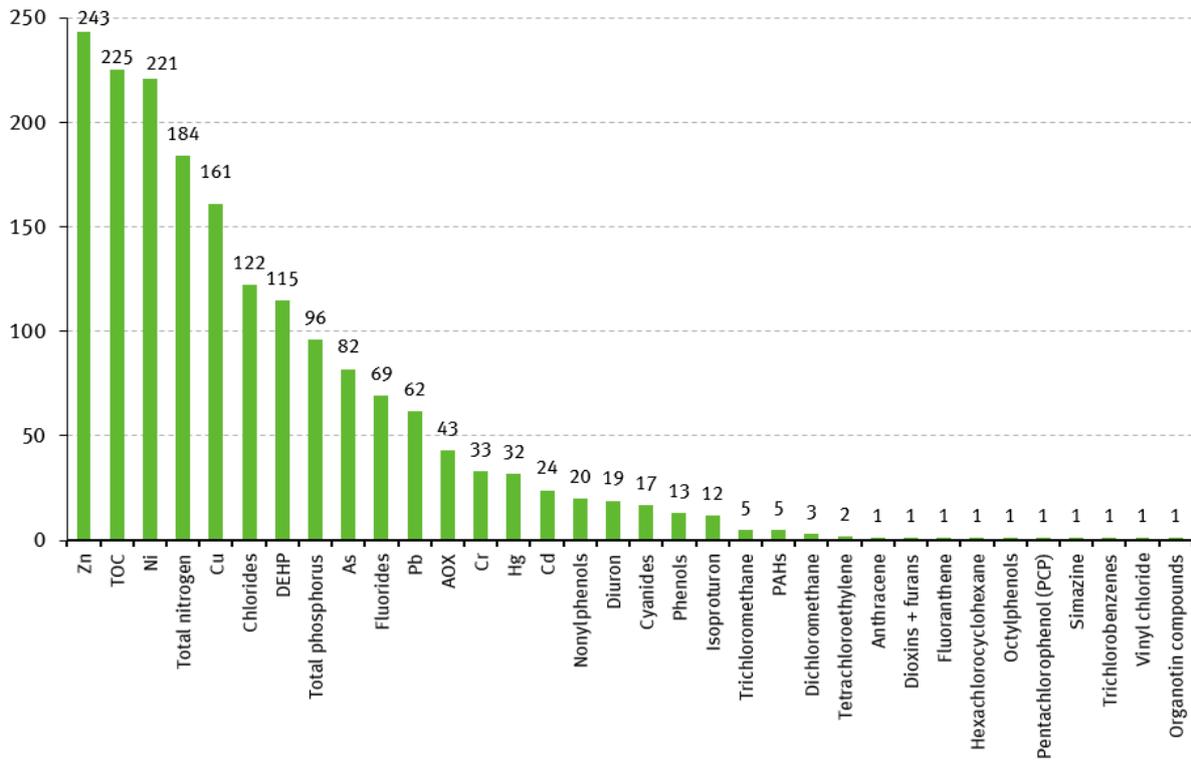


Figure 10: Number of water pollution reports 2015

### Releases into waste water mainly stemmed from food- and chemical industry

PRTR in 2015 contained 861 reports covering 35 water pollutants originated from about 425 facilities in this compartment (see figure 11).

TOC was mostly reported (334 reports) equally shared by food- and chemical industry.

With a noticeable interspace the pollutants Total phosphorus (92 reports) and Total nitrogen (72 reports) are following on position two respectively position three.

## Number of waste water pollution reports 2015

total 861 waste water pollutant report

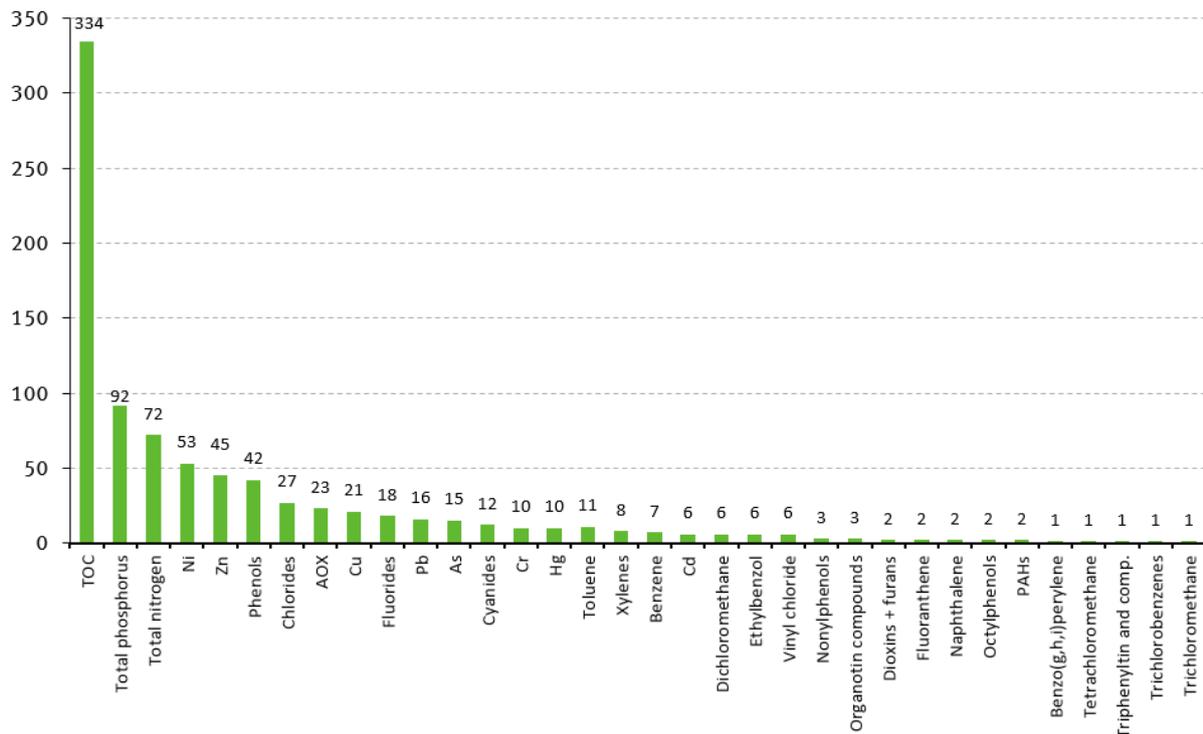


Figure 11: Number of waste water pollution reports 2015

### Off-site transfers of waste slightly increased

About 4.420 facilities reported the transfer of waste in the year 2015. Operators of facilities have to report the transfer of hazardous and non- hazardous waste if the amount exceeded either,

- 2 tonnes of hazardous waste or
- 2.000 tonnes of non- hazardous waste

The operator must also inform about the waste intended to be recovered or disposed.

More information can be found at:

<http://www.thru.de/thrude/knowledge/pollutants-waste-industrial-sectors/?L=3>

### More than 82 million tonnes of non-hazardous waste transferred

About 2.011 facilities reported the transfer of 159 Mio. tonnes non-hazardous waste in 2015, an increase in nearly 50% compared to 2014.

Most of the reported non-hazardous waste amount came from 1.114 facilities belonging to the sector Waste and wastewater management (total amount 60 Mio. tonnes). Within this sector

579 facilities for recovery or disposal of hazardous waste having the capacity of >10 tonnes per day had the biggest share (50%). These transferred about 39.7 Mio. tonnes, of which 38.8 Mio. tonnes were for recovery and 1.44 Mio. tonnes for disposal (see figure 12).

### Number of facilities by sectors for the transfer of non-hazardous waste 2015

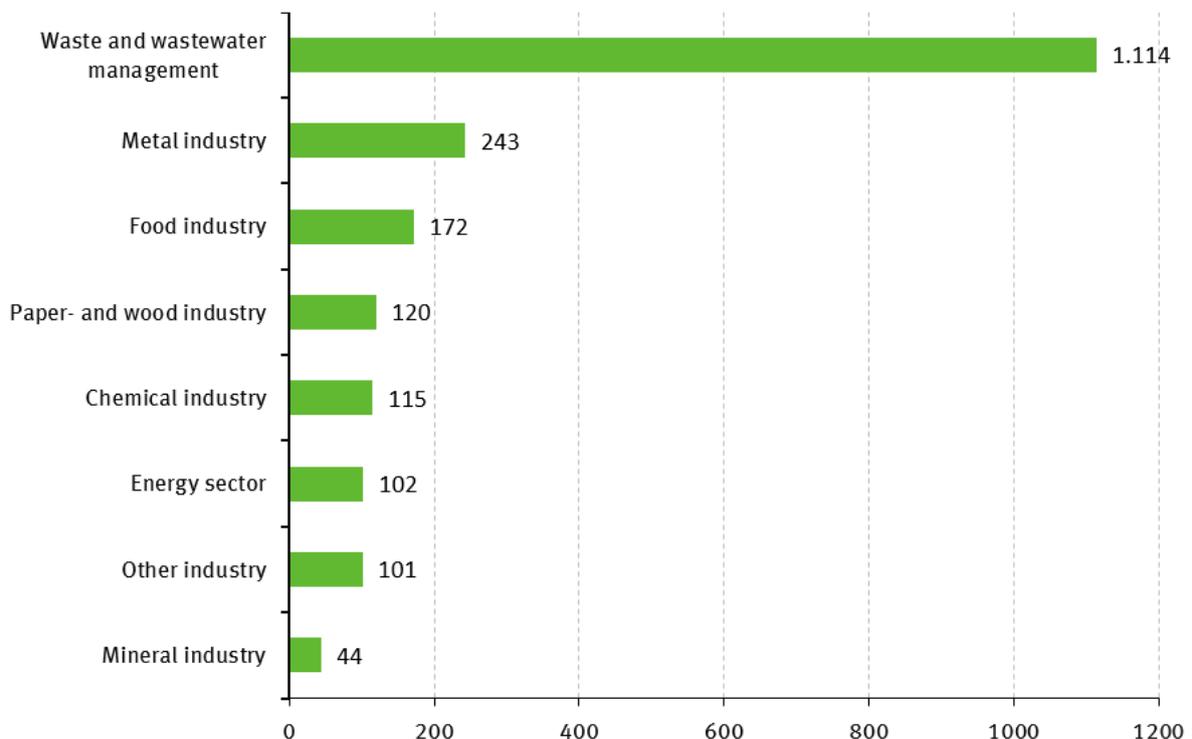


Figure 12: Number of facilities by sectors for the transfer of non-hazardous waste 2015

### Most of hazardous waste remained inland

About 3.969 facilities reported the transfer of total 18.6 Mio. tonnes of hazardous waste in 2015 of which 3.950 facilities (=99%) covered the transfer of about 18.2 Mio. tonnes in Germany. About 132 facilities covered the transfer of hazardous waste (324.000 tonnes) abroad (see figure 13).

The operator must inform about the final destination of waste (name and address) transported cross-border. Most of hazardous waste was transported to Belgium, The Netherlands and France.

Most of the facilities belong to sector Waste and wastewater management, metal industry came second. This was valid for the transfer of waste inland and abroad.

### Number of facilities by sectors for the transfer of hazardous waste to inland/abroad sites 2015

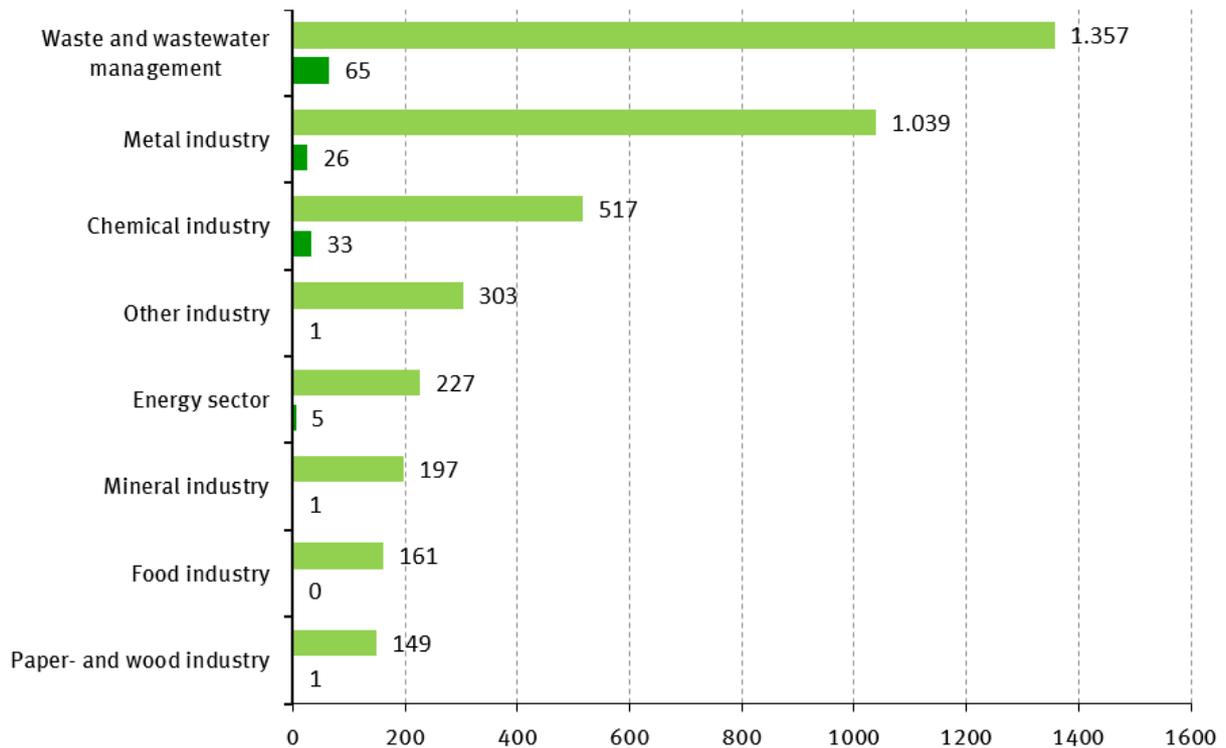


Figure 13: Number of facilities by sectors for the transfer of hazardous waste to inland/abroad sites 2015

### Germany in the EU with PRTR facilities at second position

The big industrial nations United Kingdom (UK), Germany, France, Spain and Italy reported the most facilities in 2014. The UK scored first with the only nation exceeded 6.000. Germany came second with about 5.000 PRTR facilities. France, Spain and Italy reported between 3.000 and 4.000 facilities (see figure 14).

## Number of facilities reported in the EU in 2015

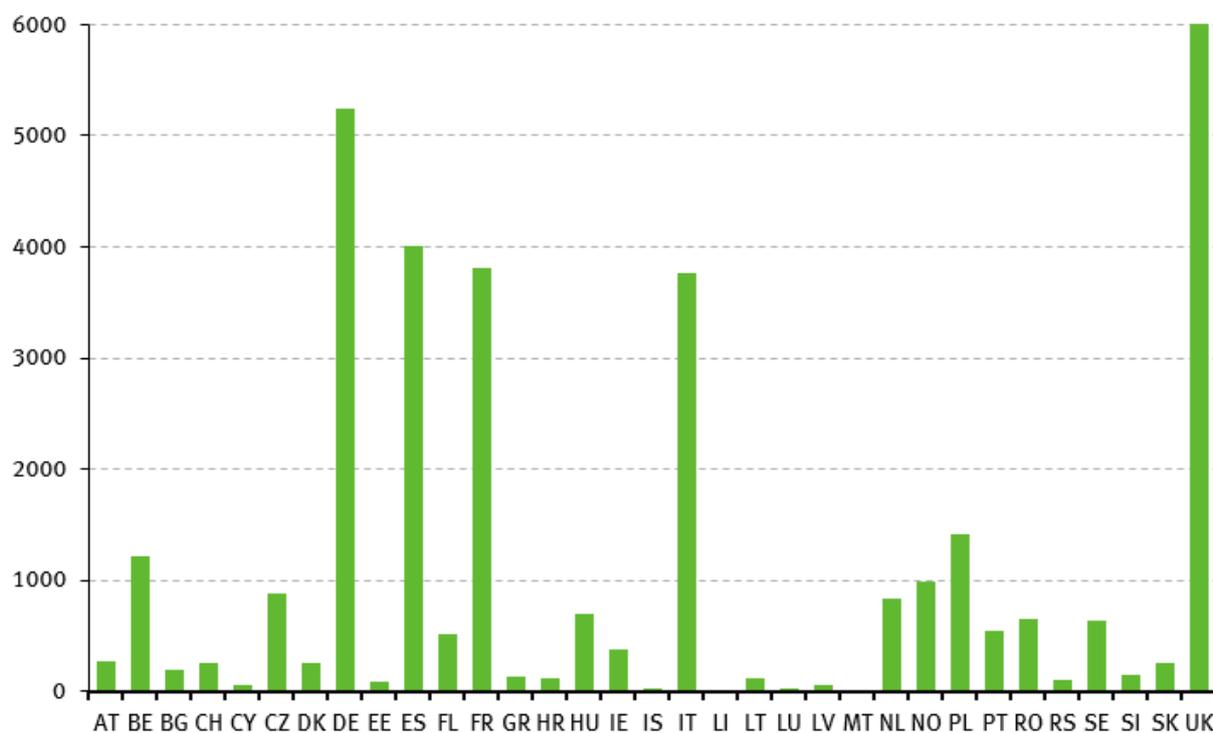


Figure 14: Number of facilities reported in the EU in 2015

There were a number of interesting questions received from the public, from scientists, policy makers and the industry, NGOs and others. Answers to these questions are for download at: [Questions & answers to PRTR.](#)

If you are interested in complex, cross-sectional analyses, please search the SQLite [PRTR database](#). There you will also find short instructions for use of this database.

The report is also available as **PDF**.

July 2017