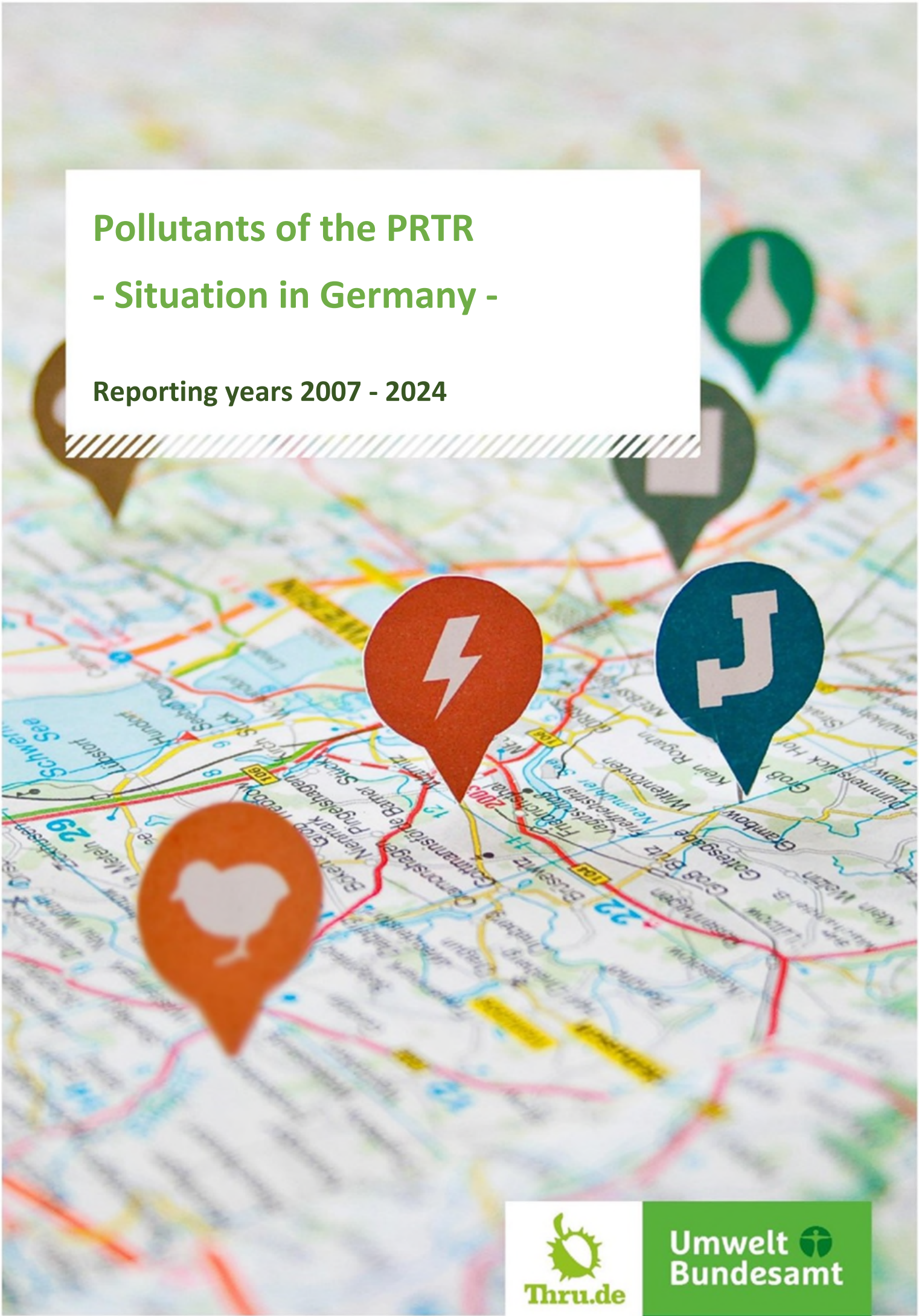
Pollutants of the PRTR

- Situation in Germany -

Reporting years 2007 - 2024



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Contents

1 Introduction

Germany, as well as the European Union and its Member States signed the UN ECE PRTR Protocol and thus committed itself to establish a national Pollutant Release and Transfer Register (PRTR), which is open to the public. The establishment in Germany was based on the European Regulation (EG) 166/2006 (E-PRTR-VO) and the German PRTR-Gesetz (SchadRegProtAG)[1]. The PRTR compiles annual releases of pollutants into the air, water and land, the off-site transfers in waste water and the off-site transfer of hazardous and nonhazardous waste from certain industrial activities. A report about these releases becomes due, if the applicable tresholds for releases or waste are exceeded. The E-PRTR Regulation lists a total of 91 pollutants. German PRTR data are regularly published on the Internet www.thru.de.

The present volume contains a compact overview of each pollutant listed in the Regulation for which notifications have been received in the current reporting year. The detailed information is summarized in a table and two graphics for each pollutant grouped according to the releases into air, water and land and the off-site transfers in waste water. Reporting of releases to land only contains pollutants in waste which are disposed by land treatment or deep injection. The table shows a subdivision of total amounts of pollutants by industrial sectors and the number of reporting facilities for the most recent reporting year. The first figure shows the number of facilities by pollutant as time series subdivided by industrial sectors. The second figure shows the development of releases and off-site transfers in waste water as time series subdivided by industrial sectors. In both figures included is a maximum of five sectors which have the highest amount of pollutants seen in the displayed table for the most recent reporting year.

In this volume only pollutants are considered from which a release or off-site transfer in waste water is reported at least by one facility in the current year. If no threshold is given in the E-PRTR Regulation (see Annex A) reporting for this pollutant is not required. PRTR facilities have to report pollutants if they are exceeding the given threshholds. However, there is also the possibility of voluntarily reporting pollutants below the threshold value. Only a few reporting operators make use of fit.

The data on pollutant quantities is recorded by the operator either by measurements, calculations or estimations. If the data is reported to the PRTR based on measurements or calculations, the analysis and/or calculation method must be stated. Emission factors or average effluent concentrations are available for calculations for various pollutants. If updates of these specific emission factors or average effluent concentrations result in significant shifts in pollutant quantities, these changes will be highlighted in the text for the affected pollutant in the present volume. Which determination method

[1] Act implementing the Protocol on Pollutant Release and Transfer Registers of 21 May 2003 and implementing Regulation (EC) No 166/2006 of 6 June 2007 (Federal Law Gazette I p. 1002), as amended by Article 1 of the Act of 9 December 2020 (Federal Law Gazette I p. 2873) (Pollutant Release and Transfer Register Act)

the operators use to record the pollutant quantities can be viewed in the German PRTR at www.thru.de.

Further information on the topic can be found in the publicly accessible PRTR expert wiki.

The emission factors and average effluent concentrations were analyzed and updated as part of a research project on priority substances in urban sewage treatment plants.

Further comprehensive information about the German PRTR can be found on the web site www.thru.de where also the complete dataset for all reporting years since 2007 can be downloaded as SQLite database and in the formats xlsx, csv or ods. Information about the European PRTR is available at https://industry.eea.europa.eu.

This volume is updated regularly as new data becomes available. Please send questions or feedback to thrude(at)uba.de.

2 Releases to air, water and land

The following chapters cover only releases of pollutants to air, water and land.

2.1 1,1,1-trichlorethane

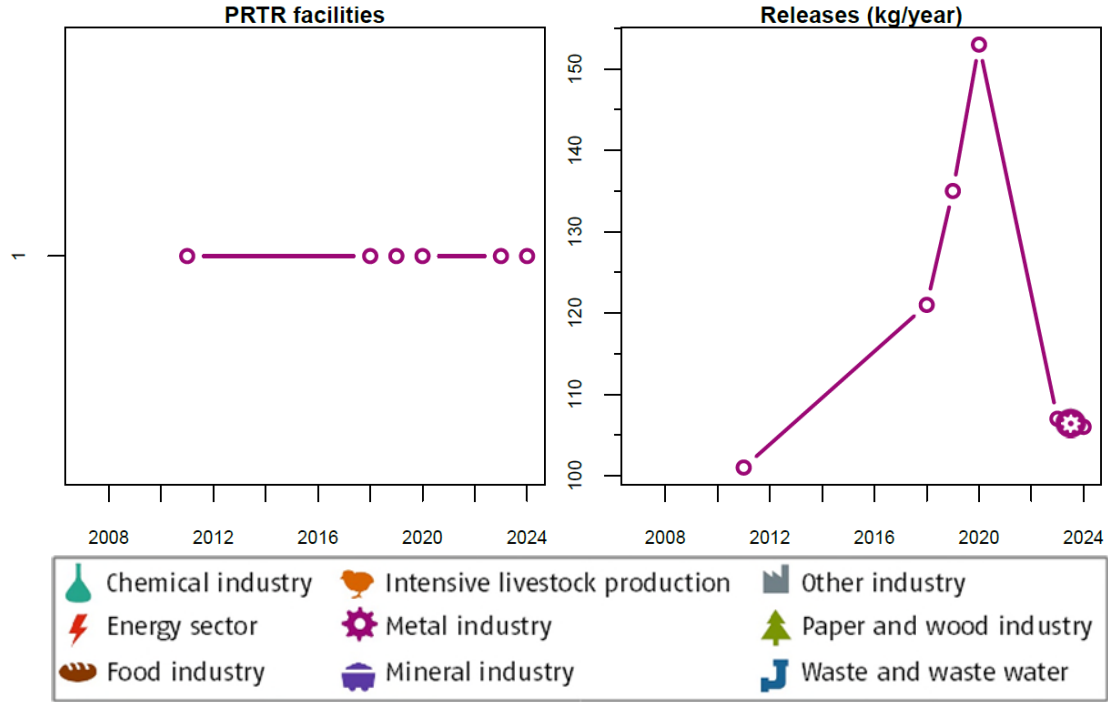
2.1.1 Releases to Air

The threshold is **100 kg "1,1,1-trichloroethane" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 1: For the reporting year 2024 -Number of facilities and their releases of the pollutant "1,1,1-trichloroethane" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	1	100	106	100
Total	**1**	**100**	**106**	**100**

Figure 1: Annual number of facilities (left) and their releases (right) of the pollutant "1,1,1-trichloroethane" to Air, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.2 1,2-dichlorethane (EDC)

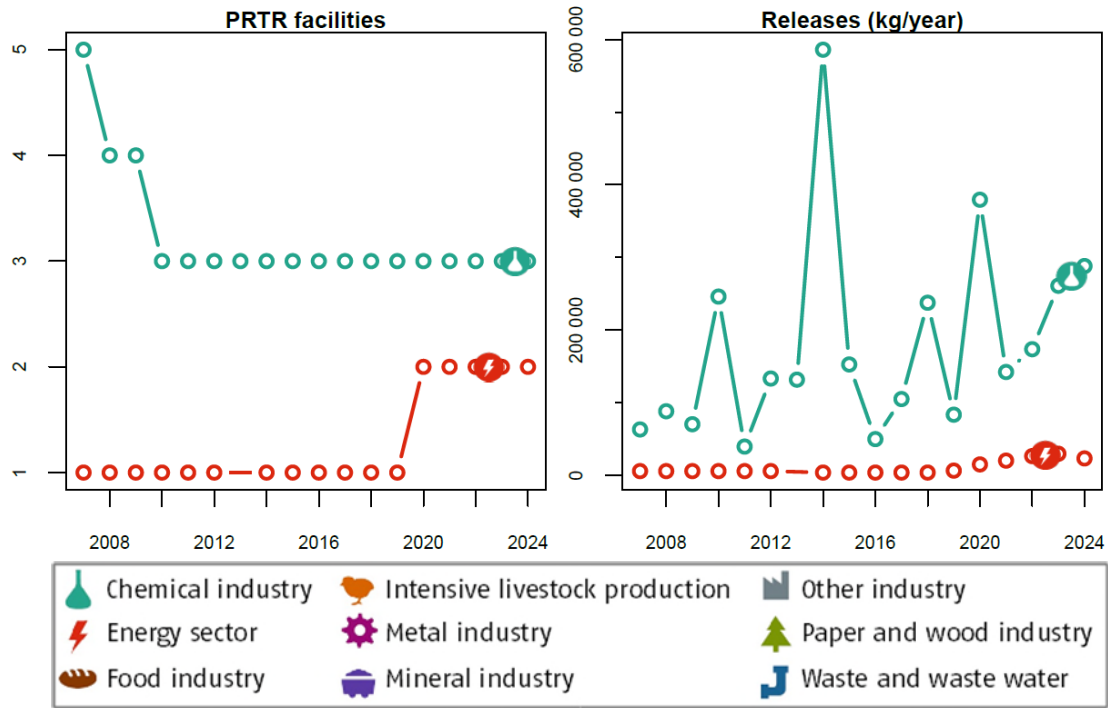
2.2.1 Releases to Air

The threshold is **1 000 kg "1,2-dichloroethane (EDC)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 2: For the reporting year 2024 -Number of facilities and their releases of the pollutant "1,2-dichloroethane (EDC)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	3	60	288 220	92.4
Energy sector	2	40	23 590	7.57
Total	**5**	**100**	**311 810**	**100**

Figure 2: Annual number of facilities (left) and their releases (right) of the pollutant "1,2-dichloroethane (EDC)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

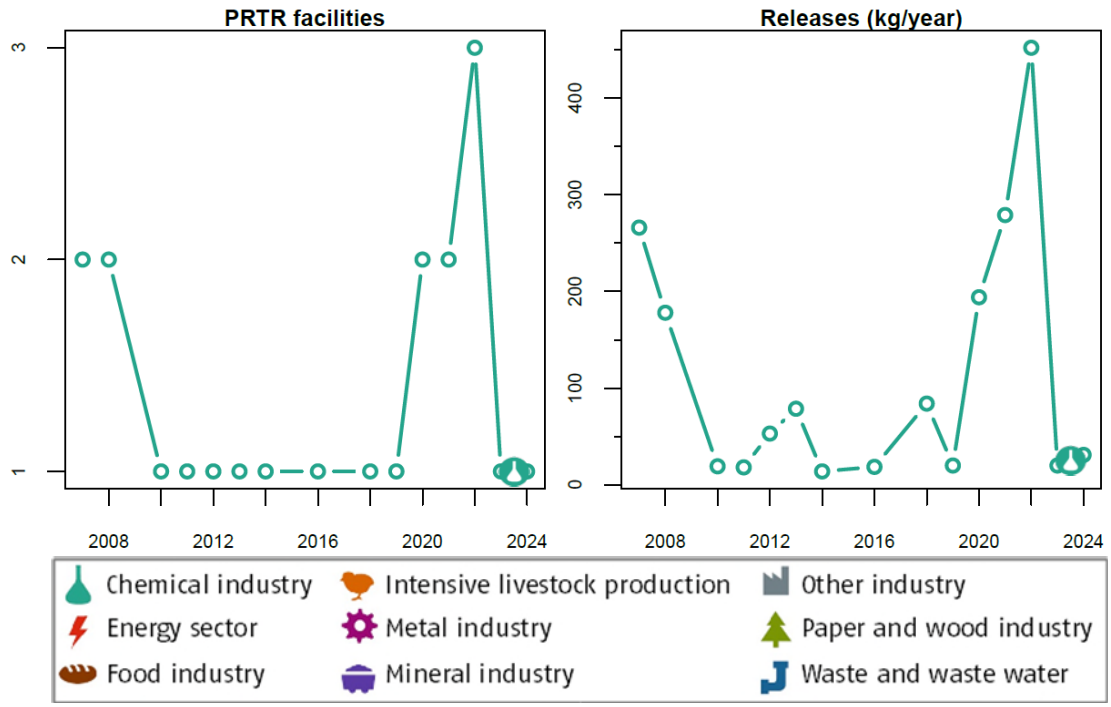
2.2.2 Releases to Water

The threshold is **1 000 kg "1,2-dichloroethane (EDC)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 3: For the reporting year 2024 -Number of facilities and their releases of the pollutant "1,2-dichloroethane (EDC)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	1	100	31	100
Total	**1**	**100**	**31**	**100**

Figure 3: Annual number of facilities (left) and their releases (right) of the pollutant "1,2-dichloroethane (EDC)" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.2.3 Releases to Land

The threshold is **1 000 kg "1,2-dichloroethane (EDC)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of "1,2-dichloroethane (EDC)" to **Land** in **2024**.

2.3 1,2,3,4,5,6- hexachlorocyclohexane (HCH)

2.3.1 Releases to Air

The threshold is **10 kg "1,2,3,4,5,6-hexachlorocyclohexane (HCH)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"1,2,3,4,5,6-hexachlorocyclohexane (HCH)"** to **Air** in **2024**.

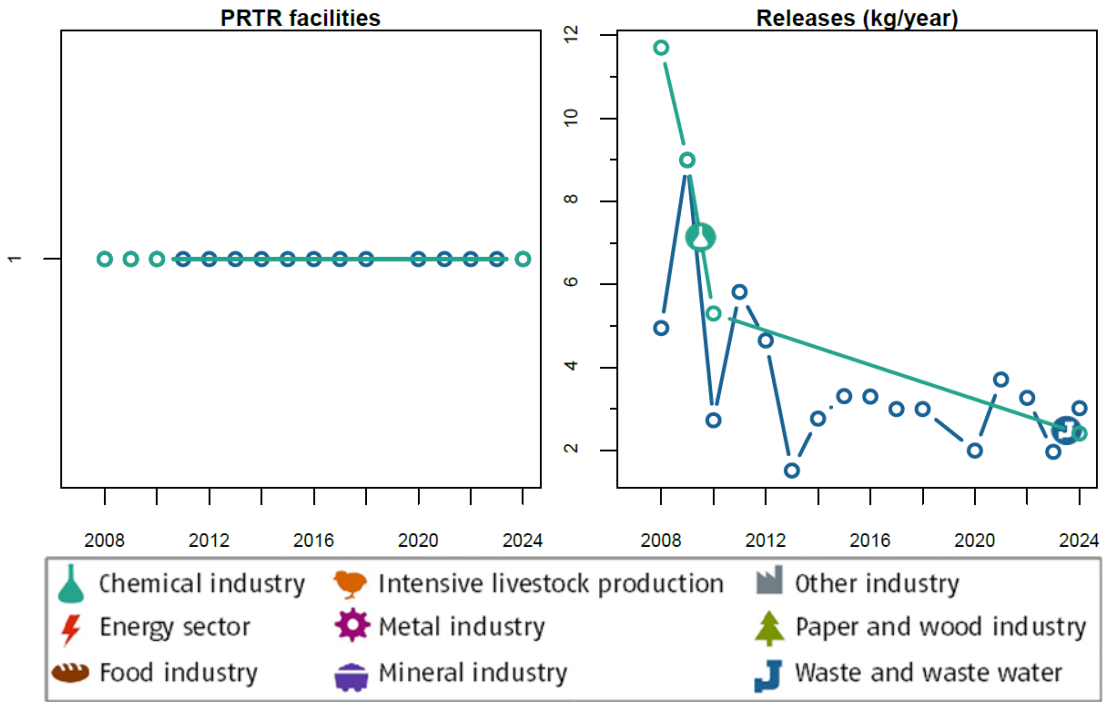
2.3.2 Releases to Water

The threshold is **1 kg "1,2,3,4,5,6-hexachlorocyclohexane (HCH)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 4: For the reporting year 2024 -Number of facilities and their releases of the pollutant "1,2,3,4,5,6-hexachlorocyclohexane (HCH)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	1	50	3.02	55.6
Chemical industry	1	50	2.41	44.4
Total	**2**	**100**	**5.43**	**100**

Figure 4: Annual number of facilities (left) and their releases (right) of the pollutant "1,2,3,4,5,6-hexachlorocyclohexane (HCH)" to Water, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.3.3 Releases to Land

The threshold is **1 kg "1,2,3,4,5,6-hexachlorocyclohexane (HCH)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"1,2,3,4,5,6-hexachlorocyclohexane (HCH)"** to **Land** in **2024**.

2.4 Ammonia (NH_3)

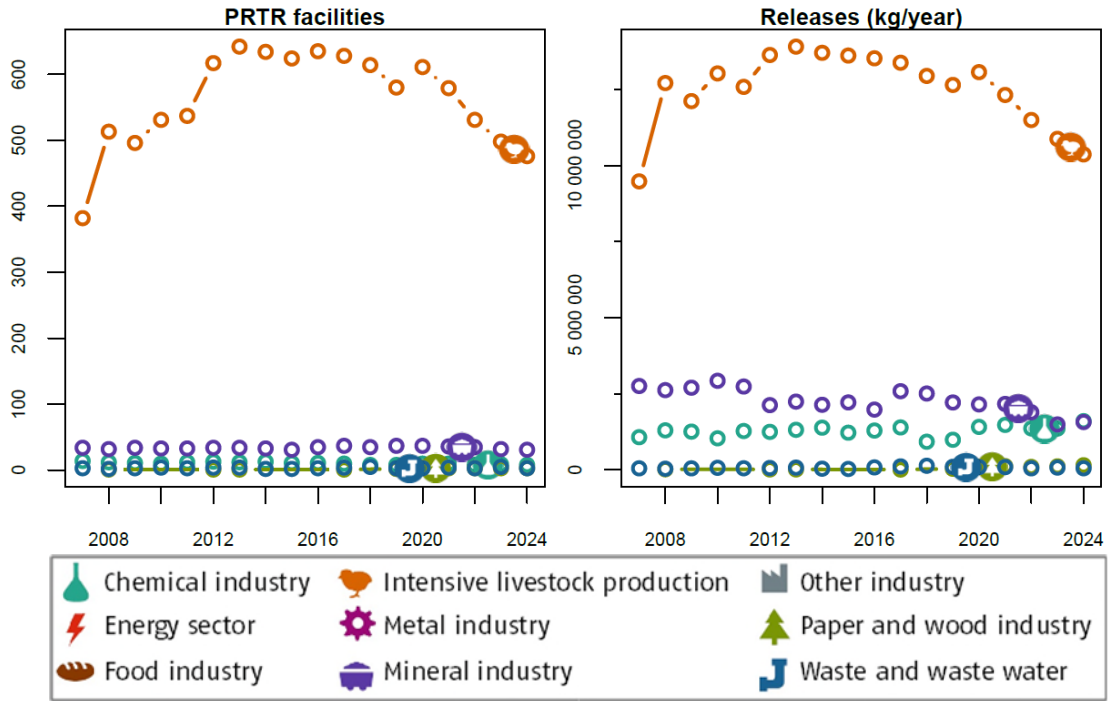
2.4.1 Releases to Air

The threshold is **10 000 kg "Ammonia (NH_3)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 5: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Ammonia (NH_3)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Intensive livestock production and aquaculture	476	90.8	10 362 500	75.2
Chemical industry	8	1.53	1 601 700	11.6
Mineral industry	31	5.92	1 571 200	11.4
Paper and wood industry	3	0.573	151 100	1.1
Waste and waste water management	3	0.573	52 000	0.377
Food industry	2	0.382	34 500	0.25
Energy sector	1	0.191	15 500	0.112
Total	**524**	**100**	**13 788 500**	**100**

Figure 5: Annual number of facilities (left) and their releases (right) of the pollutant "Ammonia (NH_3)" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.5 Arsenic and compounds (as As)

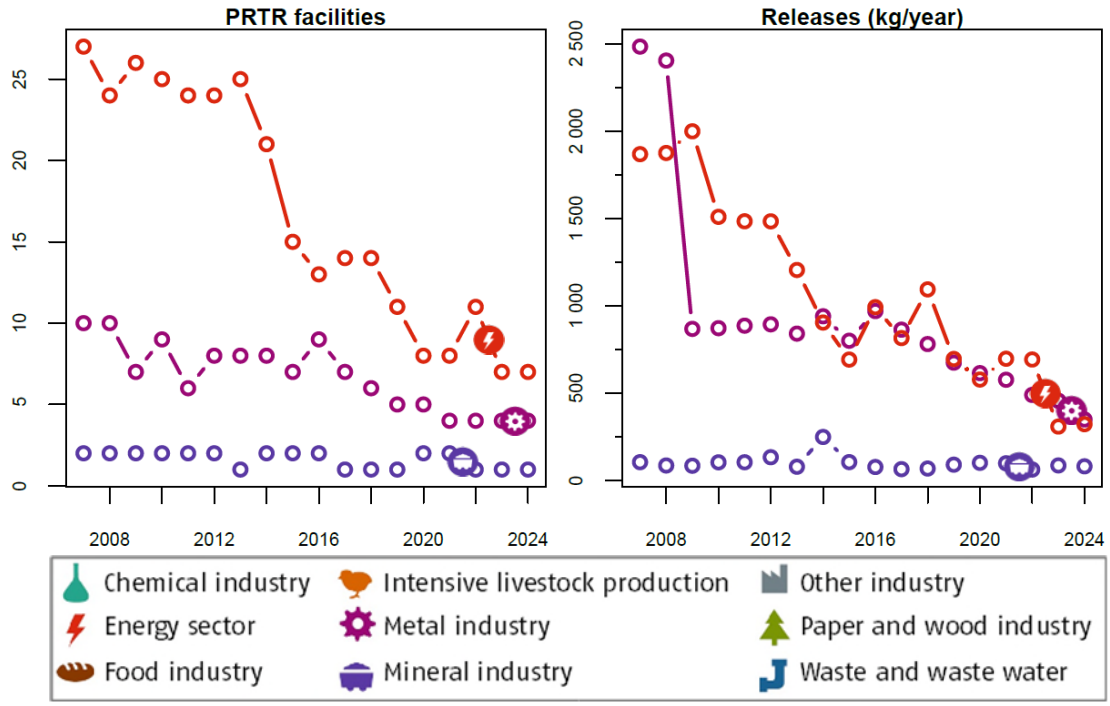
2.5.1 Releases to Air

The threshold is **20 kg "Arsenic and compounds (as As)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 6: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Arsenic and compounds (as As)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	4	33.3	350	46.3
Energy sector	7	58.3	323	42.8
Mineral industry	1	8.33	82	10.9
Total	**12**	**100**	**755**	**100**

Figure 6: Annual number of facilities (left) and their releases (right) of the pollutant "Arsenic and compounds (as As)" to Air, each by the 3 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

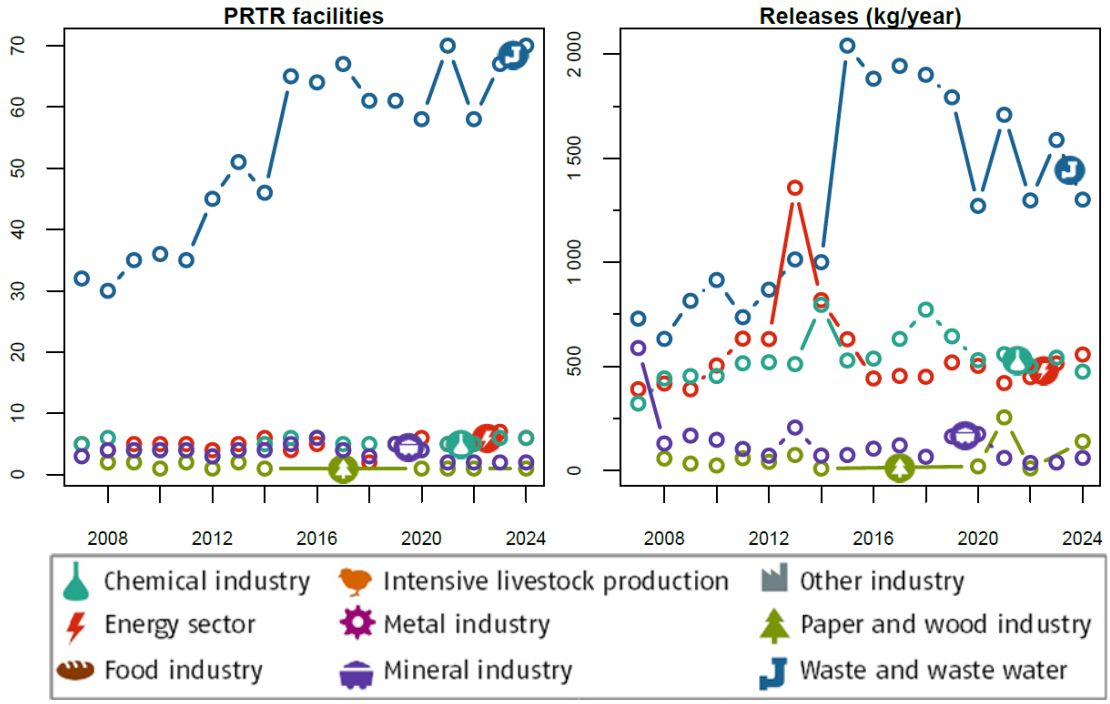
2.5.2 Releases to Water

The threshold is **5 kg "Arsenic and compounds (as As)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 7: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Arsenic and compounds (as As)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	70	80.5	1 301	50.7
Energy sector	6	6.9	557	21.7
Chemical industry	6	6.9	475	18.5
Paper and wood industry	1	1.15	139	5.41
Mineral industry	2	2.3	60	2.43
Metal industry	2	2.3	34.5	1.35
Total	**87**	**100**	**2 566**	**100**

Figure 7: Annual number of facilities (left) and their releases (right) of the pollutant "Arsenic and compounds (as As)" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.5.3 Releases to Land

The threshold is **5 kg "Arsenic and compounds (as As)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **" Arsenic and compounds (as As)"** to **Land** in **2024**.

2.6 Benzene

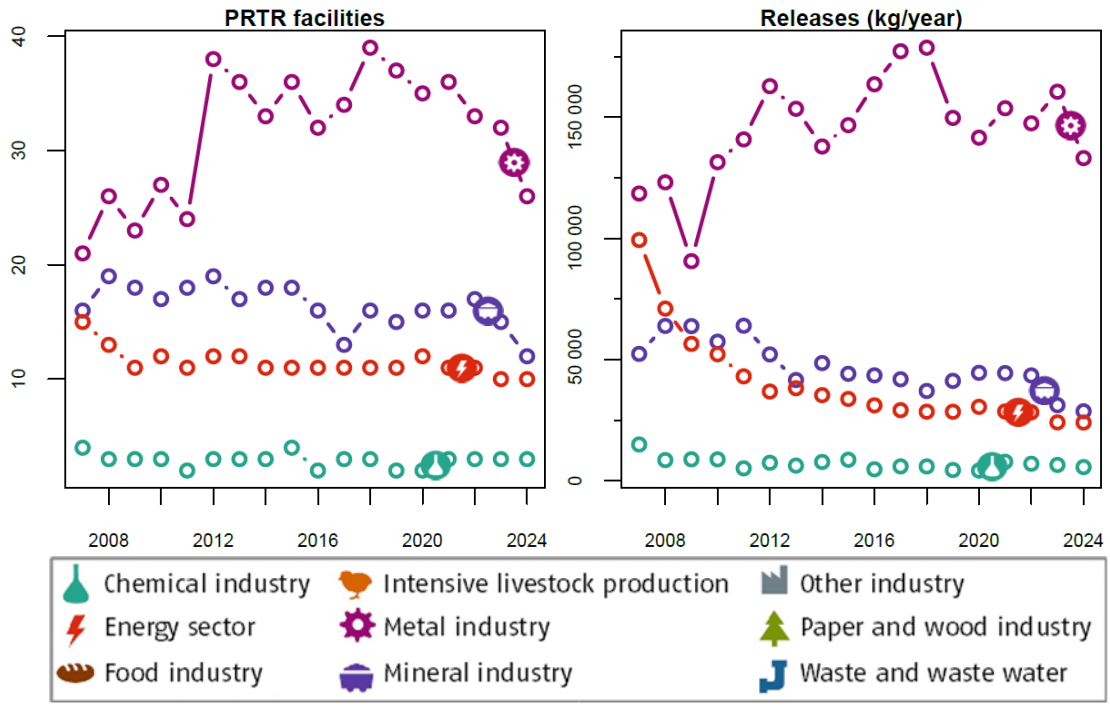
2.6.1 Releases to Air

The threshold is **1 000 kg "Benzene" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 8: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Benzene" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	26	51	133 160	69.5
Mineral industry	12	23.5	28 670	15
Energy sector	10	19.6	24 030	12.5
Chemical industry	3	5.88	5 650	2.95
Total	**51**	**100**	**191 510**	**100**

Figure 8: Annual number of facilities (left) and their releases (right) of the pollutant "Benzene" to Air, each by the 4 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.6.2 Releases to Water

The threshold is **200 kg "Benzene" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Benzene"** to **Water** in **2024**.

2.6.3 Releases to Land

The threshold is **200 kg "Benzene" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Benzene"** to **Land** in **2024**.

2.7 Cadmium and compounds (as Cd)

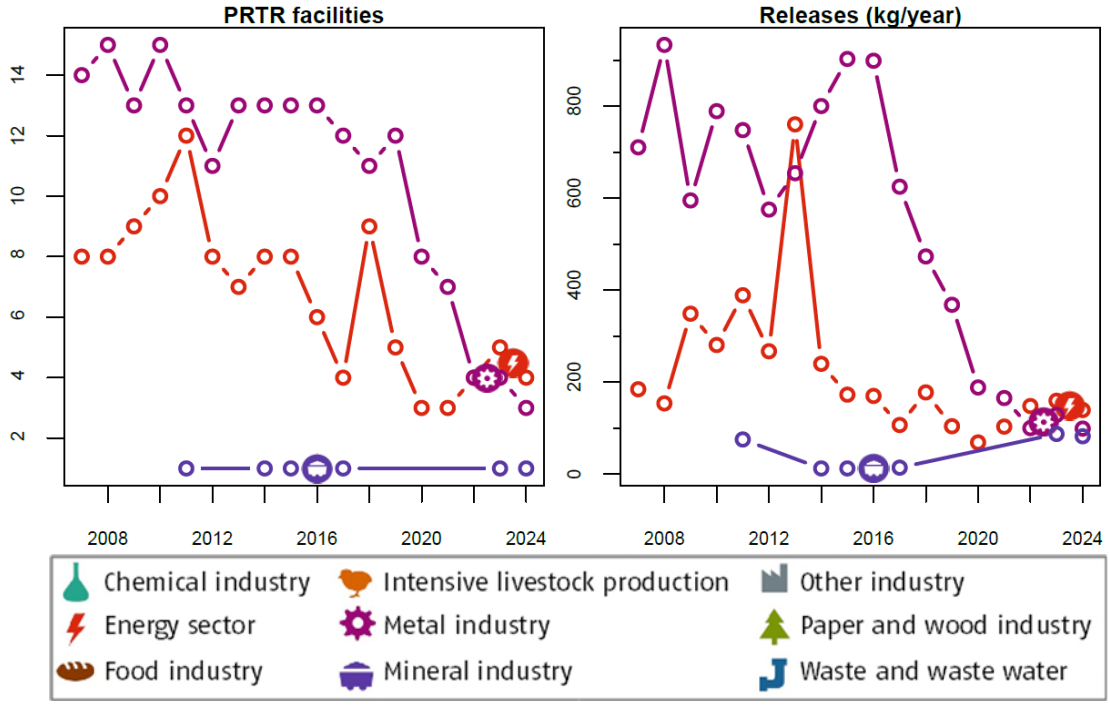
2.7.1 Releases to Air

The threshold is **10 kg "Cadmium and compounds (as Cd)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 9: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Cadmium and compounds (as Cd)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	4	50	139	43.5
Metal industry	3	37.5	98.6	30.9
Mineral industry	1	12.5	82	25.7
Total	**8**	**100**	**320**	**100**

Figure 9: Annual number of facilities (left) and their releases (right) of the pollutant "Cadmium and compounds (as Cd)" to Air, each by the 3 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.7.2 Releases to Water

The threshold is **5 kg "Cadmium and compounds (as Cd)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

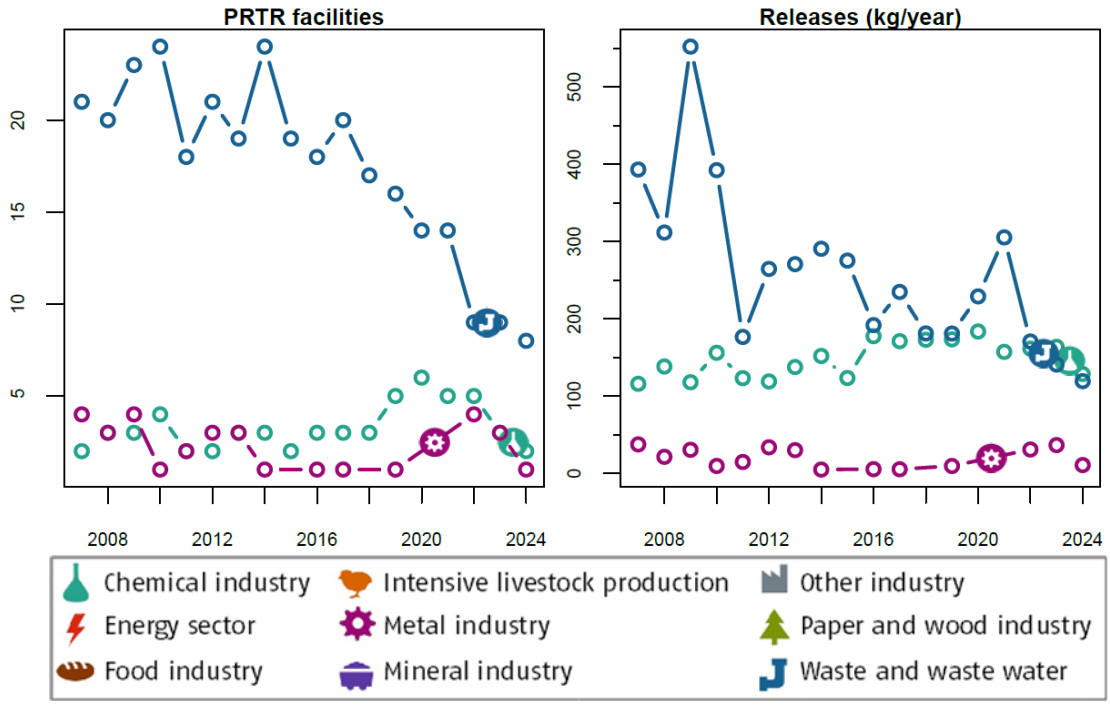
From reporting year 2022, an updated, reduced emission factor or average effluent concentration will be used to calculate the pollutant quantities for Cadmium and compounds at urban wastewater treatment plants belonging to the waste and wastewater management sector. The reduction in pollutant quantities (from 2022) can be partly based on this.

Further information can be found in the publicly accessible PRTR expert wiki refered to in the introduction.

Table 10: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Cadmium and compounds (as Cd)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	2	18.2	129	49.6
Waste and waste water management	8	72.7	120	46.1
Metal industry	1	9.09	11	4.24
Total	**11**	**100**	**259**	**100**

Figure 10: Annual number of facilities (left) and their releases (right) of the pollutant "Cadmium and compounds (as Cd)" to Water, each by the 3 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.7.3 Releases to Land

The threshold is **5 kg "Cadmium and compounds (as Cd)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Cadmium and compounds (as Cd)"** to **Land** in **2024**.

2.8 Carbon dioxide (CO_2)

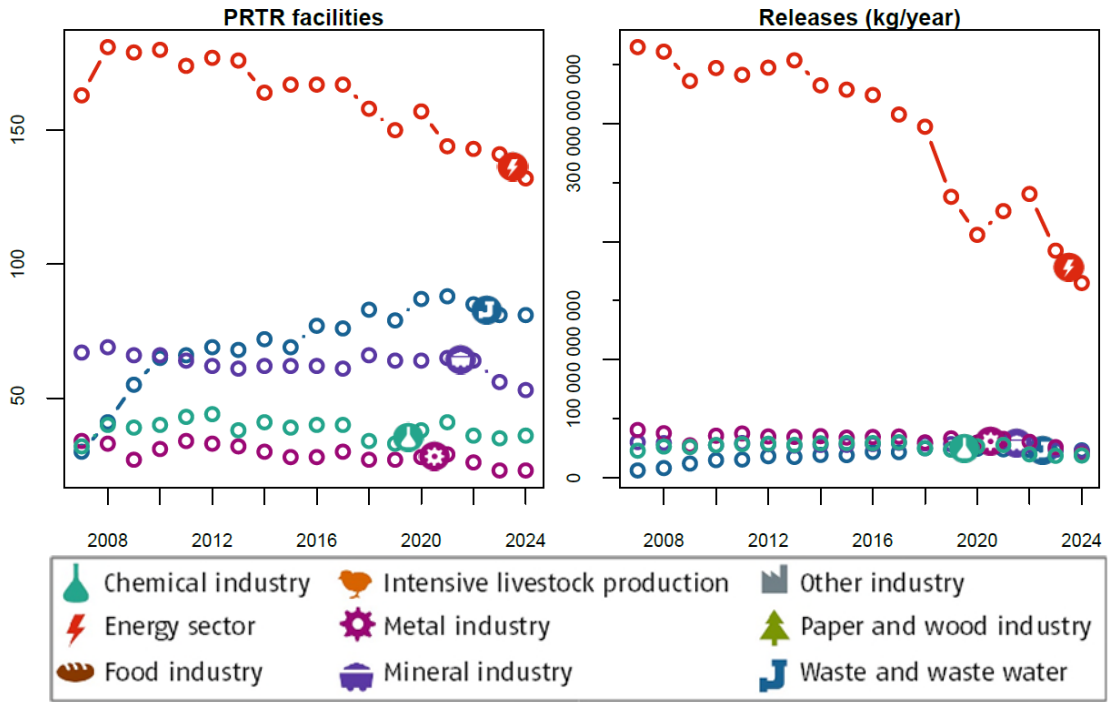
2.8.1 Releases to Air

The threshold is **100 000 000 kg "Carbon dioxide (CO_2)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 11: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Carbon dioxide (CO_2)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	132	37	164 888 000 000	65.6
Waste and waste water management	81	22.7	23 197 000 000	8.19
Mineral industry	53	14.8	22 299 000 000	8.32
Metal industry	23	6.44	19 841 000 000	8.91
Chemical industry	36	10.1	18 856 000 000	6.43
Paper- and wood industry	21	5.88	6 501 000 000	2.25
Food industry	9	2.52	1 441 000 000	0.185
Other industry	2	0.56	278 000 000	0.148
Total	**357**	**100**	**257 301 000 000**	**100**

Figure 11: Annual number of facilities (left) and their releases (right) of the pollutant "Carbon dioxide (CO_2)" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.9 Carbon monoxide (CO)

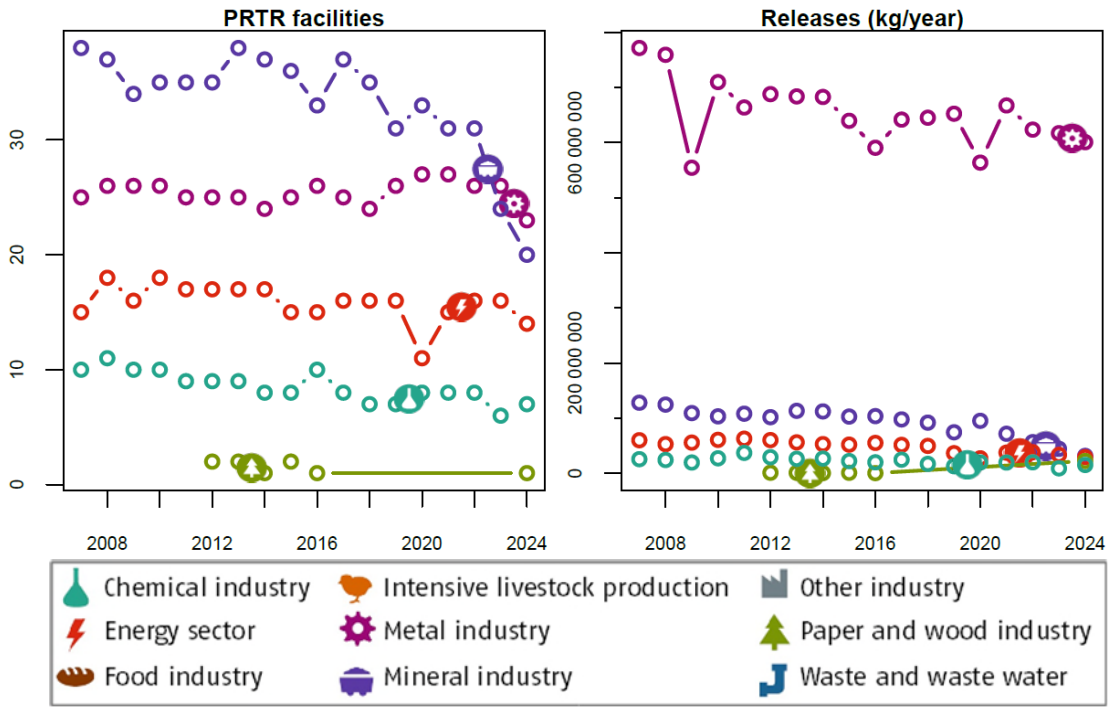
2.9.1 Releases to Air

The threshold is **500 000 kg "Carbon monoxide (CO)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 12: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Carbon monoxide (CO)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	23	35.4	600 476 000	85.9
Mineral industry	20	30.8	31 758 000	4.54
Energy sector	14	21.5	29 44 000	4.21
Paper- and wood industry	1	1.54	22 455 000	3.21
Chemical industry	7	10.8	15 262 000	2.18
Total	**65**	**100**	**699 391 000**	**100**

Figure 12: Annual number of facilities (left) and their releases (right) of the pollutant "Carbon monoxide (CO)" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.10 Chlorides (as total Cl)

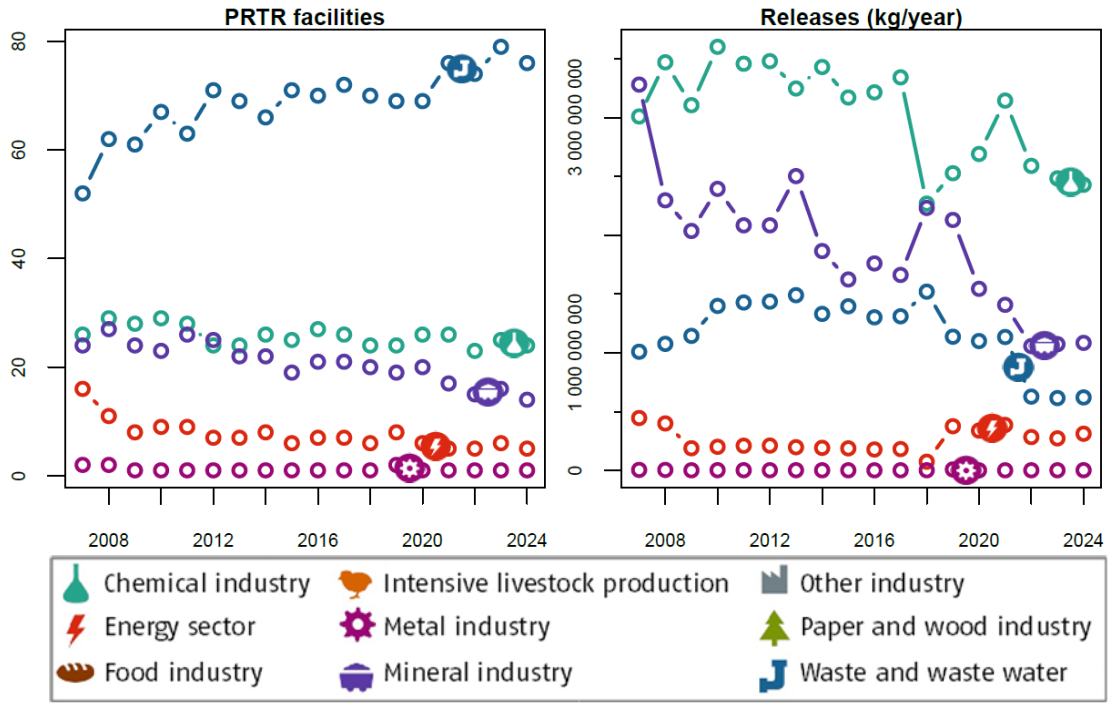
2.10.1 Releases to Water

The threshold is **2 000 000 kg "Chlorides (as total Cl)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 13: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Chlorides (as total Cl)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	24	19.8	2 429 010 000	54.5
Mineral industry	14	11.6	1 085 830 000	24.4
Waste and waste water management	76	62.8	622 260 000	14
Energy sector	5	4.13	313 950 000	7.04
Metal industry	1	0.826	4 280 000	0.096
Paper- and wood industry	1	0.826	2 090 000	0.0469
Total	**121**	**100**	**4 457 420 000**	**100**

Figure 13: Annual number of facilities (left) and their releases (right) of the pollutant "Chlorides (as total Cl)" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

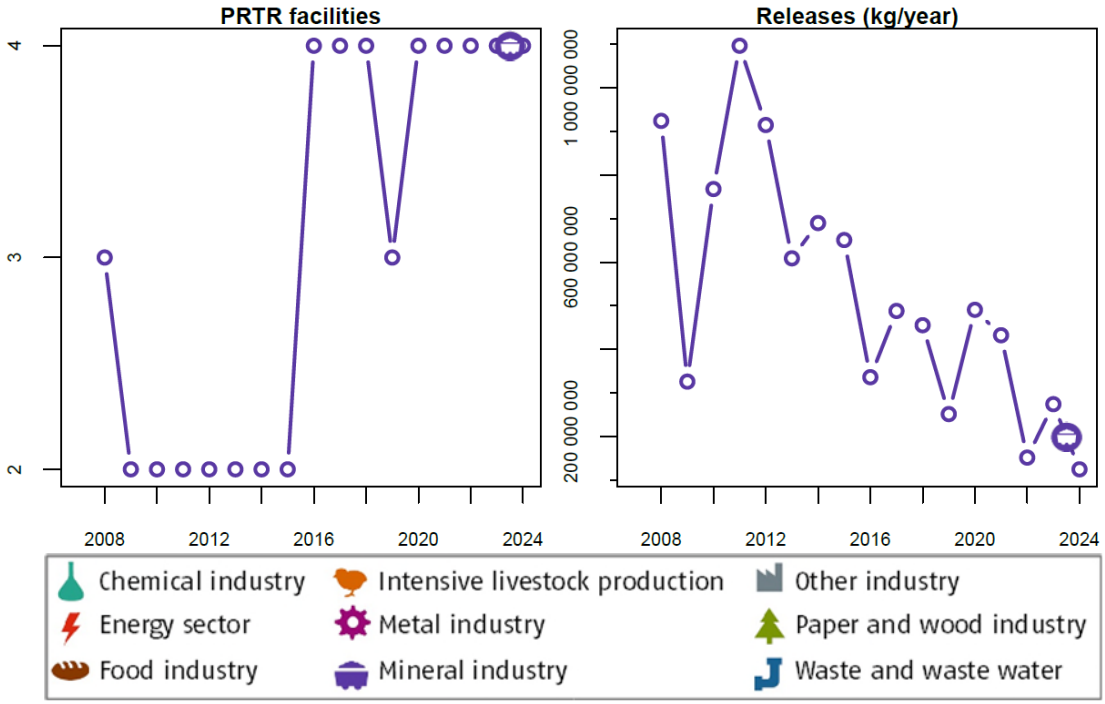
2.10.2 Releases to Land

The threshold is **2 000 000 kg "Chlorides (as total Cl)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

Table 14: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Chlorides (as total Cl)" to Land of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Mineral industry	4	100	124 710 000	100
Total	**4**	**100**	**124 710 000**	**100**

Figure 14: Annual number of facilities (left) and their releases (right) of the pollutant “Chlorides (as total Cl)” to Land, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.11 Chlorine and inorganic compounds (as HCl)

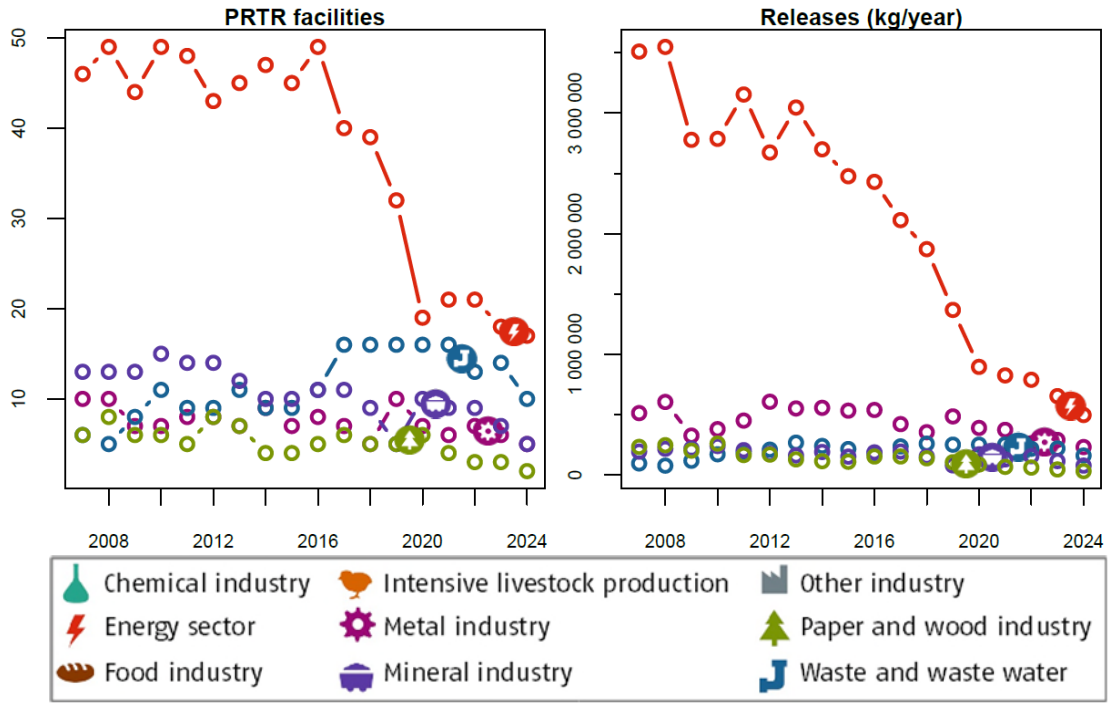
2.11.1 Releases to Air

The threshold is **10 000 kg “Chlorine and inorganic compounds (as HCl)” per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 15: For the reporting year 2024 -Number of facilities and their releases of the pollutant “Chlorine and inorganic compounds (as HCl)” to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	17	41.5	496 400	48.5
Metal industry	5	12.2	230 800	22.5
Waste and waste water management	10	24.4	160 200	15.6
Mineral industry	5	12.2	76 900	7.51
Paper- and wood industry	2	4.88	31 200	3.05
Chemical industry	2	4.88	28 600	2.79
Total	**41**	**100**	**1 024 100**	**100**

Figure 15: Annual number of facilities (left) and their releases (right) of the pollutant "Chlorine and inorganic compounds (as HCl)" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.12 Chloro-alkanes, C10-C13

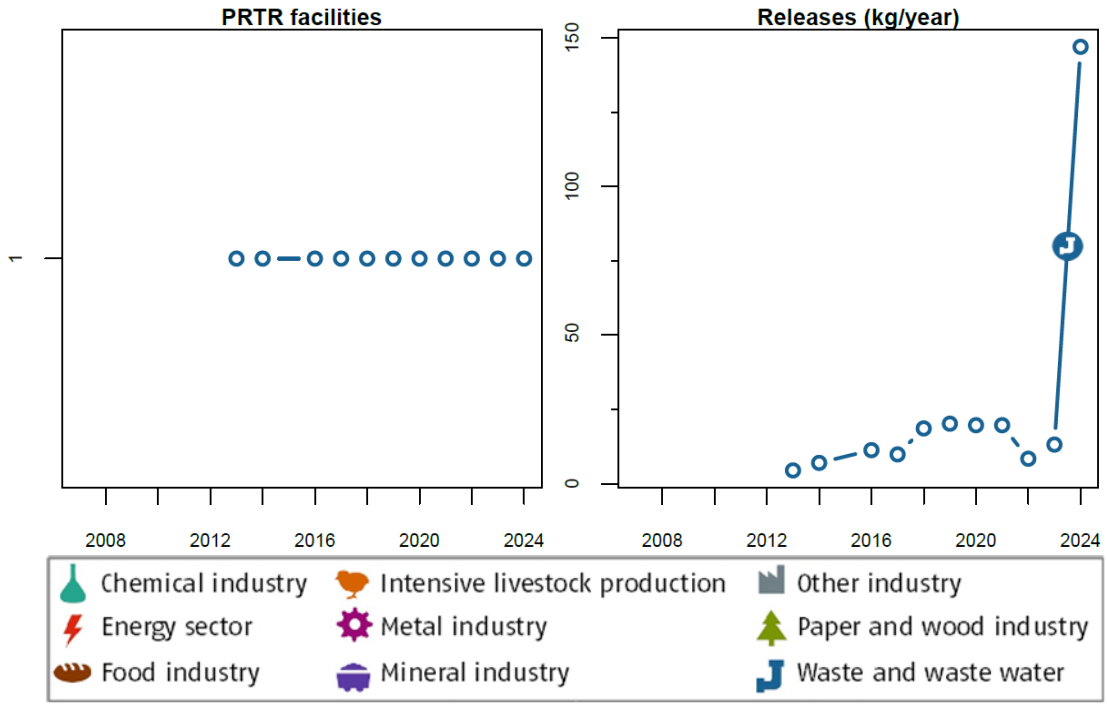
2.12.1 Releases to Water

The threshold is **1 kg "Chloro-alkanes, C10-C13" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 16: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Chloro-alkanes, C10-C13" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	1	100	147	100
Total	**1**	**100**	**147**	**100**

Figure 16: Annual number of facilities (left) and their releases (right) of the pollutant "Chloro-alkanes, C10-C13" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.12.2 Releases to Land

The threshold is **1 kg "Chloro-alkanes, C10-C13" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Chloro-alkanes, C10-C13"** to **Land** in **2024**.

2.13 Chlorofluorocarbons (CFCs)

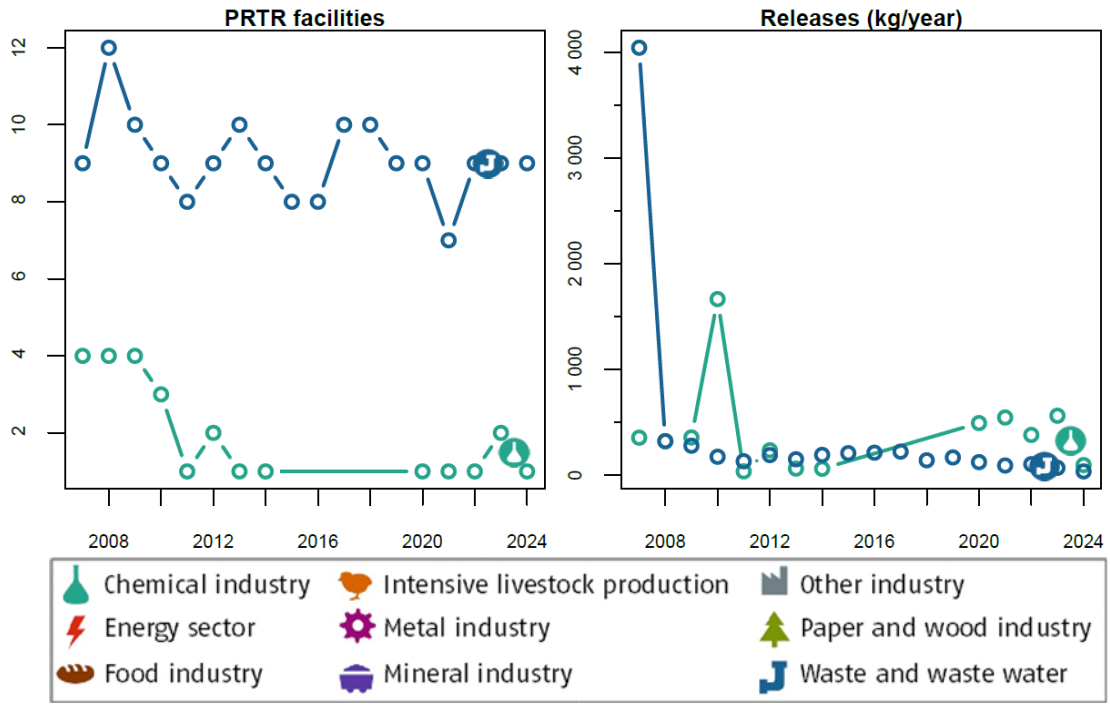
2.13.1 Releases to Air

The threshold is **1 kg "Chlorofluorocarbons (CFCs)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 17: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Chlorofluorocarbons (CFCs)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	1	10	95.3	73.2
Waste and waste water management	9	90	34.8	26.8
Total	**10**	**100**	**130**	**100**

Figure 17: Annual number of facilities (left) and their releases (right) of the pollutant "Chlorofluorocarbons (CFCs)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.14 Chromium and compounds (as Cr)

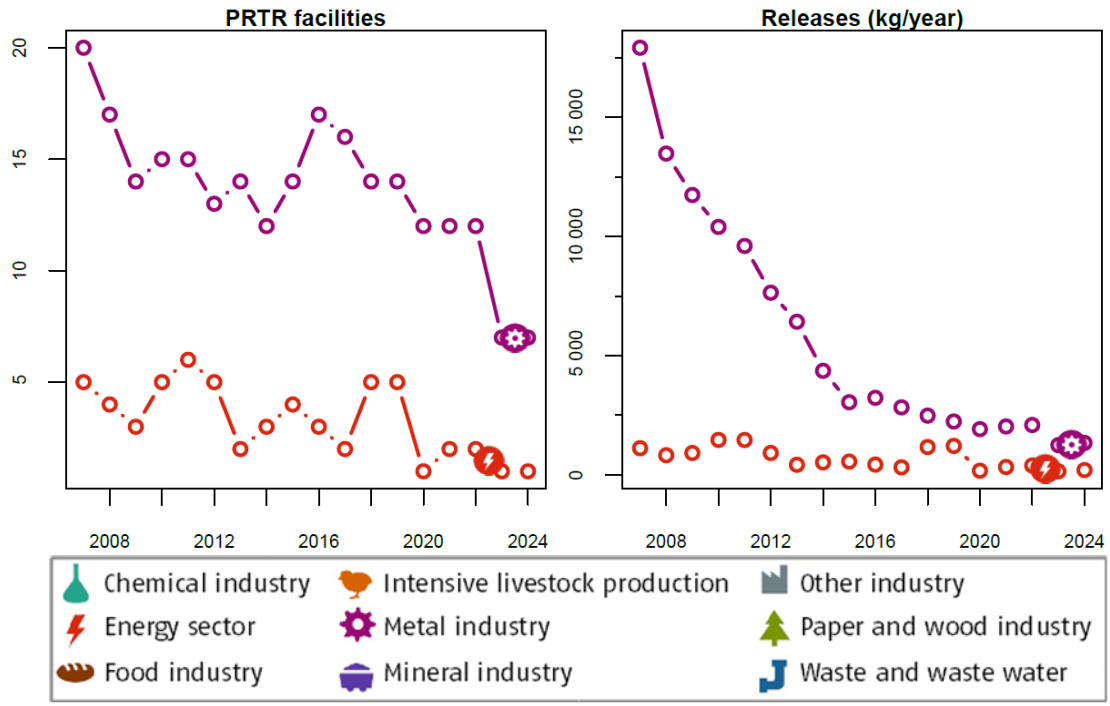
2.14.1 Releases to Air

The threshold is **100 kg "Chromium and compounds (as Cr)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 18: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Chromium and compounds (as Cr)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	7	87.5	1 339	87.1
Energy sector	1	12.5	199	12.9
Total	**8**	**100**	**1 538**	**100**

Figure 18: Annual number of facilities (left) and their releases (right) of the pollutant "Chromium and compounds (as Cr)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

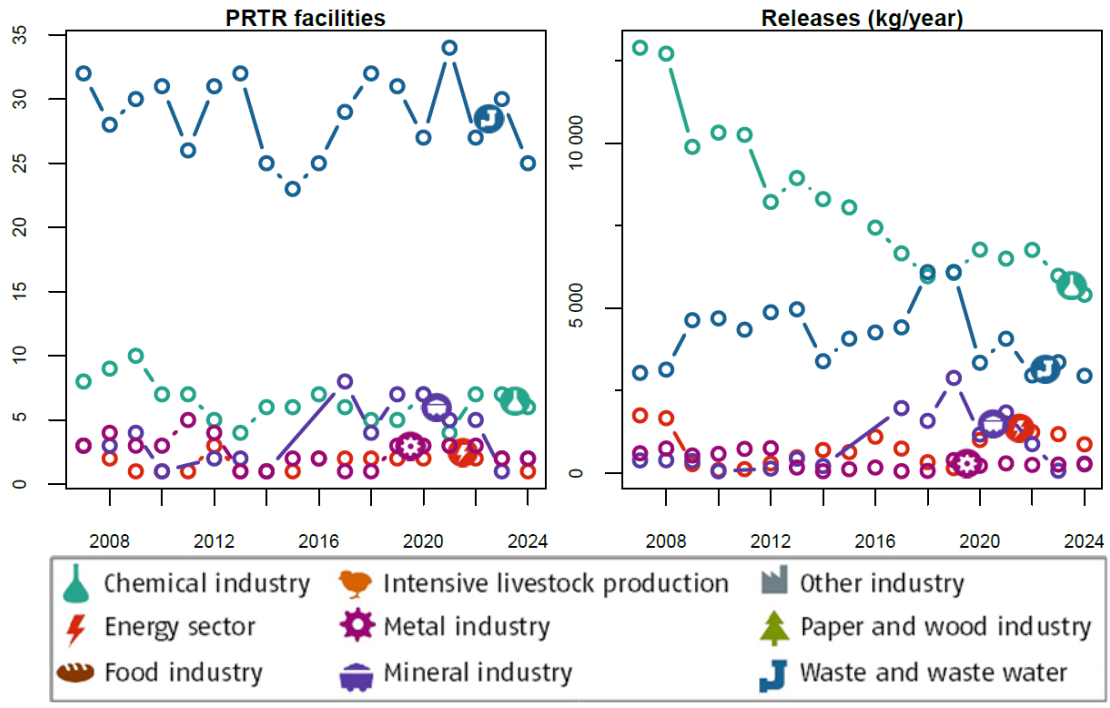
2.14.2 Releases to Water

The threshold is **50 kg "Chromium and compounds (as Cr)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 19: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Chromium and compounds (as Cr)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	6	16.2	5 405	54.5
Waste and waste water management	25	67.6	2 954	29.8
Energy sector	1	2.7	876	8.84
Mineral industry	2	5.41	293	2.96
Metal industry	2	5.41	268	2.7
Other industry	1	2.7	117	1.18
Total	**37**	**100**	**9 913**	**100**

Figure 19: Annual number of facilities (left) and their releases (right) of the pollutant "Chromium and compounds (as Cr)" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.14.3 Releases to Land

The threshold is **50 kg "Chromium and compounds (as Cr)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Chromium and compounds (as Cr)"** to **Land** in **2024**.

2.15 Copper and compounds (as Cu)

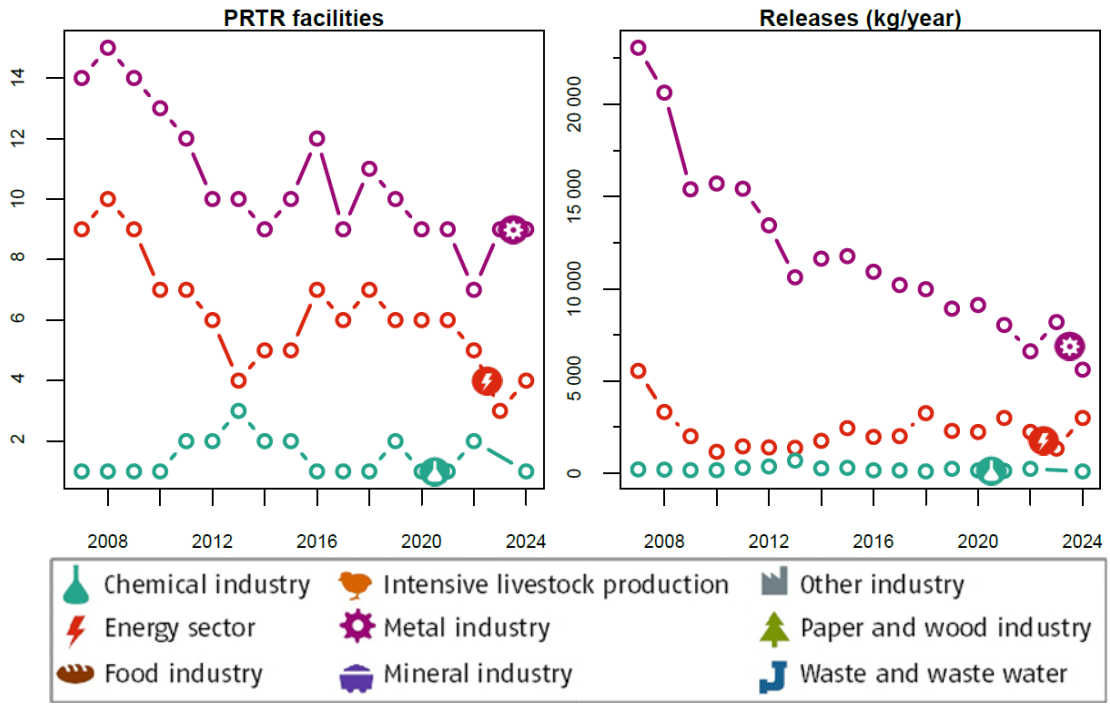
2.15.1 Releases to Air

The threshold is **100 kg "Copper and compounds (as Cu)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 20: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Copper and compounds (as Cu)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	9	64.3	5 620	64.4
Energy sector	4	28.6	3 000	34.4
Chemical industry	1	7.14	104	1.19
Total	**14**	**100**	**8 724**	**100**

Figure 20: Annual number of facilities (left) and their releases (right) of the pollutant "Copper and compounds (as Cu)" to Air, each by the 3 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

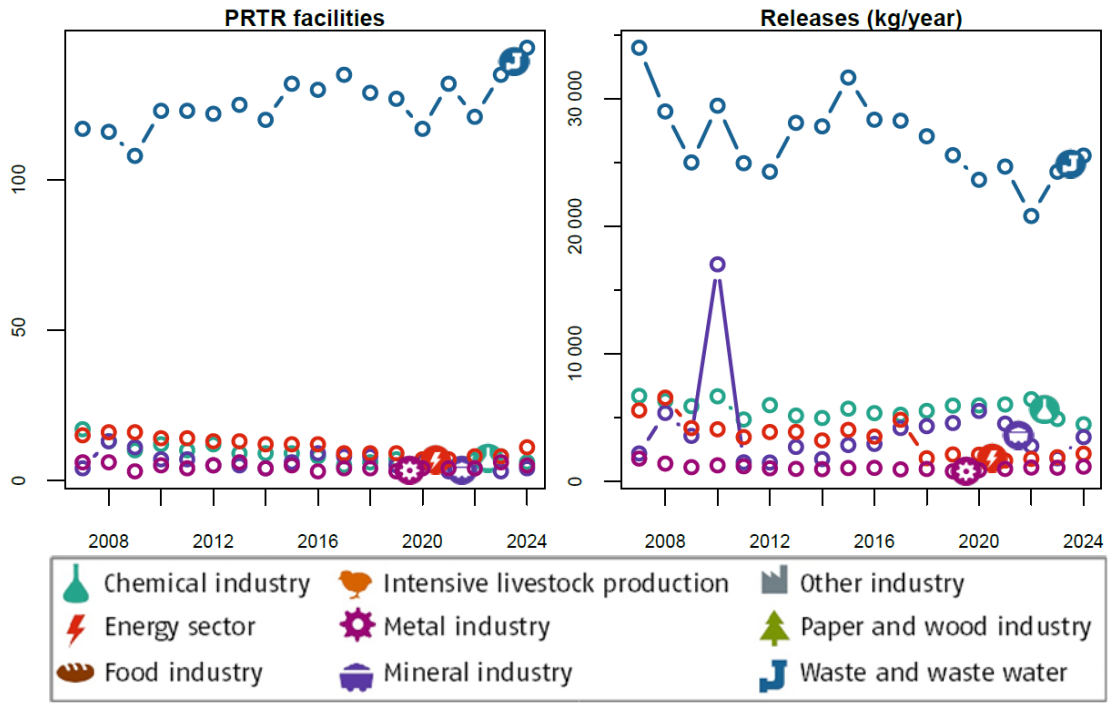
2.15.2 Releases to Water

The threshold is **50 kg "Copper and compounds (as Cu)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 21: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Copper and compounds (as Cu)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	144	84.2	25 540	69.1
Chemical industry	6	3.51	4 490	12.1
Mineral industry	4	2.34	3 488	9.43
Energy sector	11	6.43	2 187	5.91
Metal industry	5	2.92	1 176	3.18
Paper- and wood industry	1	0.585	102	0.276
Total	**171**	**100**	**36 982**	**100**

Figure 21: Annual number of facilities (left) and their releases (right) of the pollutant "Copper and compounds (as Cu)" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.15.3 Releases to Land

The threshold is **50 kg "Copper and compounds (as Cu)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Copper and compounds (as Cu)"** to **Land** in **2024**.

2.16 Cyanides (as total CN)

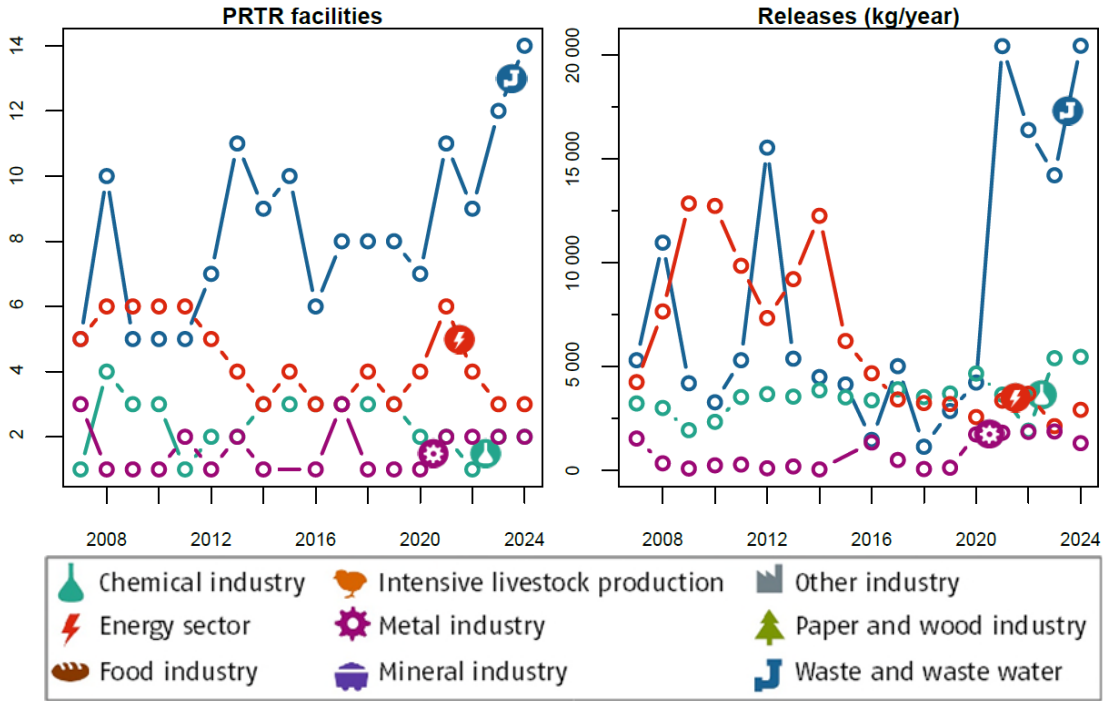
2.16.1 Releases to Water

The threshold is **50 kg "Cyanides (as total CN)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 22: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Cyanides (as total CN)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	14	66.7	20 465	67.7
Chemical industry	2	9.52	5 483	18.2
Energy sector	3	14.3	2 932	9.71
Metal industry	2	9.52	1 328	4.39
Total	**21**	**100**	**30 207**	**100**

Figure 22: Annual number of facilities (left) and their releases (right) of the pollutant "Cyanides (as total CN)" to Water, each by the 4 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.16.2 Releases to Land

The threshold is **50 kg "Cyanides (as total CN)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Cyanides (as total CN)"** to **Land** in **2024**.

2.17 Di-(2-ethyl hexyl) phthalate (DEHP)

2.17.1 Releases to Air

The threshold is **10 kg "Di-(2-ethyl hexyl) phthalate (DEHP)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Di-(2-ethyl hexyl) phthalate (DEHP)"** to **Air** in **2024.**

2.17.2 Releases to Water

The threshold is **1 kg "Di-(2-ethyl hexyl) phthalate (DEHP)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

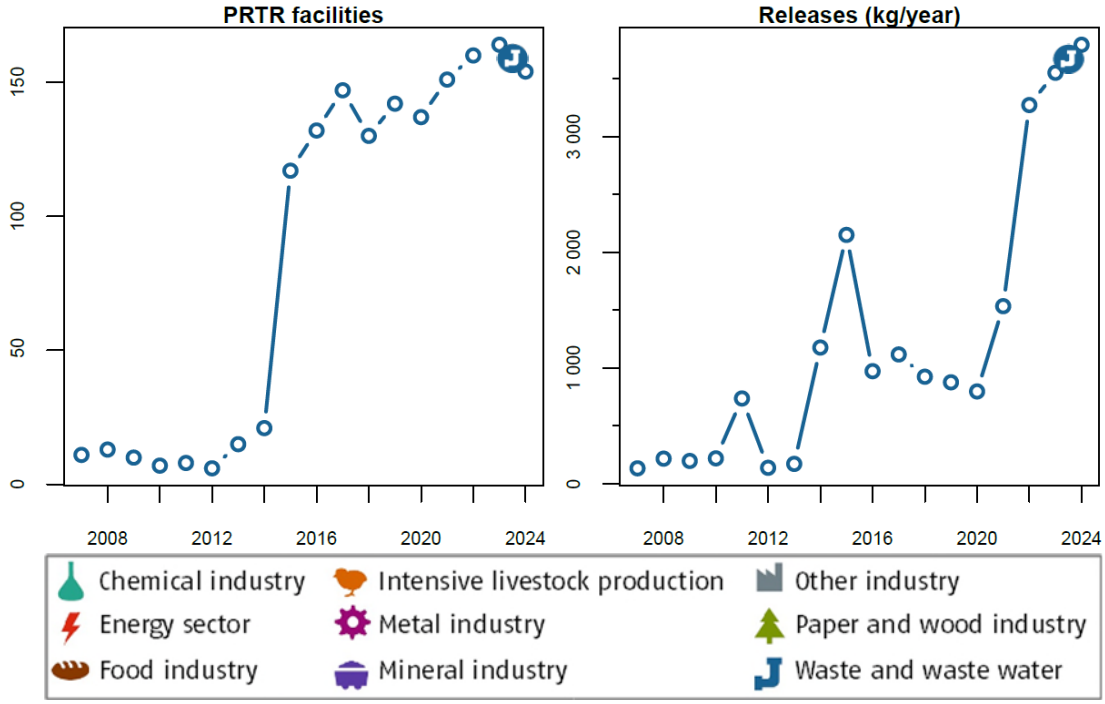
From reporting year 2022, an updated, increased emission factor or average effluent concentration will be used to calculate the pollutant quantities for Di-(2-ethyl hexyl) phthalate (DEHP) at urban wastewater treatment plants belonging to the waste and wastewater management sector. The increase in pollutant quantities (from 2022) can be partly based on this.

Further information can be found in the publicly accessible PRTR expert wiki refered to in the introduction.

Table 23: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Di-(2-ethyl hexyl) phthalate (DEHP)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	154	100	3 793	100
Total	**154**	**100**	**3 793**	**100**

Figure 23: Annual number of facilities (left) and their releases (right) of the pollutant "Di-(2-ethyl hexyl) phthalate (DEHP)" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.17.3 Releases to Land

The threshold is **1 kg "Di-(2-ethyl hexyl) phthalate (DEHP)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Di-(2-ethyl hexyl) phthalate (DEHP)"** to **Land** in **2024**.

2.18 Dichloromethane (DCM)

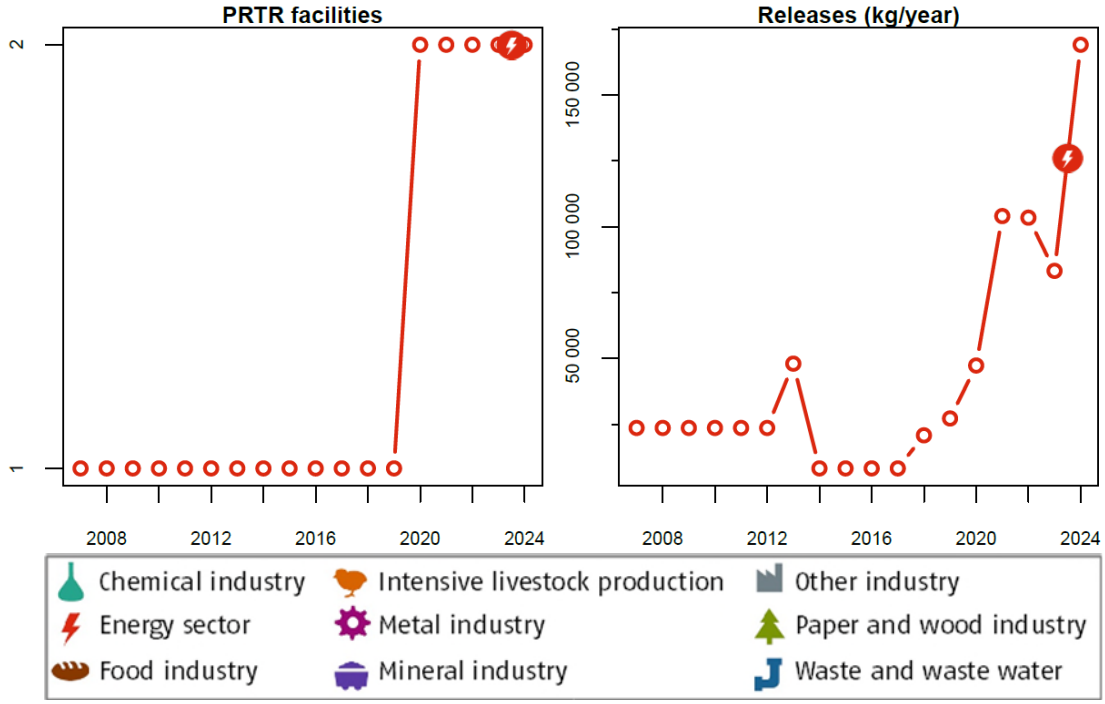
2.18.1 Releases to Air

The threshold is **1 000 kg "Dichloromethane (DCM)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 24: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Dichloromethane (DCM)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	2	100	169 020	100
Total	**2**	**100**	**169 020**	**100**

Figure 24: Annual number of facilities (left) and their releases (right) of the pollutant "Dichloromethane (DCM)" to Air, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

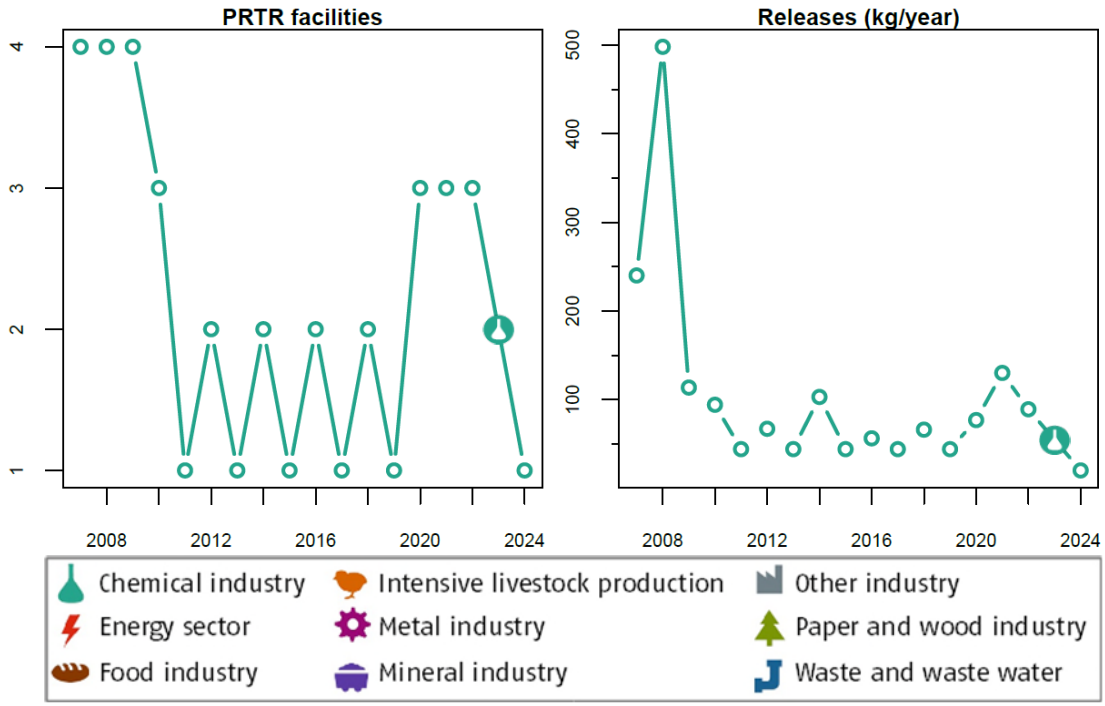
2.18.2 Releases to Water

The threshold is **10 kg "Dichloromethane (DCM)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 25: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Dichloromethane (DCM)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	1	100	20	100
Total	**1**	**100**	**20**	**100**

Figure 25: Annual number of facilities (left) and their releases (right) of the pollutant "Dichloromethane (DCM)" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.18.3 Releases to Land

The threshold is **10 kg "Dichloromethane (DCM)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Dichloromethane (DCM)"** to **Land** in **2024**.

2.19 Diuron

2.19.1 Releases to Water

The threshold is **1 kg "Diuron" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

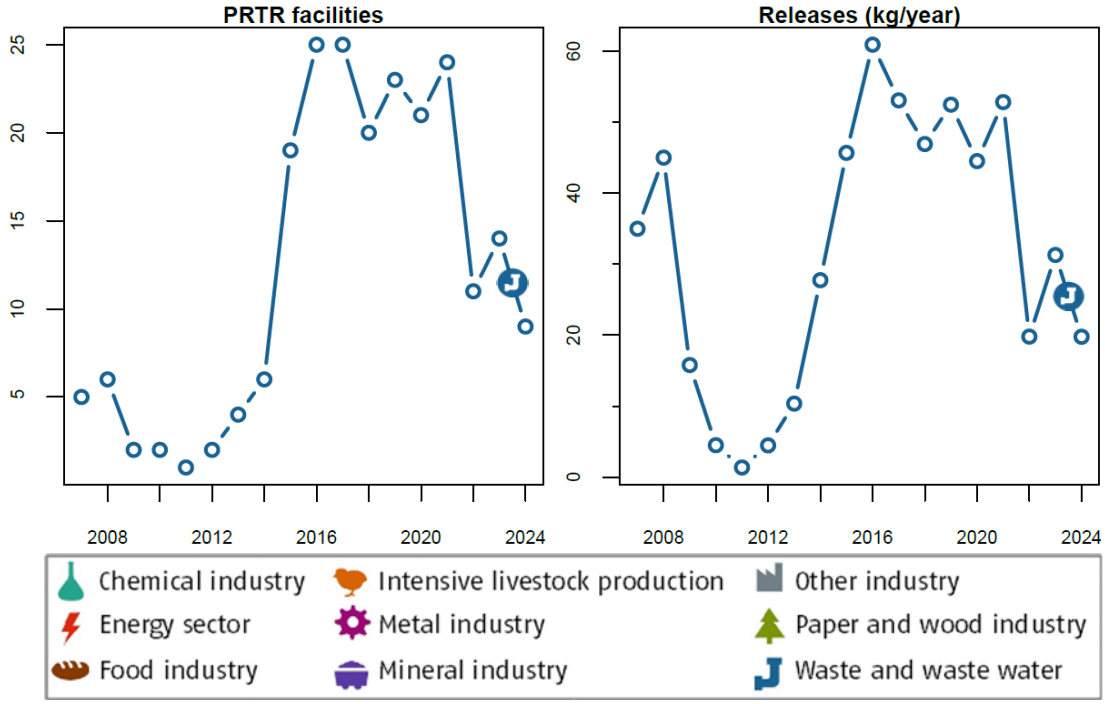
From reporting year 2022, an updated, reduced emission factor or average effluent concentration will be used to calculate the pollutant quantities for Diuron at urban wastewater treatment plants belonging to the waste and wastewater management sector. The reduction in pollutant quantities (from 2022) can be partly based on this.

Further information can be found in the publicly accessible PRTR expert wiki refered to in the introduction.

Table 26: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Diuron" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	9	100	19.8	100
Total	**9**	**100**	**19.8**	**100**

Figure 26: Annual number of facilities (left) and their releases (right) of the pollutant "Diuron" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.19.2 Releases to Land

The threshold is **1 kg "Diuron" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Diuron"** to **Land** in **2024**.

2.20 Fluorides (as total F)

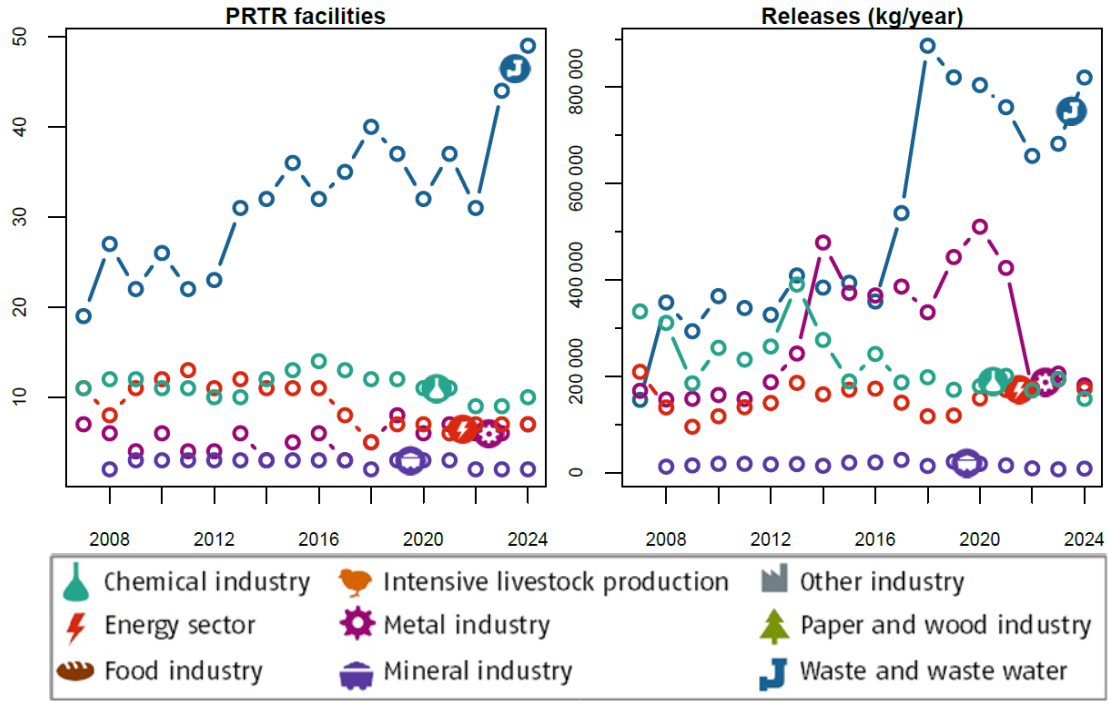
2.20.1 Releases to Water

The threshold is **2 000 kg "Fluorides (as total F)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 27: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Fluorides (as total F)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	49	65.3	820 130	61.4
Metal industry	7	9.33	181 320	13.6
Energy sector	7	9.33	173 790	13
Chemical industry	10	13.3	153 060	11.5
Mineral industry	2	2.67	8 200	0.614
Total	**75**	**100**	**1 336 410**	**100**

Figure 27: Annual number of facilities (left) and their releases (right) of the pollutant "Fluorides (as total F)" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.20.2 Releases to Land

The threshold is **2 000 kg "Fluorides (as total F)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Fluorides (as total F)"** to **Land** in **2024**.

2.21 Fluorine and inorganic compounds (as HF)

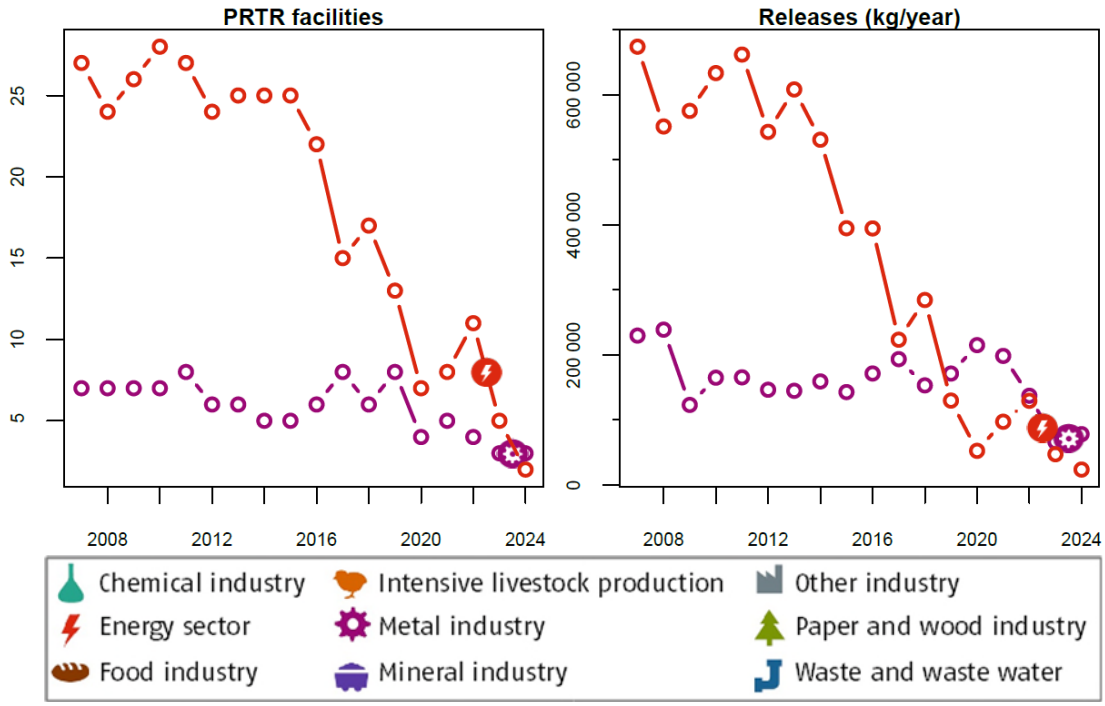
2.21.1 Releases to Air

The threshold is **5 000 kg "Fluorine and inorganic compounds (as HF)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 28: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Fluorine and inorganic compounds (as HF)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	3	60	78 190	76.8
Energy sector	2	40	23 670	23.2
Total	**5**	**100**	**101 680**	**100**

Figure 28: Annual number of facilities (left) and their releases (right) of the pollutant "Fluorine and inorganic compounds (as HF)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.22 Halogenated organic compounds (as AOX)

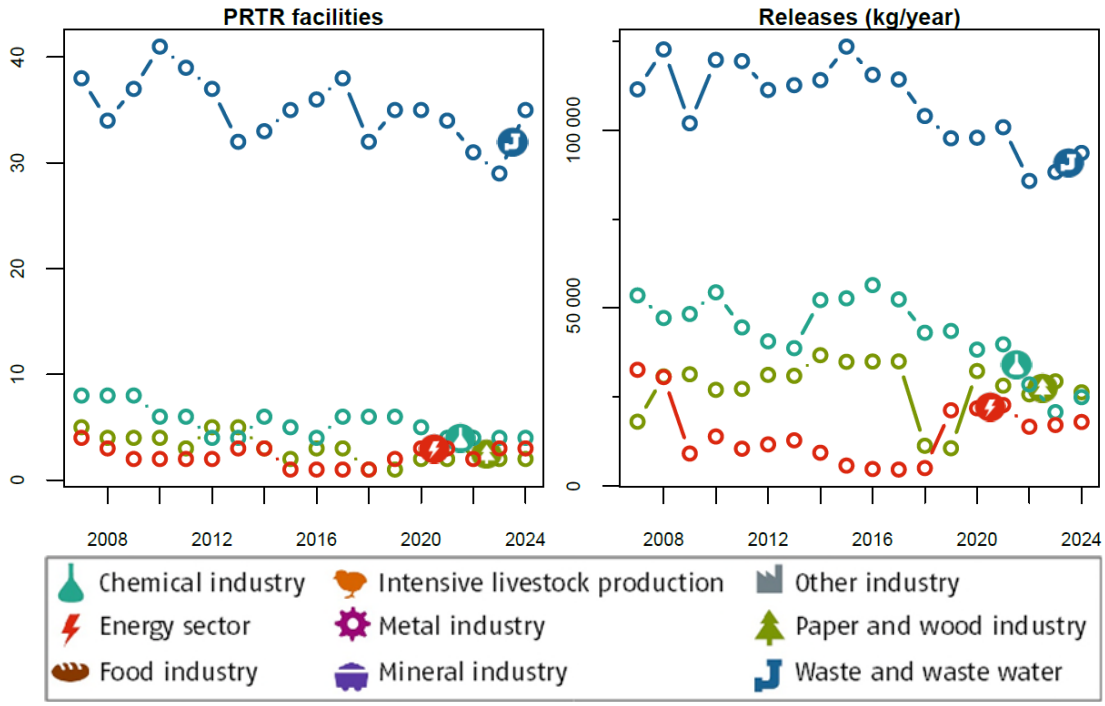
2.22.1 Releases to Water

The threshold is **1 000 kg "Halogenated organic compounds (as AOX)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 29: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Halogenated organic compounds (as AOX)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	35	79.5	93 630	57.5
Paper- and wood industry	2	4.55	26 340	16.2
Chemical industry	4	9.09	24 960	15.3
Energy sector	3	6.82	17 980	11
Total	**44**	**100**	**162 910**	**100**

Figure 29: Annual number of facilities (left) and their releases (right) of the pollutant "Halogenated organic compounds (as AOX)" to Water, each by the 4 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.22.2 Releases to Land

The threshold is **1 000 kg "Halogenated organic compounds (as AOX)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Halogenated organic compounds (as AOX)"** to **Land** in **2024**.

2.23 Hydrochlorofluorocarbons (HCFCs)

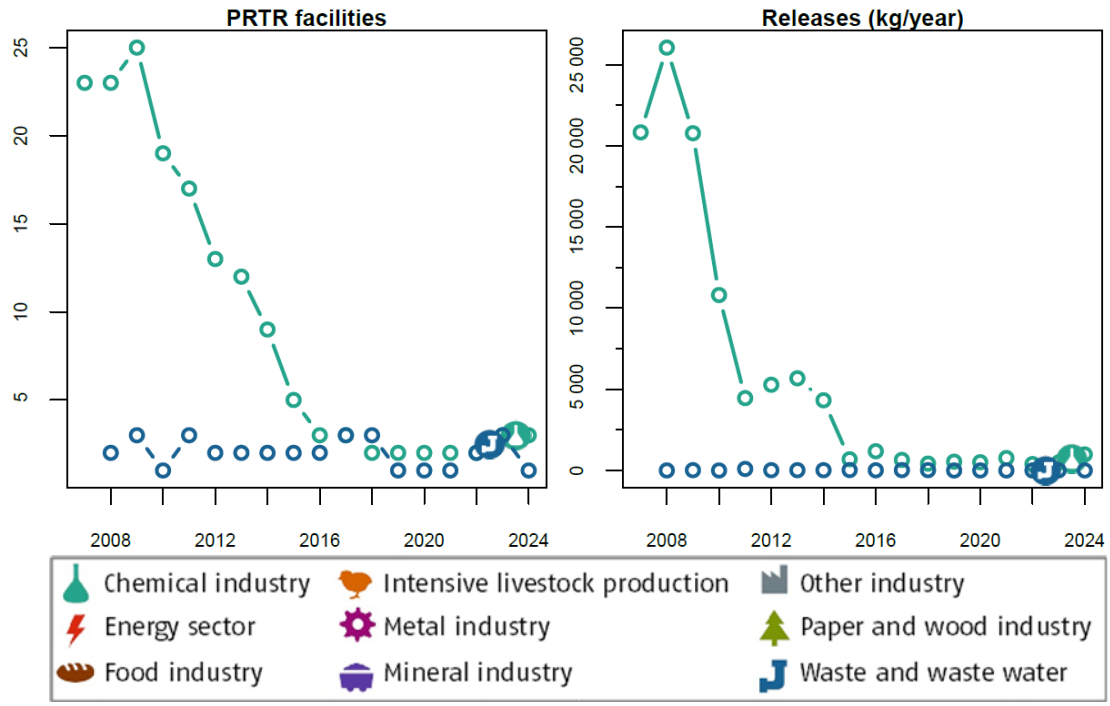
2.23.1 Releases to Air

The threshold is **1 kg "Hydrochlorofluorocarbons (HCFCs)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 30: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Hydrochlorofluorocarbons (HCFCs)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	3	75	990	99.5
Waste and waste water management	1	25	4.5	0.453
Total	**4**	**100**	**994**	**100**

Figure 30: Annual number of facilities (left) and their releases (right) of the pollutant "Hydrochlorofluorocarbons (HCFCs)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.24 Hydro-fluorocarbons (HFCs)

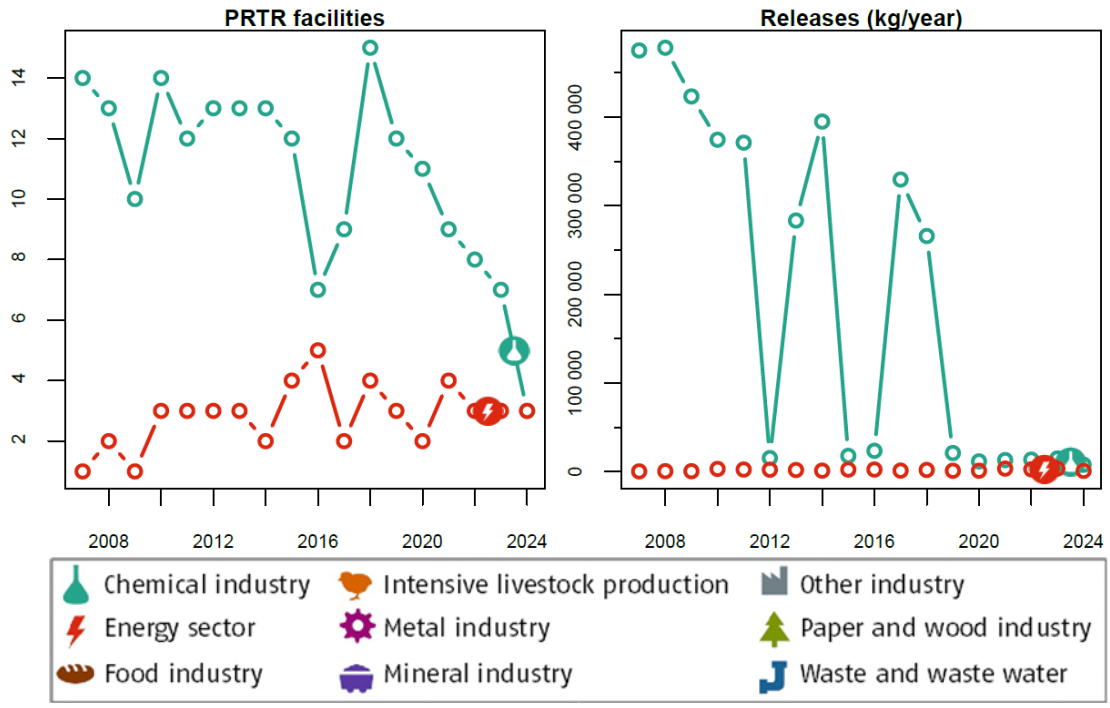
2.24.1 Umweltmedium Luft

The threshold is **100 kg "Hydro-fluorocarbons (HFCs)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 31: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Hydro-fluorocarbons (HFCs)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	3	50	7 863	89.6
Energy sector	3	50	917	10.4
Total	**6**	**100**	**8 780**	**100**

Figure 31: Annual number of facilities (left) and their releases (right) of the pollutant "Hydrofluorocarbons (HFCs)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.25 Hydrogen cyanide (HCN)

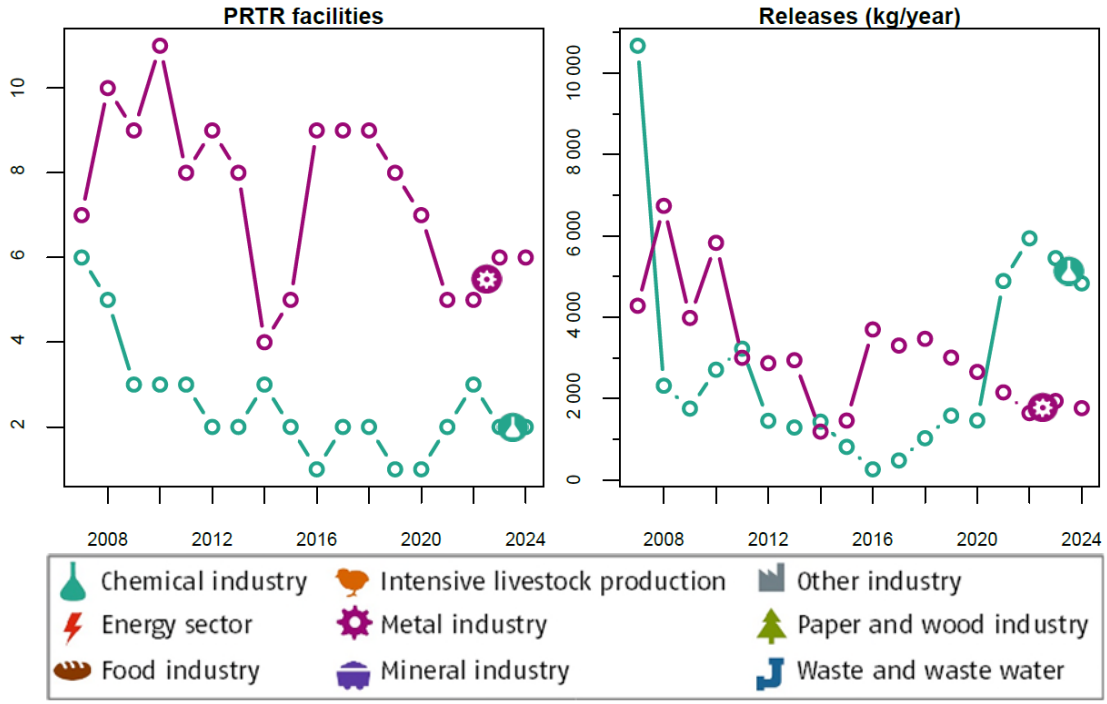
2.25.1 Releases to Air

The threshold is **200 kg "Hydrogen cyanide (HCN)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 32: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Hydrogen cyanide (HCN)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	2	25	4 832	73.3
Metal industry	6	75	1 763	26.7
Total	**8**	**100**	**6 595**	**100**

Figure 32: Annual number of facilities (left) and their releases (right) of the pollutant "Hydrogen cyanide (HCN)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.26 Isoproturon

2.26.1 Releases to Water

The threshold is **1 kg "Isoproturon" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

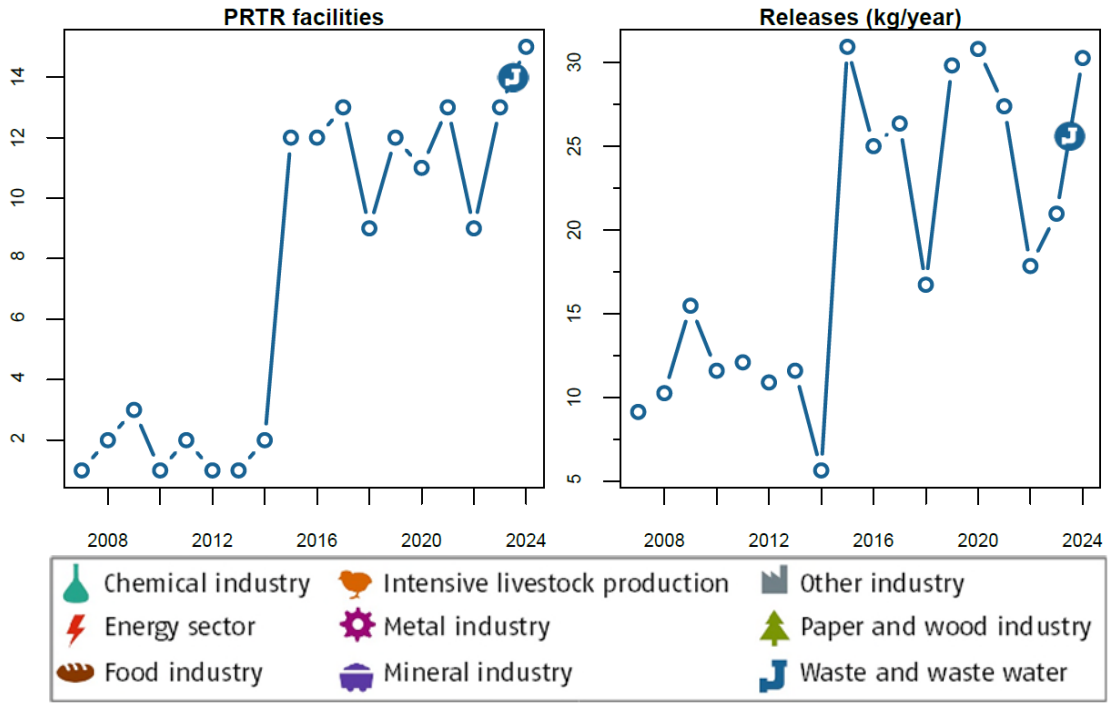
From reporting year 2022, an updated, reduced emission factor or average effluent concentration will be used to calculate the pollutant quantities for Isoproturon at urban wastewater treatment plants belonging to the waste and wastewater management sector. The reduction in pollutant quantities (from 2022) can be partly based on this.

Further information can be found in the publicly accessible PRTR expert wiki refered to in the introduction.

Table 33: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Isoproturon" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	15	100	30.3	100
Total	**15**	**100**	**30.3**	**100**

Figure 33: Annual number of facilities (left) and their releases (right) of the pollutant "Isoproturon" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.26.2 Releases to Land

The threshold is **1 kg "Isoproturon" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Isoproturon"** to **Land** in **2024**.

2.27 Lead and compounds (as Pb)

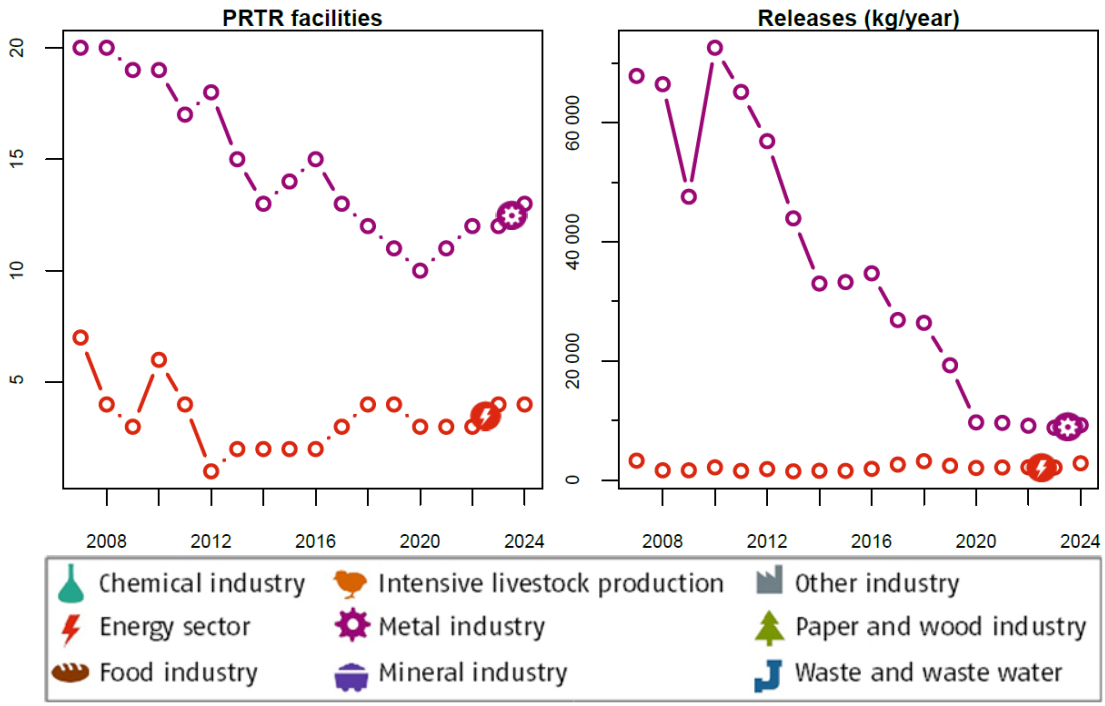
2.27.1 Releases to Air

The threshold is **200 kg "Lead and compounds (as Pb)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 34: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Lead and compounds (as Pb)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	13	76.5	9 246	76.5
Energy sector	4	23.5	2 837	23.5
Total	**17**	**100**	**12 083**	**100**

Figure 34: Annual number of facilities (left) and their releases (right) of the pollutant "Lead and compounds (as Pb)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.27.2 Releases to Water

The threshold is **20 kg "Lead and compounds (as Pb)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

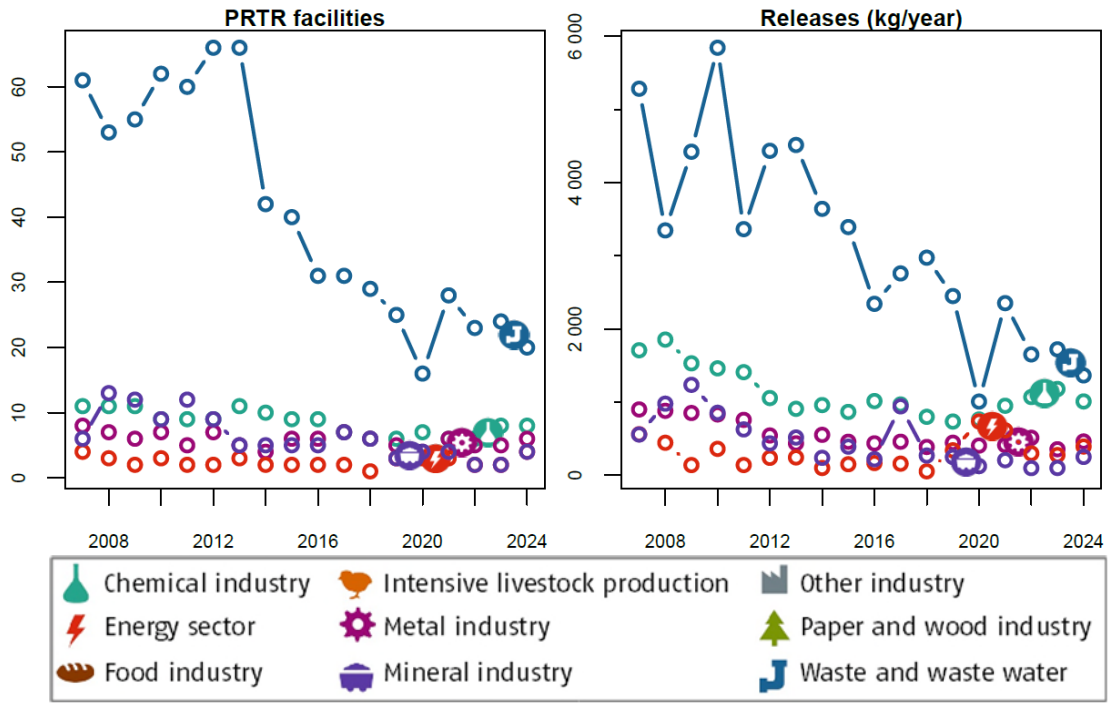
From reporting year 2022, an updated, reduced emission factor or average effluent concentration will be used to calculate the pollutant quantities for Lead and compounds at urban wastewater treatment plants belonging to the waste and wastewater management sector. The reduction in pollutant quantities (from 2022) can be partly based on this.

Further information can be found in the publicly accessible PRTR expert wiki refered to in the introduction.

Table 35: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Lead and compounds (as Pb)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	20	47.6	1 366	39.2
Chemical industry	8	19	1 010	29
Metal industry	6	14.3	463	13.3
Energy sector	4	9.52	394	11.3
Mineral industry	4	9.52	252	7.22
Total	**42**	**100**	**3 484**	**100**

Figure 35: Annual number of facilities (left) and their releases (right) of the pollutant "Lead and compounds (as Pb)" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.27.3 Releases to Land

The threshold is **20 kg "Lead and compounds (as Pb)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Lead and compounds (as Pb)"** to **Land** in **2024**.

2.28 Mercury and compounds (as Hg)

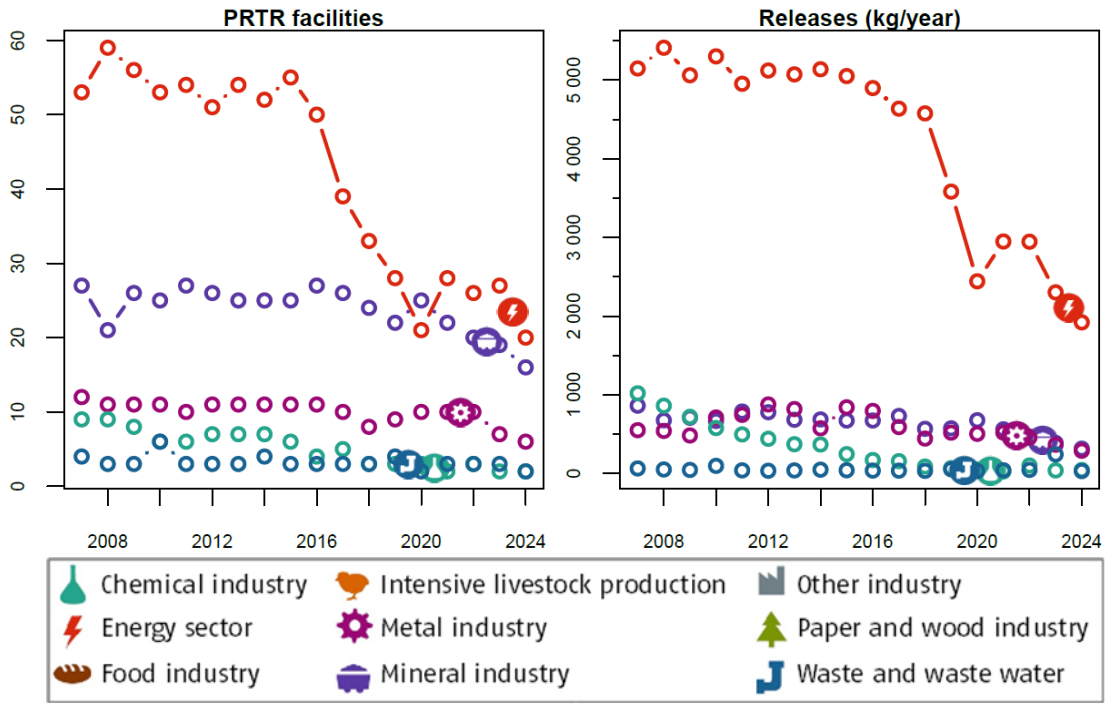
2.28.1 Releases to Air

The threshold is **10 kg "Mercury and compounds (as Hg)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 36: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Mercury and compounds (as Hg)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	20	43.5	1 921	73.9
Mineral industry	16	34.8	315	12.1
Metal industry	6	13	289	11.1
Chemical industry	2	4.35	43.6	1.68
Waste and waste water management	2	4.35	30.7	1.18
Total	**46**	**100**	**2 599**	**100**

Figure 36: Annual number of facilities (left) and their releases (right) of the pollutant "Mercury and compounds (as Hg)" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.28.2 Releases to Water

The threshold is **1 kg "Mercury and compounds (as Hg)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

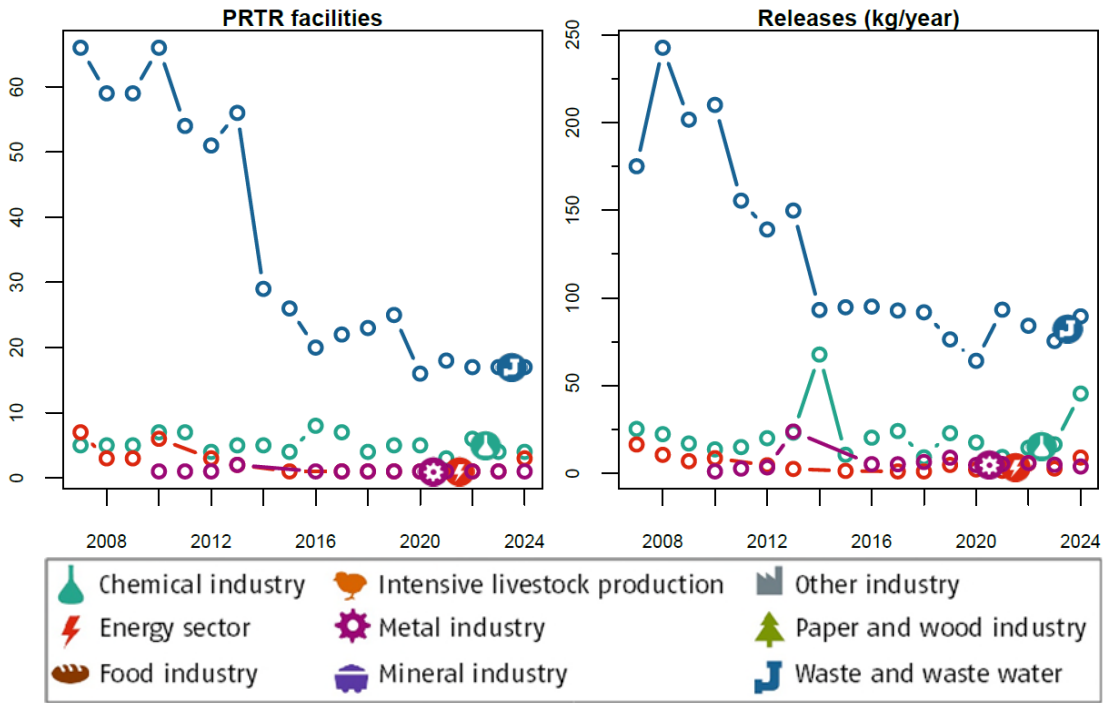
From reporting year 2022, an updated, increased emission factor or average effluent concentration will be used to calculate the pollutant quantities for Mercury and compounds at urban wastewater treatment plants belonging to the waste and wastewater management sector. An increase in pollutant quantities (from 2022) cannot be seen or depicted in Figure 37 due to strong fluctuations in reporting facilities.

Further information can be found in the publicly accessible PRTR expert wiki refered to in the introduction.

Table 37: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Mercury and compounds (as Hg)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	17	68	89.5	60.4
Chemical industry	4	16	45.5	30.7
Energy sector	3	12	9.1	6.14
Metal industry	1	4	4	2.7
Total	**25**	**100**	**148**	**100**

Figure 37: Annual number of facilities (left) and their releases (right) of the pollutant "Mercury and compounds (as Hg)" to Water, each by the 4 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.28.3 Releases to Land

The threshold is **1 kg "Mercury and compounds (as Hg)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Mercury and compounds (as Hg)"** to **Land** in **2024**.

2.29 Methane (CH_4)

2.29.1 Umweltmedium Luft

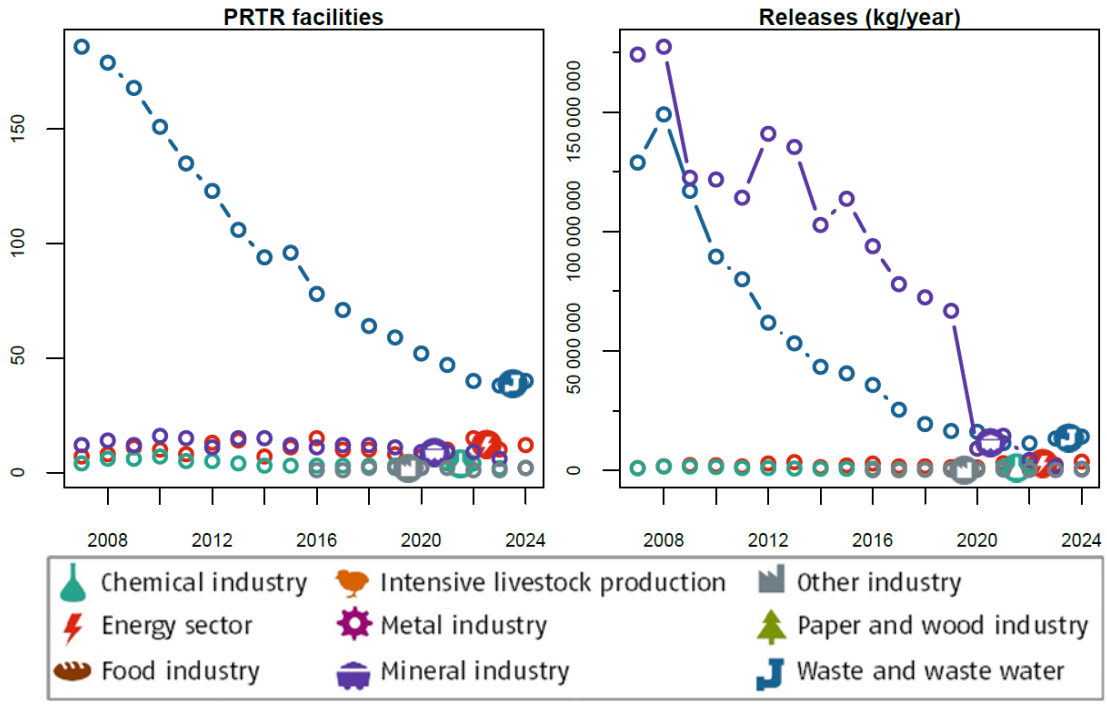
The threshold is **100 000 kg "Methane (CH_4)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 38: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Methane (CH_4)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	40	65.6	14 192 000	71.1
Energy sector	12	19.7	3 712 000	18.6
Chemical Industry	2	3.28	710 000	3.56
Mineral industry	2	3.28	568 000	2.85
Other Industry	2	3.28	378 000	1.89
Intensive livestock production and aquaculture	2	3.28	222 000	1.11

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	1	1.64	171 000	0.857
Total	**61**	**100**	**19 953 000**	**100**

Figure 38: Annual number of facilities (left) and their releases (right) of the pollutant "Methane (CH_4)" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.30 Naphthalene

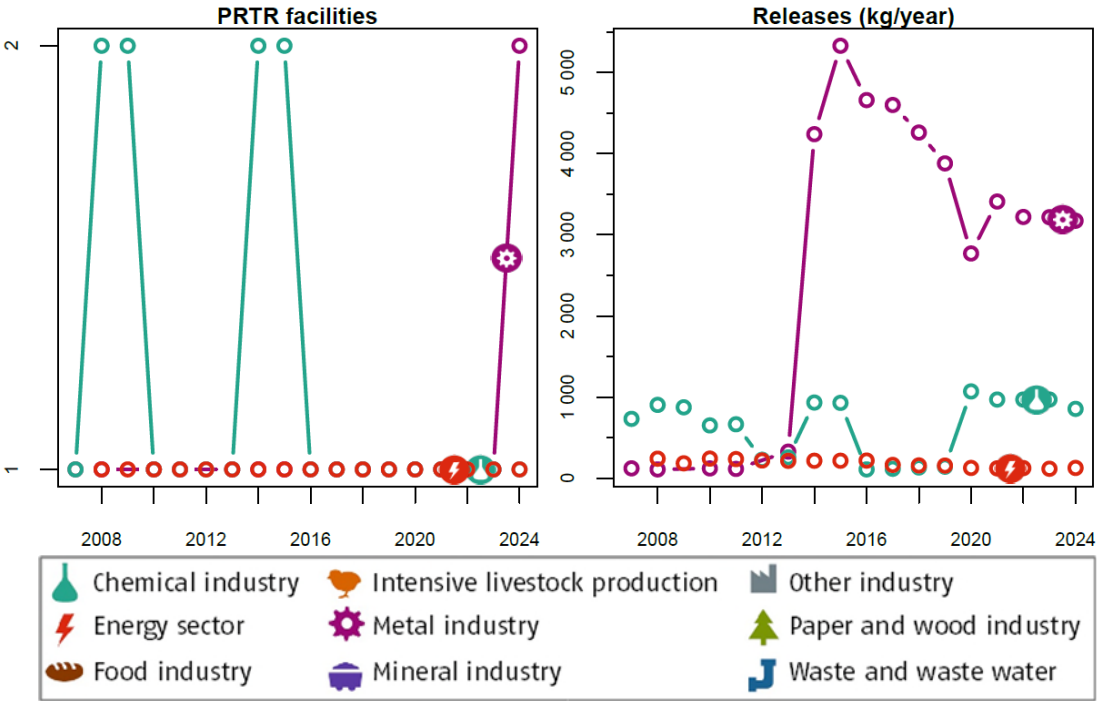
2.30.1 Releases to Air

The threshold is **100 kg "Naphthalene" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 39: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Naphthalene" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	2	50	3 173	76.4
Chemical industry	1	25	855	20.6
Energy sector	1	25	127	3.06
Total	**4**	**100**	**4 155**	**100**

Figure 39: Annual number of facilities (left) and their releases (right) of the pollutant "Naphthalene" to Air, each by the 3 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.30.2 Releases to Water

The threshold is **10 kg "Naphthalene" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Naphthalene"** to **Water** in **2024**.

2.30.3 Releases to Land

The threshold is **10 kg "Naphthalene" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Naphthalene"** to **Land** in **2024**.

2.31 Nickel and compounds (as Ni)

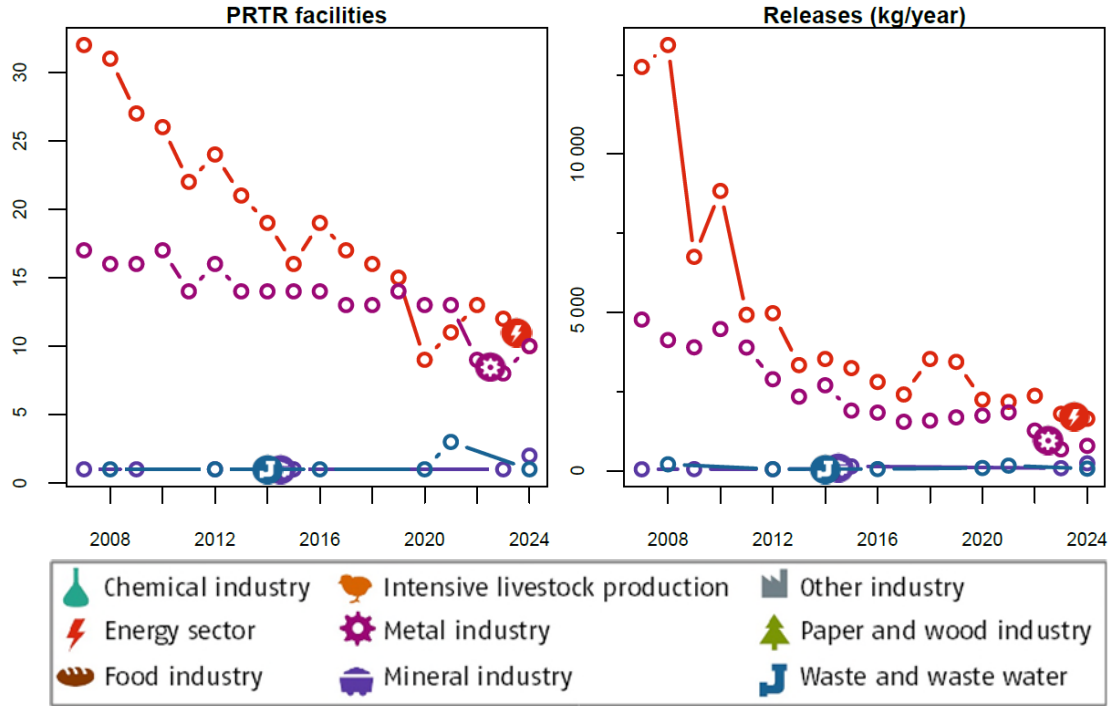
2.31.1 Releases to Air

The threshold is **50 kg "Nickel and compounds (as Ni)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 40: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Nickel and compounds (as Ni)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	10	43.5	1 645	59.8
Metal industry	10	43.5	794	28.8
Mineral industry	2	8.7	240	8.72
Waste and waste water management	1	4.,35	72.2	2.62
Total	**23**	**100**	**2 751**	**100**

Figure 40: Annual number of facilities (left) and their releases (right) of the pollutant "Nickel and compounds (as Ni)" to Air, each by the 4 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.31.2 Releases to Water

The threshold is **20 kg "Nickel and compounds (as Ni)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

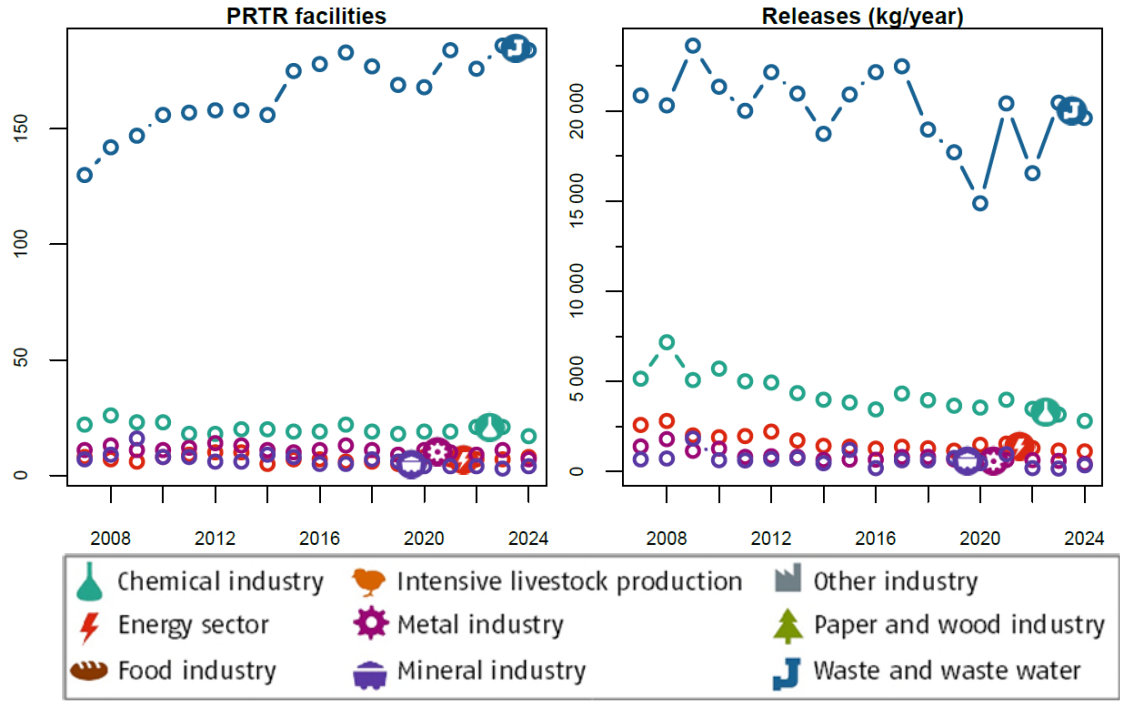
From reporting year 2022, an updated, increased emission factor or average effluent concentration will be used to calculate the pollutant quantities for Nickel and compounds at urban wastewater treatment plants belonging to the waste and wastewater management sector. An increase in pollutant quantities (from 2022) cannot be seen or depicted in Figure 41 due to strong fluctuations in reporting facilities.

Further information can be found in the publicly accessible PRTR expert wiki refered to in the introduction.

Table 41: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Nickel and compounds (as Ni)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	184	81.8	19 611	79.7
Chemical industry	17	7.56	2 813	11.4
Energy sector	8	3.56	1 126	4.58
Metal industry	7	3.11	439	1.78
Mineral industry	4	1.78	356	1.45
Paper- and wood industry	3	1.33	181	0.736
Food industry	1	0.444	46.7	0.19
Other industry	1	0.444	31.5	0.128
Total	**225**	**100**	**24 605**	**100**

Figure 41: Annual number of facilities (left) and their releases (right) of the pollutant "Nickel and compounds (as Ni)" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.31.3 Releases to Land

The threshold is **20 kg "Nickel and compounds (as Ni)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Nickel and compounds (as Ni) "** to **Land** in **2024**.

2.32 Nitrogen oxides (NO_x/NO_2)

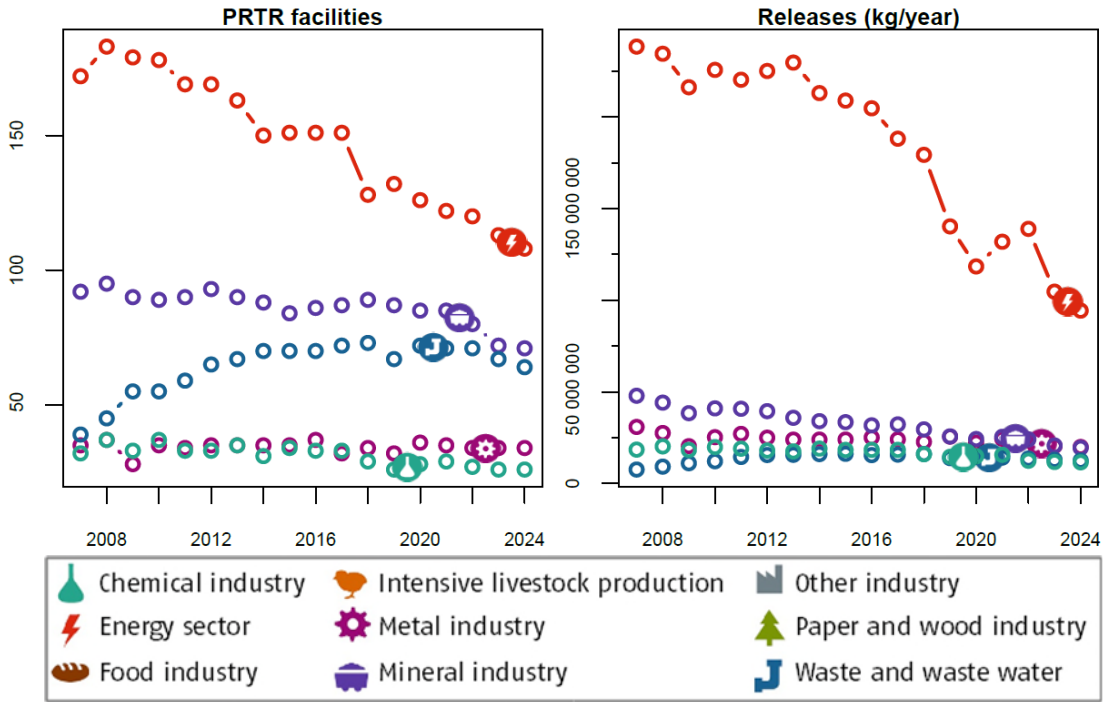
2.32.1 Releases to Air

The threshold is **100 000 kg "Nitrogen oxides (NO_x/NO_2)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 42: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Nitrogen oxides (NO_x/NO_2)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	108	31.5	94 334 000	56.1
Metal industry	34	9.91	19 978 000	11.9
Mineral industry	71	20.7	19 479 000	11.6
Waste and waste water management	64	18.7	12 560 700	7.46
Chemical industry	26	7.58	11 612 000	6.9
Paper- and wood industry	30	8.75	8 824 000	5.24
Food industry	6	1.75	1 047 000	0.622
Other industry	4	1.17	452 000	0.269
Total	**343**	**100**	**168 286 700**	**100**

Figure 42: Annual number of facilities (left) and their releases (right) of the pollutant "Nitrogen oxides (NO_x/NO_2)" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.33 Nitrous oxide (N_2O)

2.33.1 Releases to Air

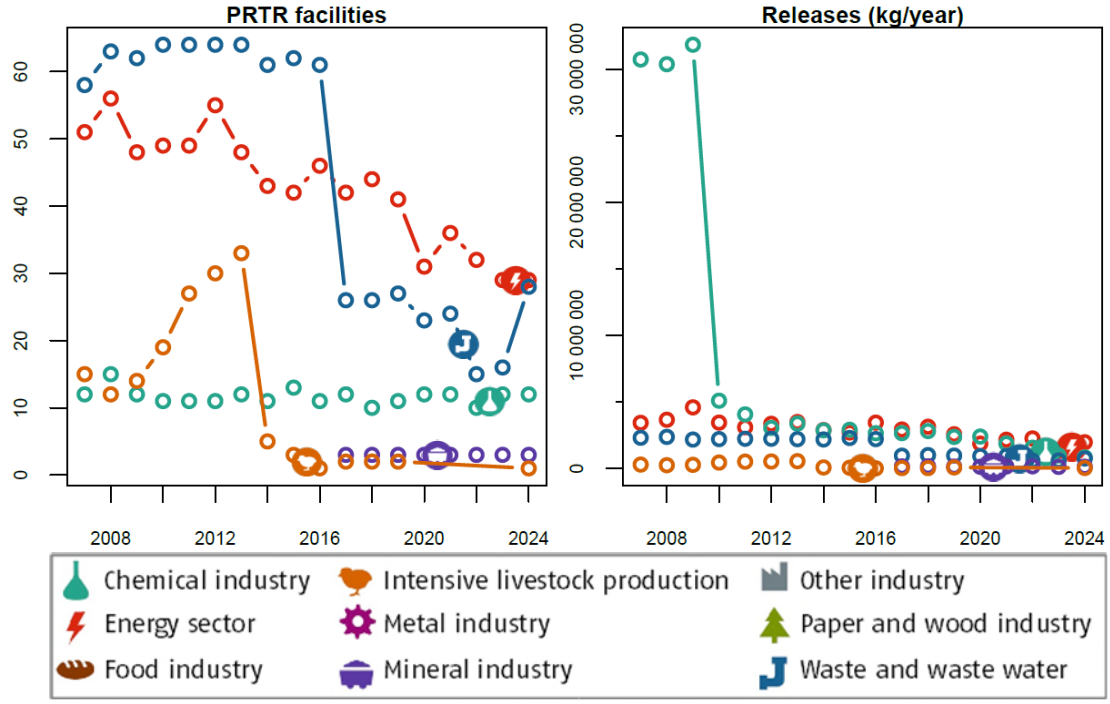
The threshold is **10 000 kg "Nitrous oxide (N_2O)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

From reporting year 2024, an updated emission factor will be used to calculate the pollutant quantities for N_2O at urban wastewater treatment plants belonging to the waste and wastewater management sector.

Table 43: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Nitrous oxide (N_2O)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	29	39.7	1 975 100	52.7
Chemical industry	12	16.4	836 700	22.3
Waste and waste water management	28	38.4	753 300	20.1
Mineral industry	3	4.11	139 000	3.71
Intensive livestock production and aquaculture	1	1.37	43 200	1.15
Total	**73**	**100**	**3 747 300**	**100**

Figure 43: Annual number of facilities (left) and their releases (right) of the pollutant "Nitrous oxide (N_2O)" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.34 Non-methane volatile organic compounds (NMVOC)

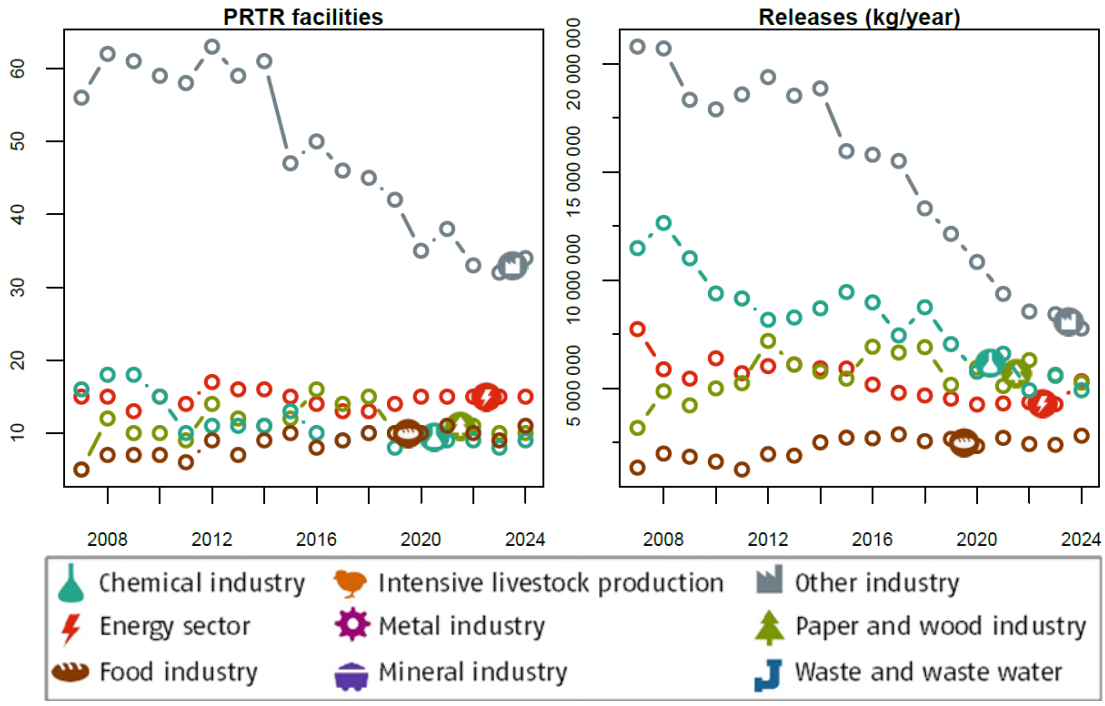
2.34.1 Releases to Air

The threshold is **100 000 kg "Non-methane volatile organic compounds (NMVOC)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 44: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Non-methane volatile organic compounds (NMVOC)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Other industry	34	38.2	7 759 000	27.5
Energy sector	15	16.9	5 331 000	18.9
Paper- and wood industry	10	11.2	5 260 000	18.6
Chemical industry	9	10.1	4 908 000	17.4
Food industry	11	12.4	2 809 000	9.95
Metal industry	10	11.2	2 169 000	7.68
Total	**89**	**100**	**28 236 000**	**100**

Figure 44: Annual number of facilities (left) and their releases (right) of the pollutant "Non-methane volatile organic compounds (NMVOC)" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.35 Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)

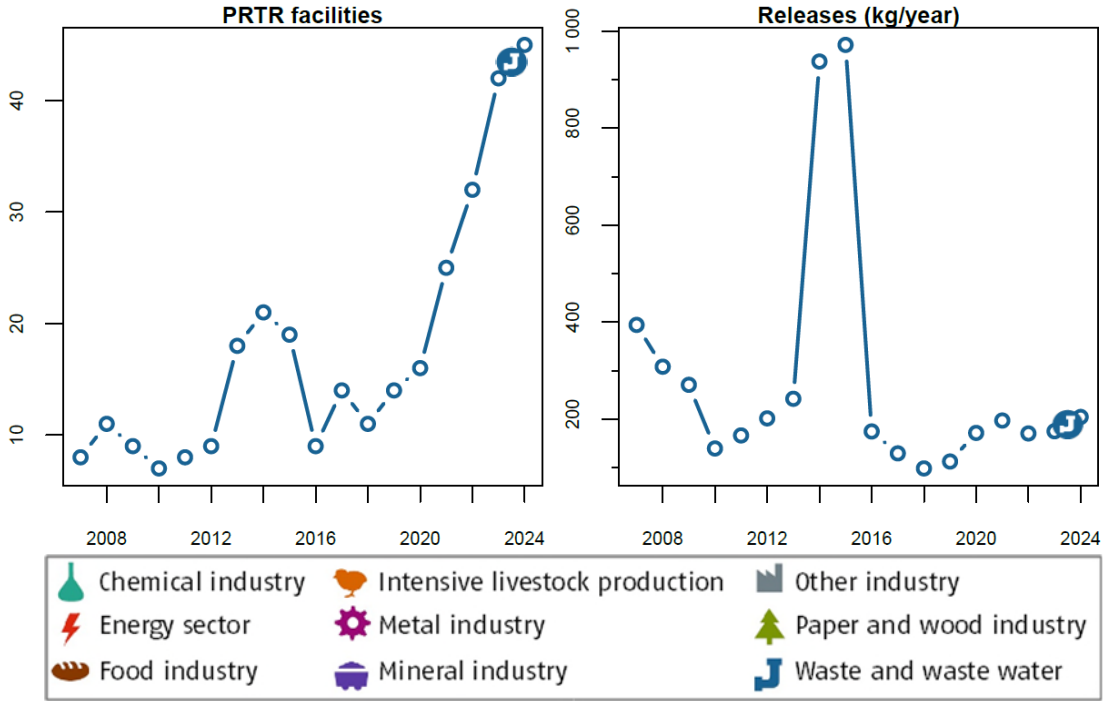
2.35.1 Releases to Water

The threshold is **1 kg "Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 45: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	45	100	205	100
Total	**45**	**100**	**205**	**100**

Figure 45: Annual number of facilities (left) and their releases (right) of the pollutant "Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.35.2 Releases to Soil

The threshold is **1 kg "Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)"** to **Land** in **2024**.

2.36 Octylphenols and Octylphenol ethoxylates

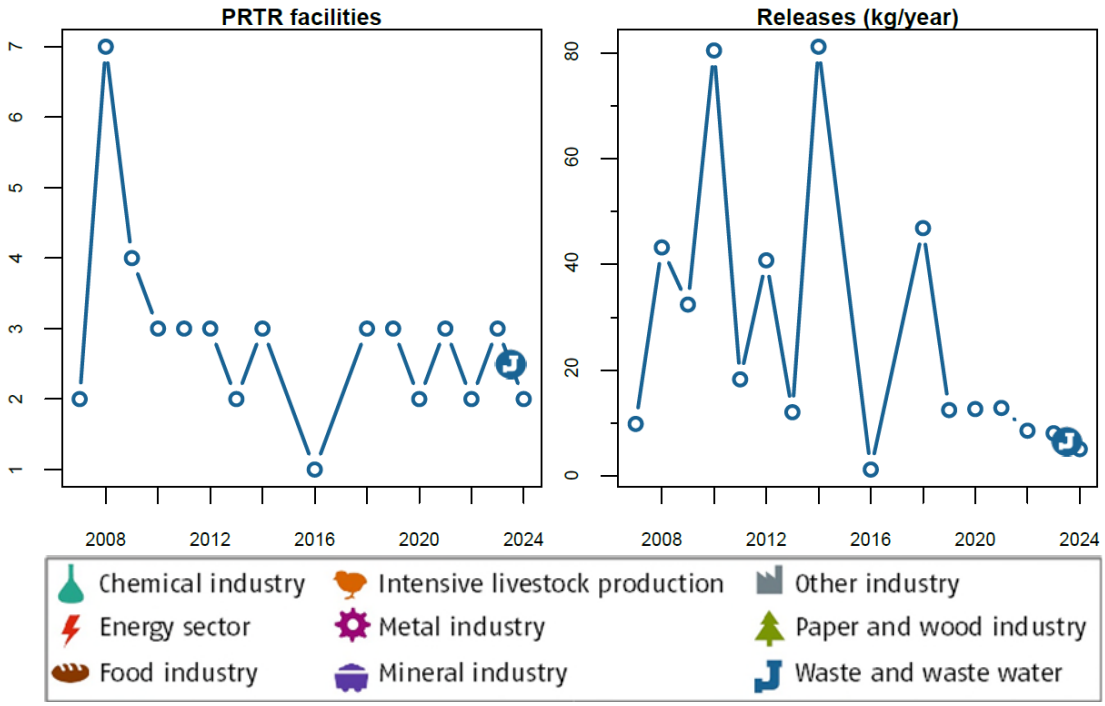
2.36.1 Releases to Water

The threshold is **1 kg "Octylphenols and Octylphenol ethoxylates" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 46: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Octylphenols and Octylphenol ethoxylates" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	2	100	5	100
Total	**2**	**100**	**5**	**100**

Figure 46: Annual number of facilities (left) and their releases (right) of the pollutant "Octylphenols and Octylphenol ethoxylates" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.37 Organotin compounds (as total Sn)

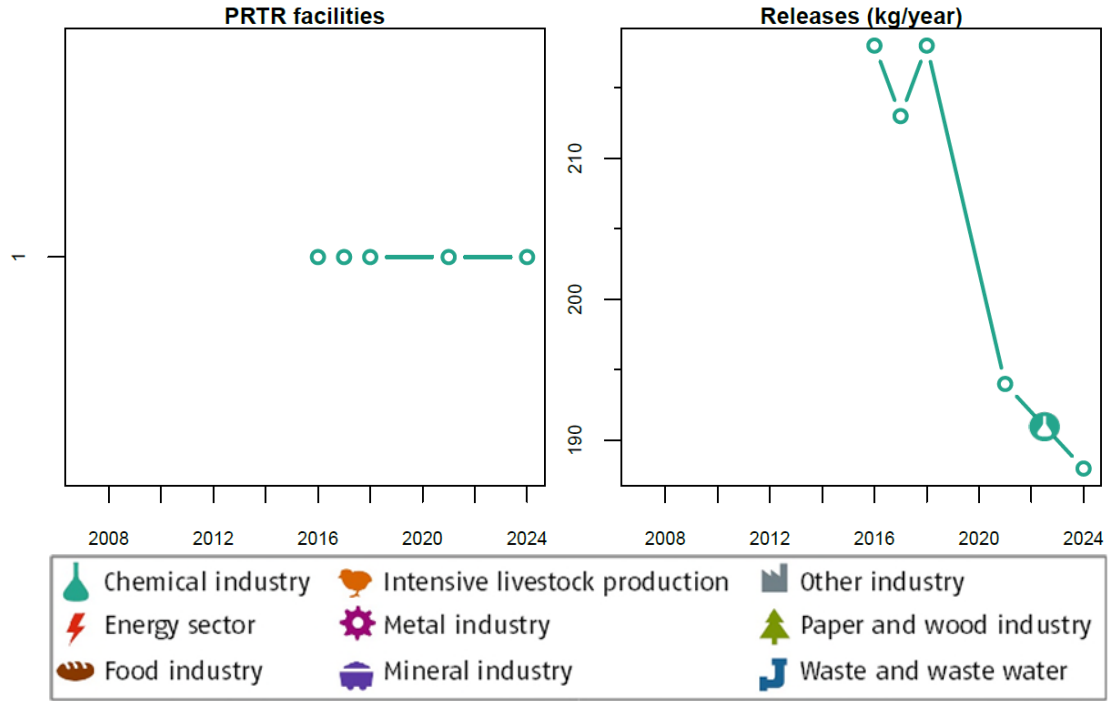
2.37.1 Releases to Water

The threshold is **50 kg "Organotin compounds (as total Sn)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 47: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Organotin compounds (as total Sn)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	1	100	188	100
Total	**1**	**100**	**188**	**100**

Figure 47: Annual number of facilities (left) and their releases (right) of the pollutant "Organotin compounds (as total Sn)" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.37.2 Releases to Land

The threshold is **50 kg "Organotin compounds (as total Sn)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Organotin compounds (as total Sn) "** to **Land** in **2024**.

2.38 Particulate matter (PM_{10})

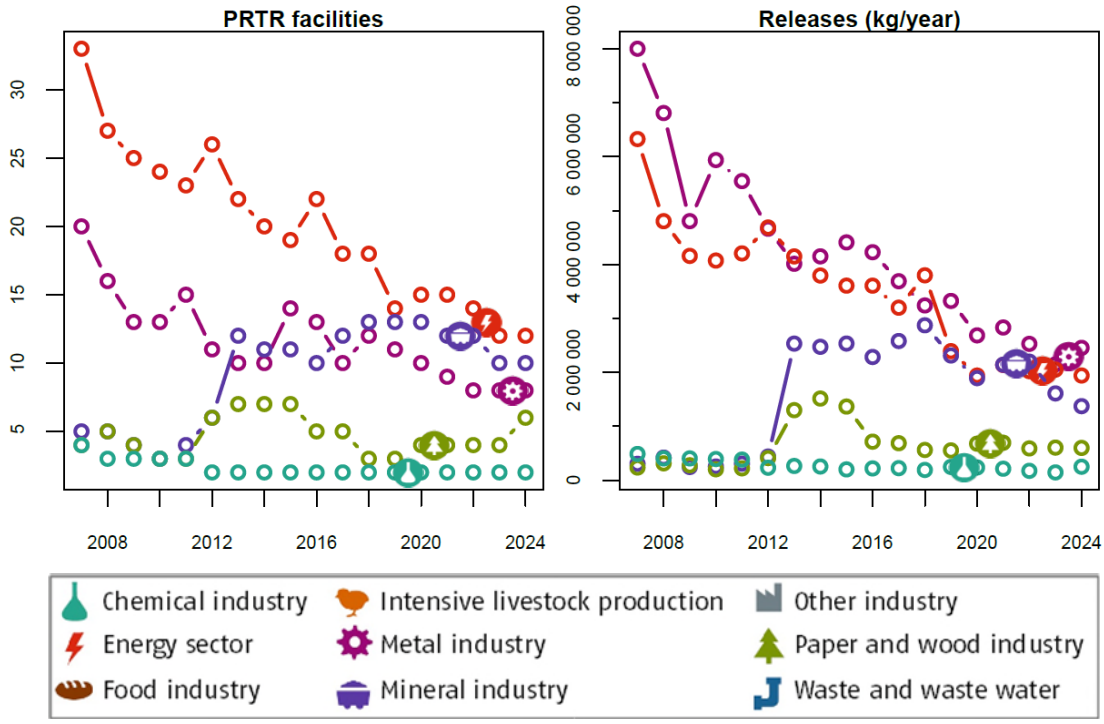
2.38.1 Releases to Air

The threshold is **50 000 kg "Particulate matter (PM_{10})" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 48: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Particulate matter (PM_{10})" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	8	19.5	2 455 700	36.1
Energy sector	12	29.3	1 942 700	28.6
Mineral industry	10	24.4	1 374 400	20.2
Paper- and wood industry	6	14.6	600 500	8.83
Chemical industry	2	4.88	251 60000	3.7
Intensive livestock production and aquaculture	3	7.32	178 50000	2.62
Total	**41**	**100**	**6 803 400**	**100**

Figure 48: Annual number of facilities (left) and their releases (right) of the pollutant "Particulate matter (PM_{10})" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.39 PCDD + PCDF (dioxins + furans) (as Teq)

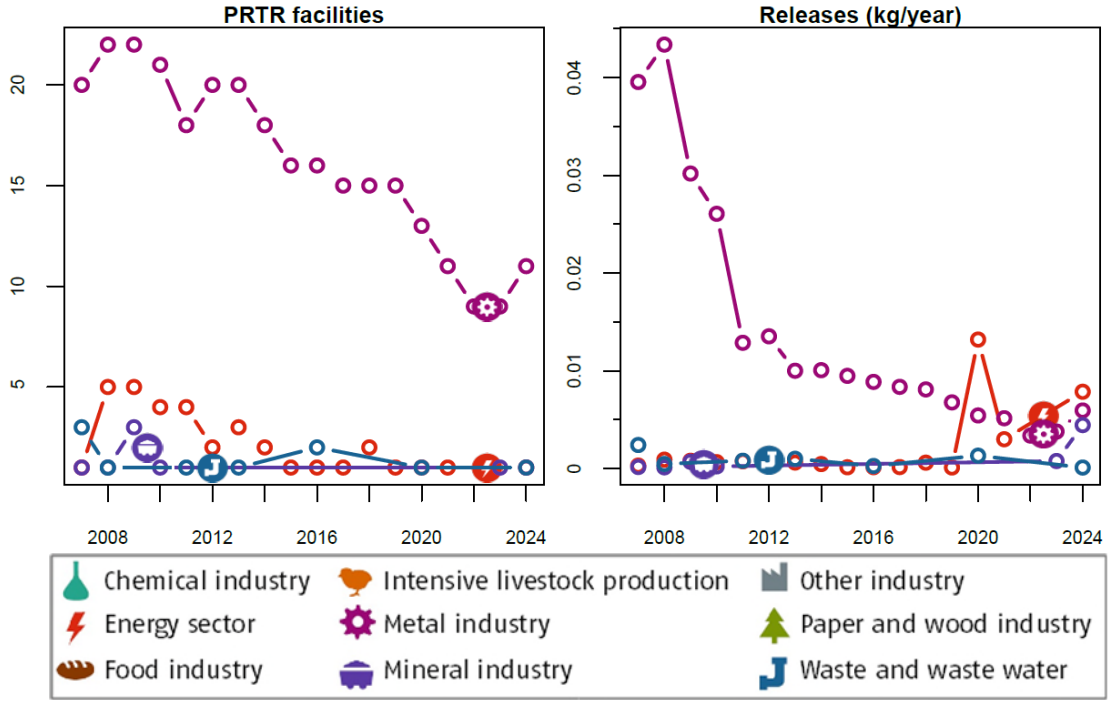
2.39.1 Releases to Air

The threshold is **0,0001 kg "PCDD + PCDF (dioxins + furans) (as Teq)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 49: For the reporting year 2024 -Number of facilities and their releases of the pollutant "PCDD + PCDF (dioxins + furans) (as Teq)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	1	7.14	0.00786	42.8
Metal industry	11	78.6	0.00594	32.4
Mineral industry	1	7.14	0.00445	24.2
Waste and waste water management	1	7.14	0.000102	0.556
Total	**14**	**100**	**0.0184**	**100**

Figure 49: Annual number of facilities (left) and their releases (right) of the pollutant "PCDD + PCDF (dioxins + furans) (as Teq)" to Air, each by the 4 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.39.2 Releases to Water

The threshold is **0,0001 kg "PCDD + PCDF (dioxins + furans) (as Teq)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"PCDD + PCDF (dioxins + furans) (as Teq)"** to **Water** in **2024**.

2.39.3 Releases to Land

The threshold is **0,0001 kg "PCDD + PCDF (dioxins + furans) (as Teq)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"PCDD + PCDF (dioxins + furans) (as Teq)"** to **Land** in **2024**.

2.40 Perfluorocarbons (PFCs)

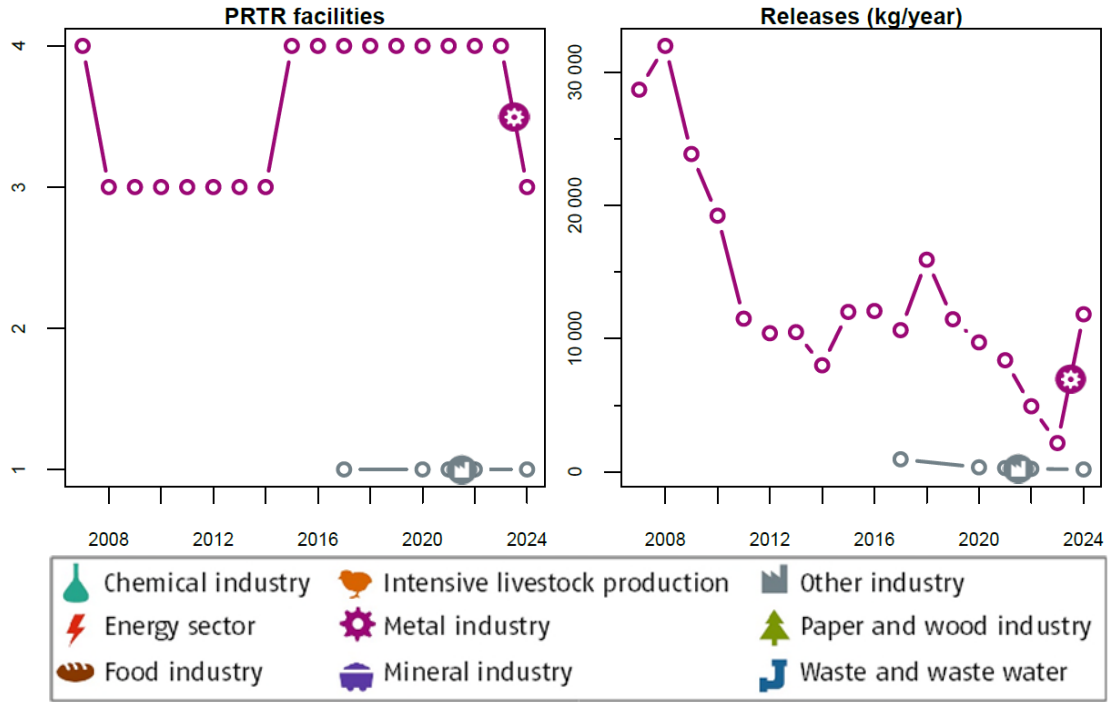
2.40.1 Releases to Air

The threshold is **100 kg "Perfluorocarbons (PFCs)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 50: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Perfluorocarbons (PFCs)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	3	75	11 832	98.5
Other industry	1	25	179	1.49
Total	**4**	**100**	**12 011**	**100**

Figure 50: Annual number of facilities (left) and their releases (right) of the pollutant "Perfluorocarbons (PFCs)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.41 Phenols (as total C)

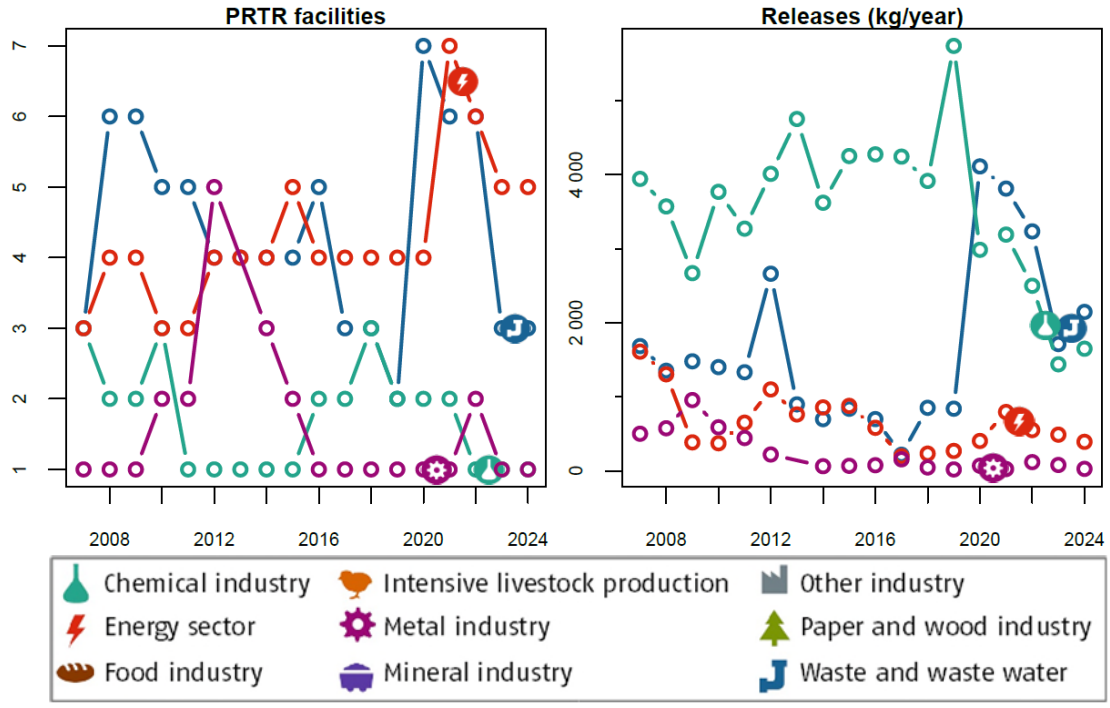
2.41.1 Releases to Water

The threshold is **20 kg "Phenols (as total C)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 51: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Phenols (as total C)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	3	30	2 147	50.9
Chemical industry	1	10	1 650	39.1
Energy sector	5	50	394	9.33
Metal industry	1	10	28.7	0.68
Total	**10**	**100**	**4 219**	**100**

Figure 51: Annual number of facilities (left) and their releases (right) of the pollutant "Phenols (as total C)" to Water, each by the 4 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.41.2 Releases to Land

The threshold is **20 kg "Phenols (as total C)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Phenols"** to **Land** in **2024**.

2.42 Polycyclic aromatic hydrocarbons (PAHs)

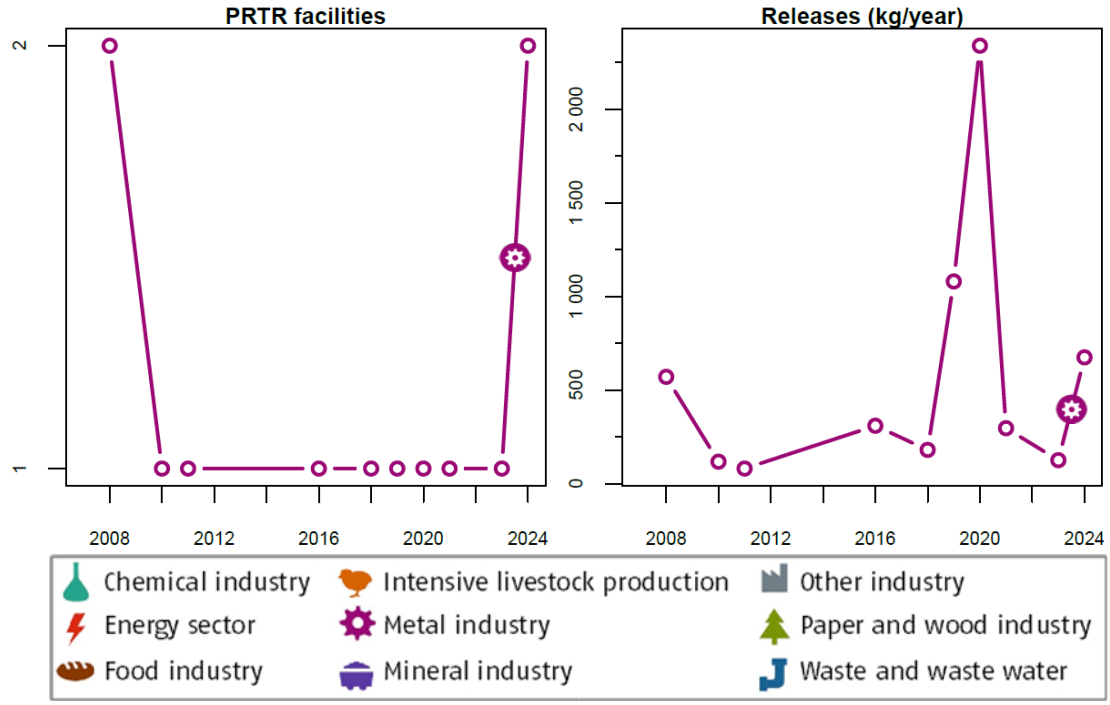
2.42.1 Releases to Air

The threshold is **50 kg "Polycyclic aromatic hydrocarbons (PAHs)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 52: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Polycyclic aromatic hydrocarbons (PAHs)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	2	100	674	100
Total	**2**	**100**	**674**	**100**

Figure 52: Annual number of facilities (left) and their releases (right) of the pollutant "Polycyclic aromatic hydrocarbons (PAHs)" to Air, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.42.2 Releases to Water

The threshold is **5 kg "Polycyclic aromatic hydrocarbons (PAHs)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

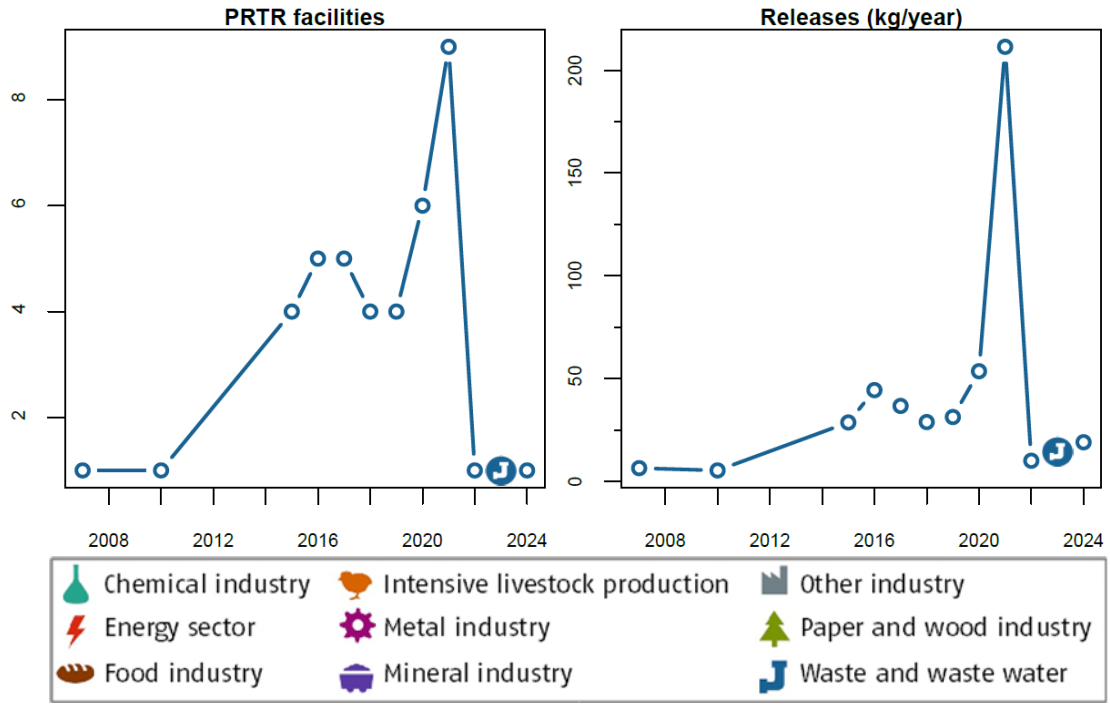
From reporting year 2022, an updated, reduced emission factor or average effluent concentration will be used to calculate the pollutant quantities for Polycyclic aromatic hydrocarbons (PAHs) at urban wastewater treatment plants belonging to the waste and wastewater management sector. The reduction in pollutant quantities (from 2022) can be partly based on this.

Further information can be found in the publicly accessible PRTR expert wiki refered to in the introduction.

Table 53: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Polycyclic aromatic hydrocarbons (PAHs)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	1	100	19.1	100
Total	**1**	**100**	**19.1**	**100**

Figure 53: Annual number of facilities (left) and their releases (right) of the pollutant "Polycyclic aromatic hydrocarbons (PAHs)" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.42.3 Releases to Land

The threshold is **5 kg "Polycyclic aromatic hydrocarbons (PAHs)" per year.** Releases to**Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Polycyclic aromatic hydrocarbons (PAHs)"** to **Land** in **2024**.

2.43 Simazine

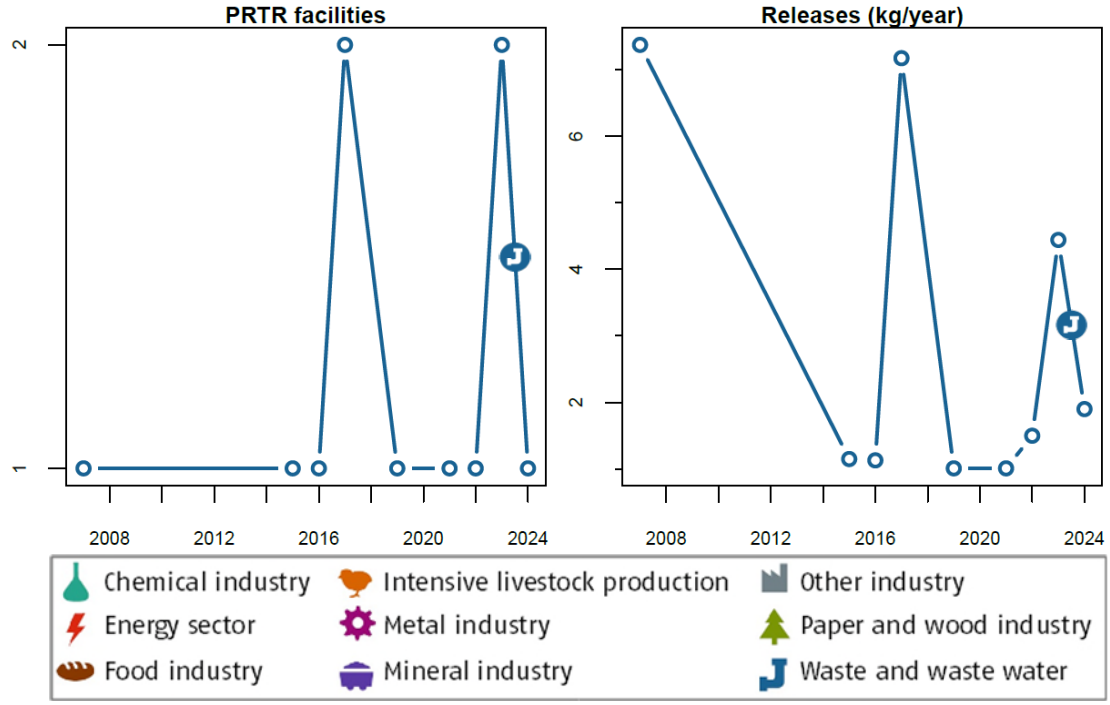
2.43.1 Releases to Water

The threshold is **1 kg "Simazine" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 54: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Simazine" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	1	100	1.9	100
Total	**1**	**100**	**1.9**	**100**

Figure 54: Annual number of facilities (left) and their releases (right) of the pollutant "Simazine" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.43.2 Releases to Land

The threshold is **1 kg "Simazine" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **" Simazine"** to **Land** in **2024**.

2.44 Sulphur hexafluoride (SF6)

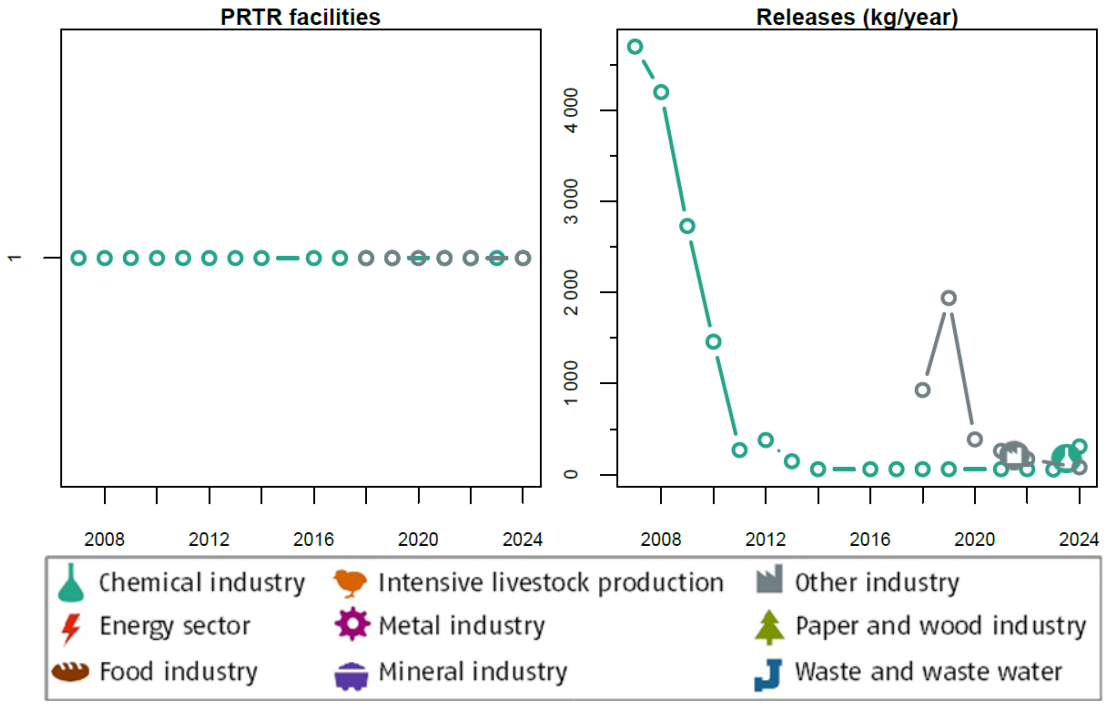
2.44.1 Releases to Air

The threshold is **50 kg "Sulphur hexafluoride (SF6)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 55: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Sulphur hexafluoride (SF6)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	1	50	310	79.3
Other industry	1	50	81	20.7
Total	**2**	**100**	**391**	**100**

Figure 55: Annual number of facilities (left) and their releases (right) of the pollutant "Sulphur hexafluoride (SF6)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.45 Sulphur oxides (SO_x/SO_2)

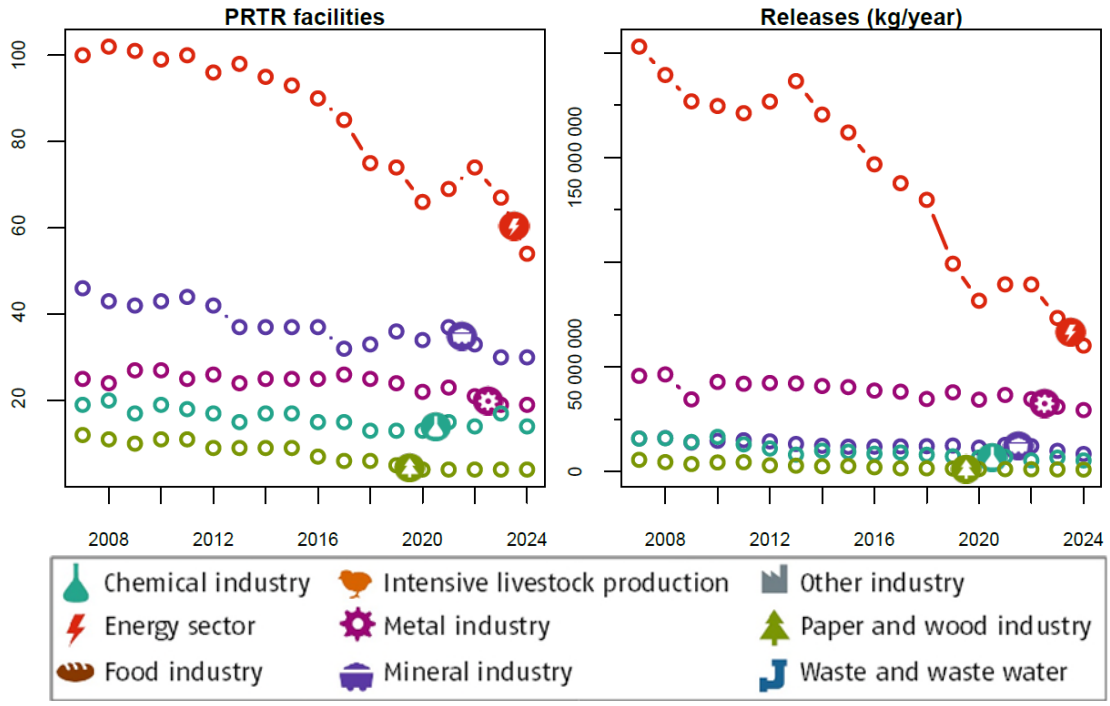
2.45.1 Releases to Air

The threshold is **150 000 kg "Sulphur oxides (SO_x/SO_2)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 56: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Sulphur oxides (SO_x/SO_2)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	54	44.3	60 166 000	57.7
Metal industry	19	15.6	29 329 000	28.1
Mineral industry	30	24.6	8 352 000	8.01
Chemical industry	14	11.5	5 271 000	5.05
Paper- and wood industry	4	3.28	924 000	0.886
Food industry	1	0.82	264 000	0.253
Total	**122**	**100**	**104 306 000**	**100**

Figure 56: Annual number of facilities (left) and their releases (right) of the pollutant "Sulphur oxides (SO_x/SO_2)" to Air, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.46 Tetrachloroethylen (PER)

2.46.1 Releases to Air

The threshold is **2 000 kg "Tetrachloroethylen (PER)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Tetrachloroethylen (PER)"** to **Air** in **2024**.

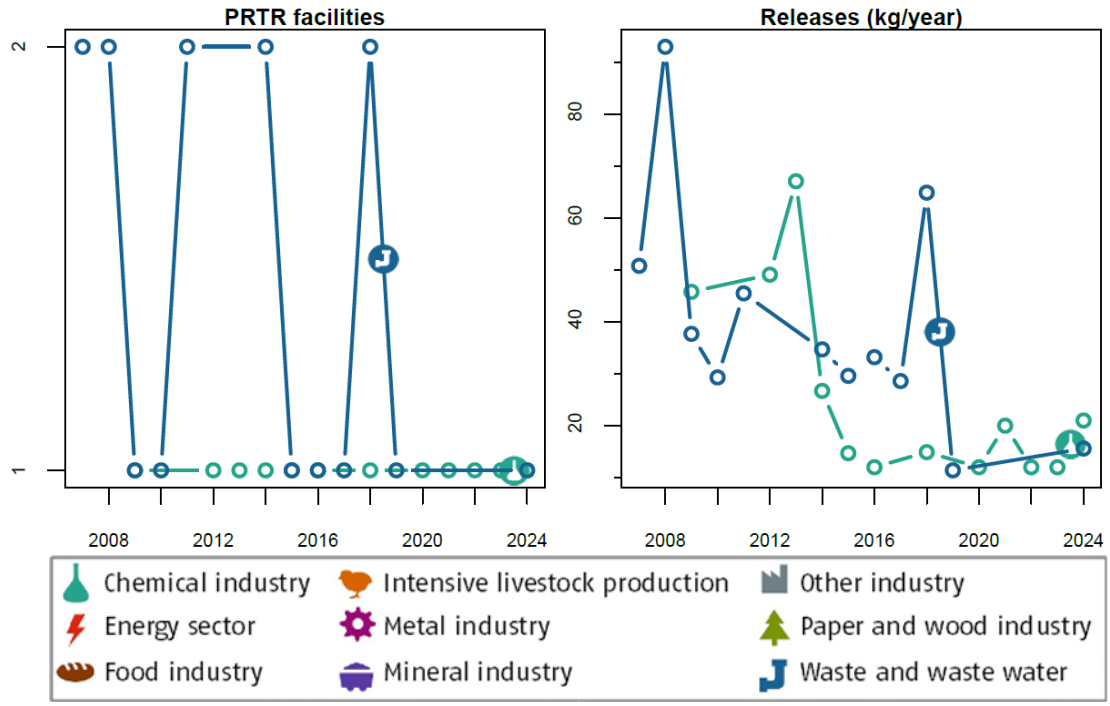
2.46.2 Releases to Water

The threshold is **10 kg "Tetrachloroethylen (PER)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 57: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Tetrachloroethylen (PER)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	1	50	21	57.4
Waste and waste water management	1	50	15.6	42.6
Total	**2**	**100**	**36.6**	**100**

Figure 57: Annual number of facilities (left) and their releases (right) of the pollutant "Tetrachloroethylen (PER)" to Water, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.47 Tetrachloromethane (TCM)

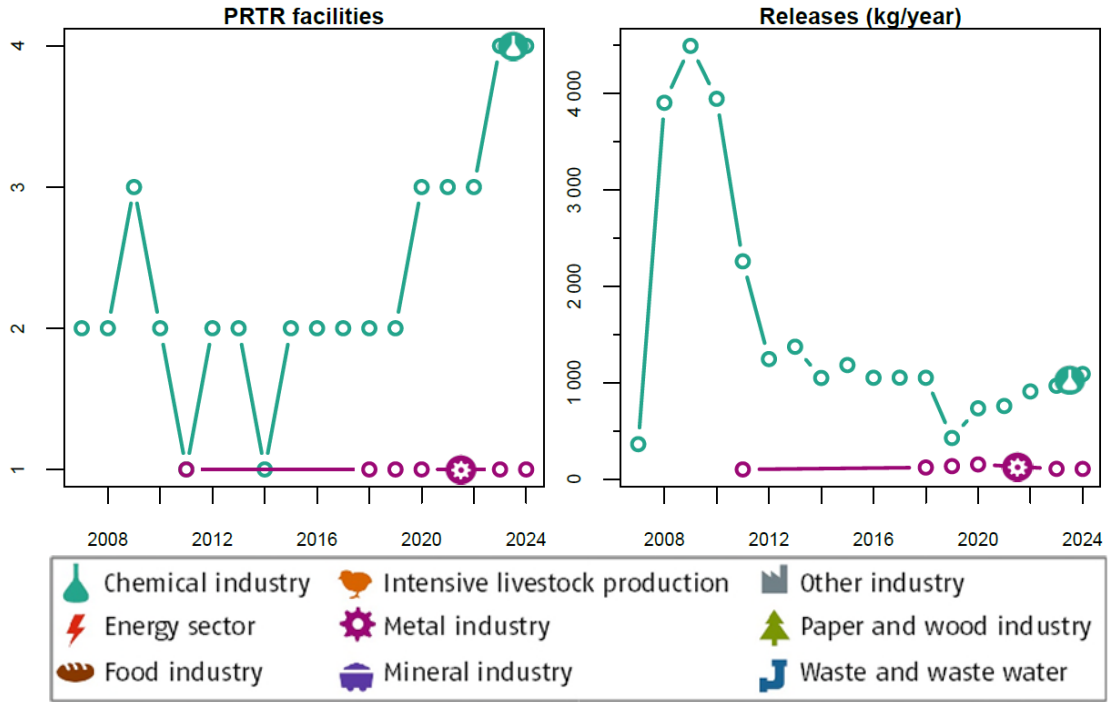
2.47.1 Releases to Air

The threshold is **100 kg "Tetrachloromethane (TCM)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 58: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Tetrachloromethane (TCM)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	4	80	1 091	91.1
Metal industry	1	20	106	8.86
Total	**5**	**100**	**1 197**	**100**

Figure 58: Annual number of facilities (left) and their releases (right) of the pollutant "Tetrachloromethane (TCM)" to Air, each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.47.2 Releases to Water

The threshold is **1 kg "Tetrachloromethane (TCM)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Tetrachloromethane (TCM)"** to **Water** in **2024**.

2.48 Total nitrogen

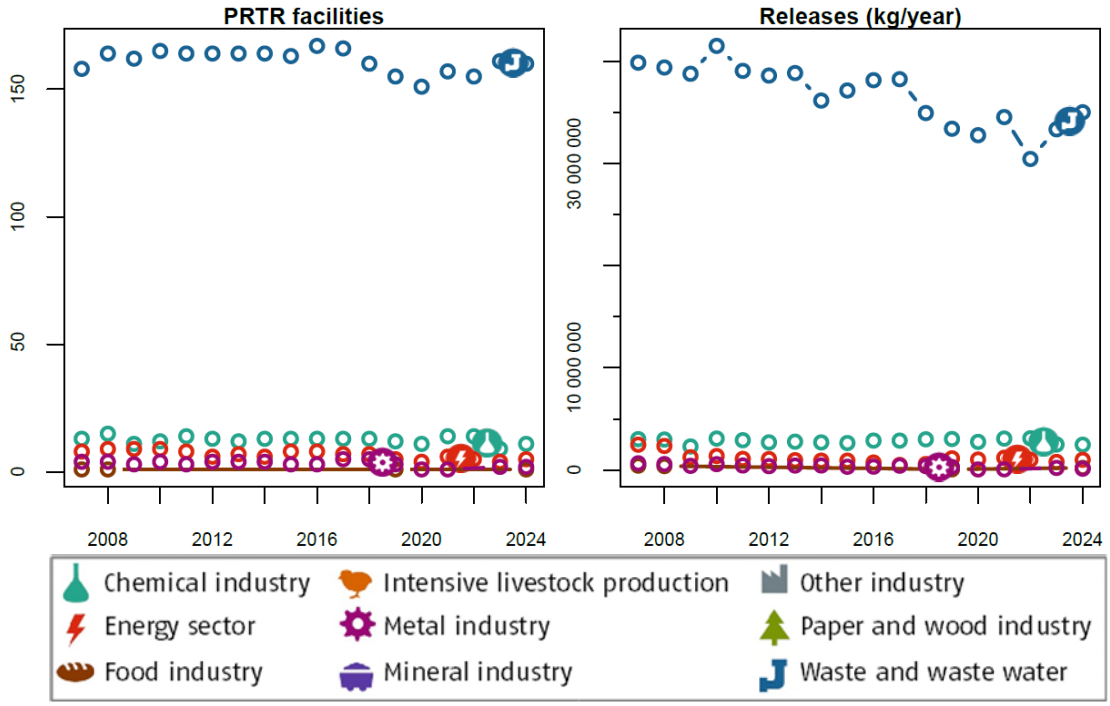
2.48.1 Releases to Water

The threshold is **50 000 kg "Total nitrogen" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 59: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Total nitrogen" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	160	88.4	35 043 200	89.9
Chemical industry	11	6.08	2 471 900	6.34
Energy sector	5	2.76	944 500	2.55
Food industry	1	0.552	200 400	0.514
Metal industry	2	1.1	119 600	0.307
Mineral industry	1	0.552	83 400	0.214
Paper- and wood industry	1	0.552	67 800	0.174
Total	**181**	**100**	**38 980 800**	**100**

Figure 59: Annual number of facilities (left) and their releases (right) of the pollutant "Total nitrogen" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.48.2 Releases to Land

The threshold is **50 000 kg "Total nitrogen" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Total nitrogen "** to **Land** in **2024**.

2.49 Total organic carbon (TOC) (as total C or COD/3)

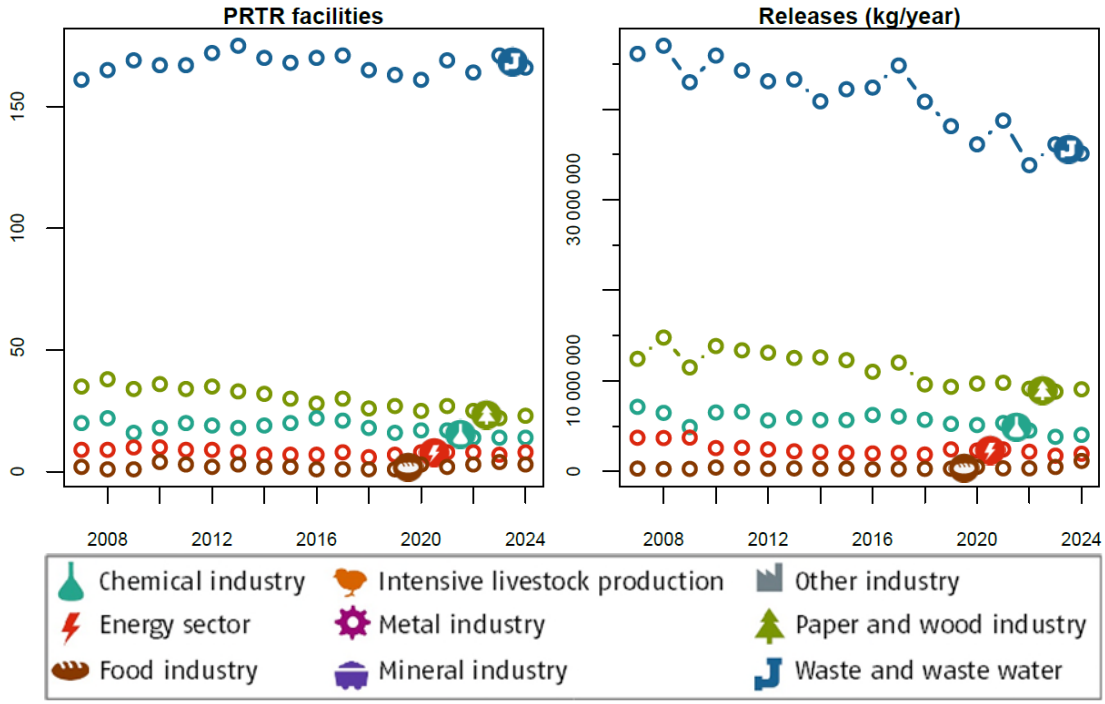
2.49.1 Releases to Water

The threshold is **50 000 kg "Total organic carbon (TOC) (as total C or COD/3)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 60: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Total organic carbon (TOC) (as total C or COD/3)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	166	76.1	35 094 100	68
Paper- and wood industry	23	10.6	9 066 700	17.6
Chemical industry	14	6.42	4 035 400	7.82
Energy sector	8	3.67	1 952 800	3.79
Food industry	3	1.38	1 159 400	2.25
Metal industry	2	0.917	158 200	0.307
Mineral industry	2	0.917	126 400	0.245
Total	**218**	**100**	**51 593 000**	**100**

Figure 60: Annual number of facilities (left) and their releases (right) of the pollutant "Total organic carbon (TOC) (as total C or COD/3)" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.50 Total phosphorus

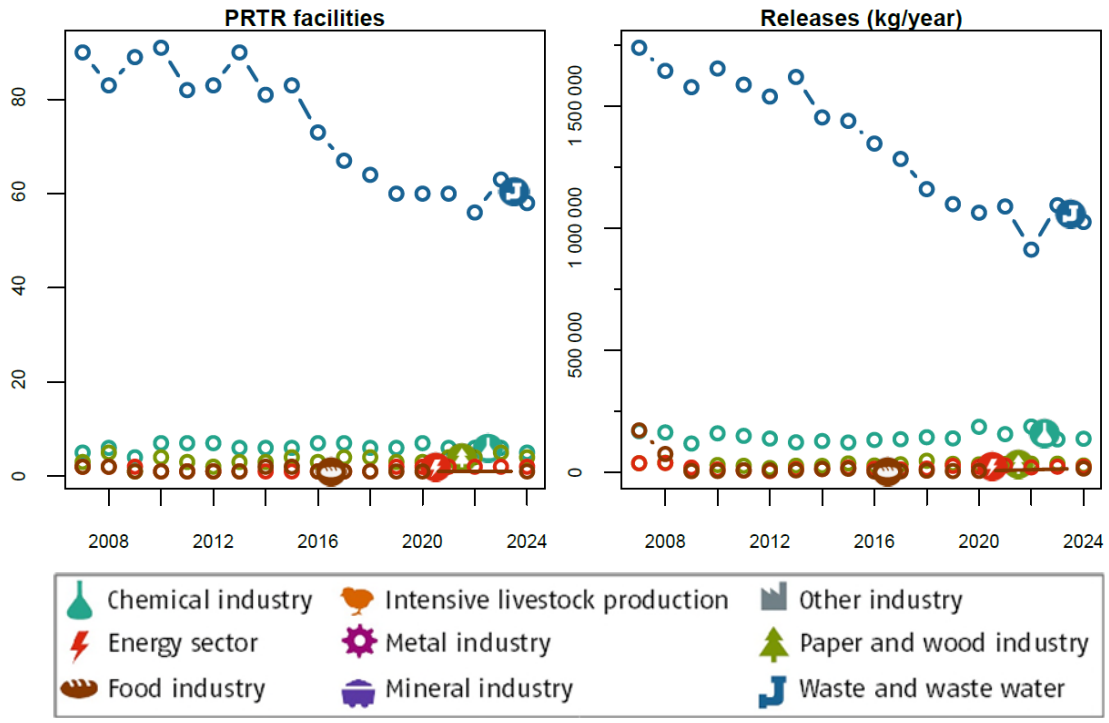
2.50.1 Releases to Water

The threshold is **5 000 kg "Total phosphorus" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 61: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Total phosphorus" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	58	82.9	1 025 400	83
Chemical industry	5	7.14	138 760	11.2
Paper- and wood industry	4	5.71	29 450	2.38
Energy sector	2	2.86	24 690	2
Food industry	1	1.43	16 950	1.37
Total	**70**	**100**	**1 235 250**	**100**

Figure 61: Annual number of facilities (left) and their releases (right) of the pollutant "Total phosphorus" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.50.2 Releases to Land

The threshold is **5 000 kg "Total phosphorus" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Total phosphorus"** to **Land** in **2024**.

2.51 Trichlorobenzene (TCBs)

2.51.1 Releases to Air

The threshold is **10 kg "Trichlorobenzene (TCBs)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Trichlorobenzene (TCBs)"** to **Air** in **2024**.

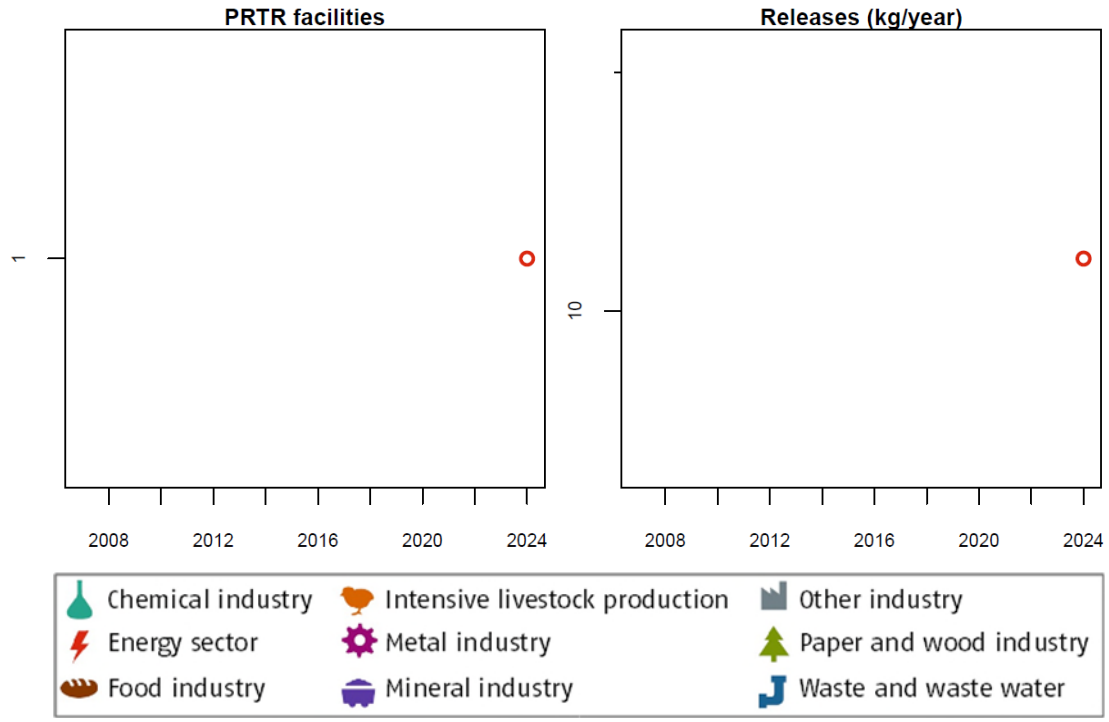
2.51.2 Releases to Water

The threshold is **1 kg "Trichlorobenzene (TCBs)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 62: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Trichlorobenzene (TCBs)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Energy sector	1	100	11.1	100
Total	**1**	**100**	**11.1**	**100**

Figure 62: Annual number of facilities (left) and their releases (right) of the pollutant "Trichlorobenzene (TCBs)" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.52 Trichlormethane

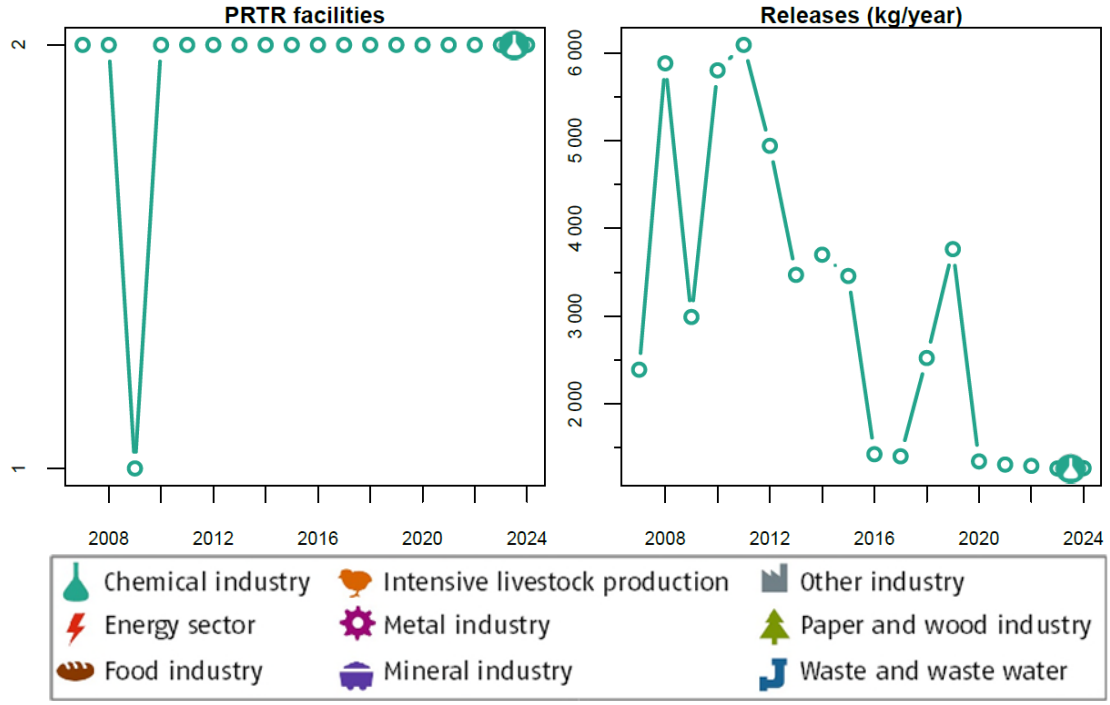
2.52.1 Releases to Air

The threshold is **500 kg "Trichlormethane" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 63: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Trichlormethane" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	2	100	1 268	100
Total	**2**	**100**	**1 268**	**100**

Figure 63: Annual number of facilities (left) and their releases (right) of the pollutant "Trichlormethane" to Air, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

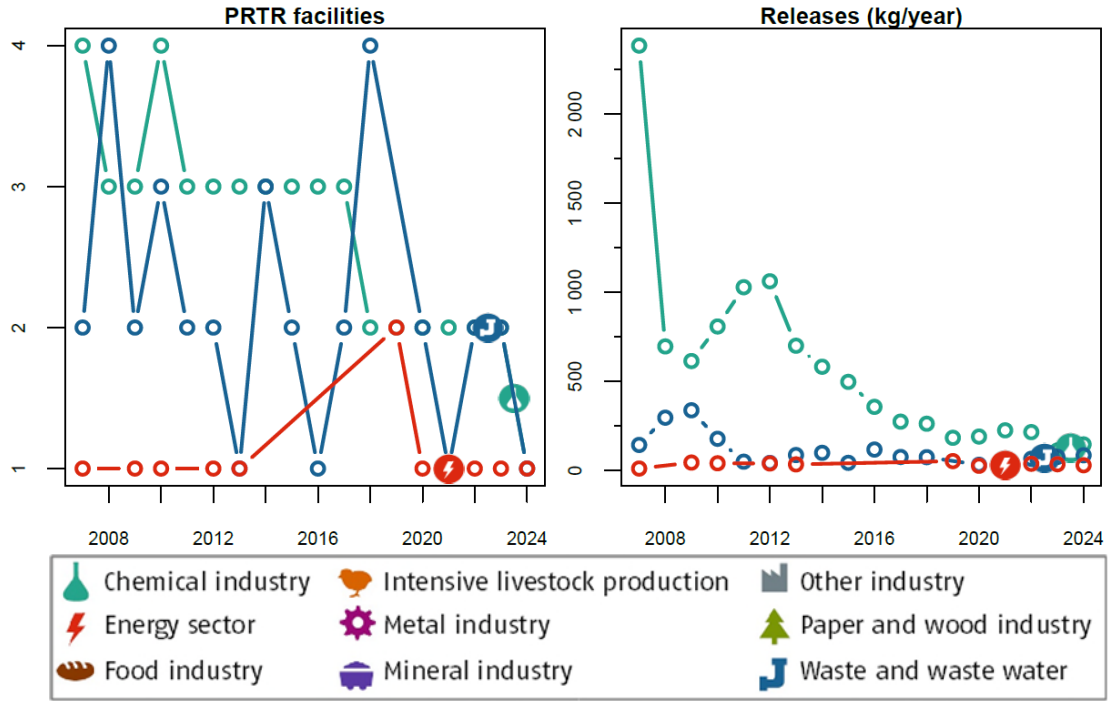
2.52.2 Releases to Water

The threshold is **10 kg "Trichlormethane" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 64: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Trichlormethane" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	1	33.3	147	55.9
Waste and waste water management	1	33.3	86	32.7
Energy sector	1	33.3	30	11.4
Total	**3**	**100**	**263**	**100**

Figure 64: Annual number of facilities (left) and their releases (right) of the pollutant "Trichlormethane" to Water, each by the 3 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.53 Vinyl chloride

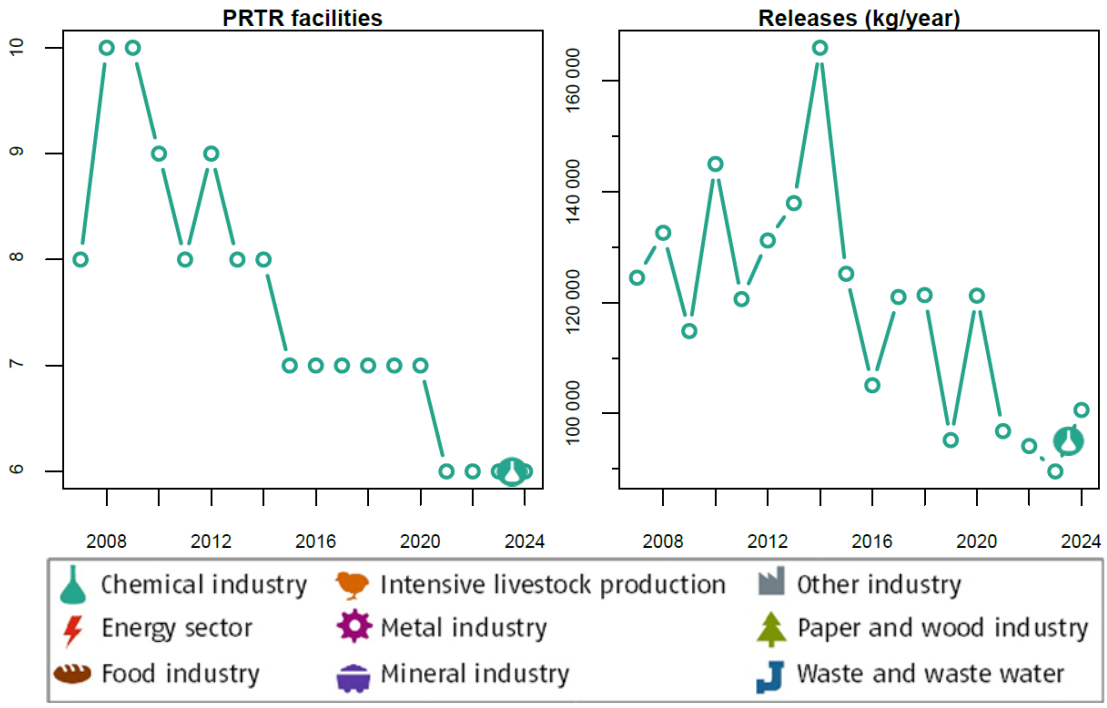
2.53.1 Releases to Air

The threshold is **1 000 kg "Vinyl chloride" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 65: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Vinyl chloride" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	6	100	100 640	100
Total	**6**	**100**	**100 640**	**100**

Figure 65: Annual number of facilities (left) and their releases (right) of the pollutant "Vinyl chloride" to Air, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

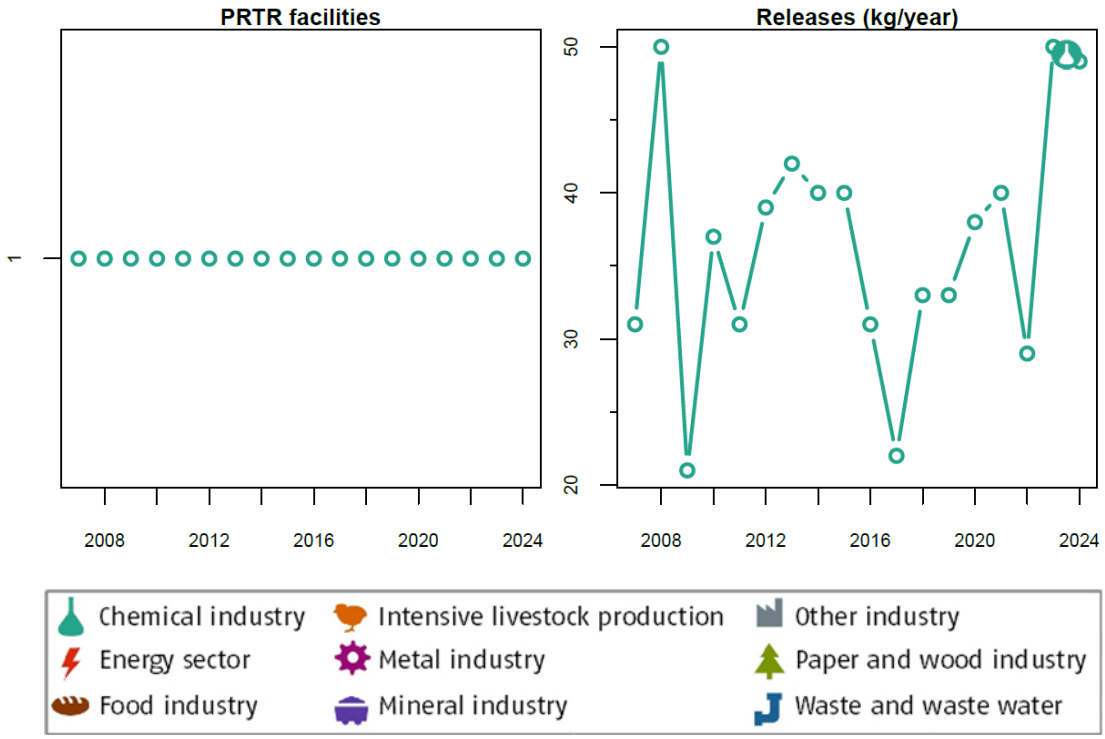
2.53.2 Releases to Water

The threshold is **10 kg "Vinyl chloride" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 66: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Vinyl chloride" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Chemical industry	1	100	49	100
Total	**1**	**100**	**49**	**100**

Figure 66: Annual number of facilities (left) and their releases (right) of the pollutant "Vinyl chloride" to Water, each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.53.3 Releases to Land

The threshold is **10 kg "Vinyl chloride" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Vinyl chloride"** to **Land** in **2024**.

2.54 Zinc and compounds (as Zn)

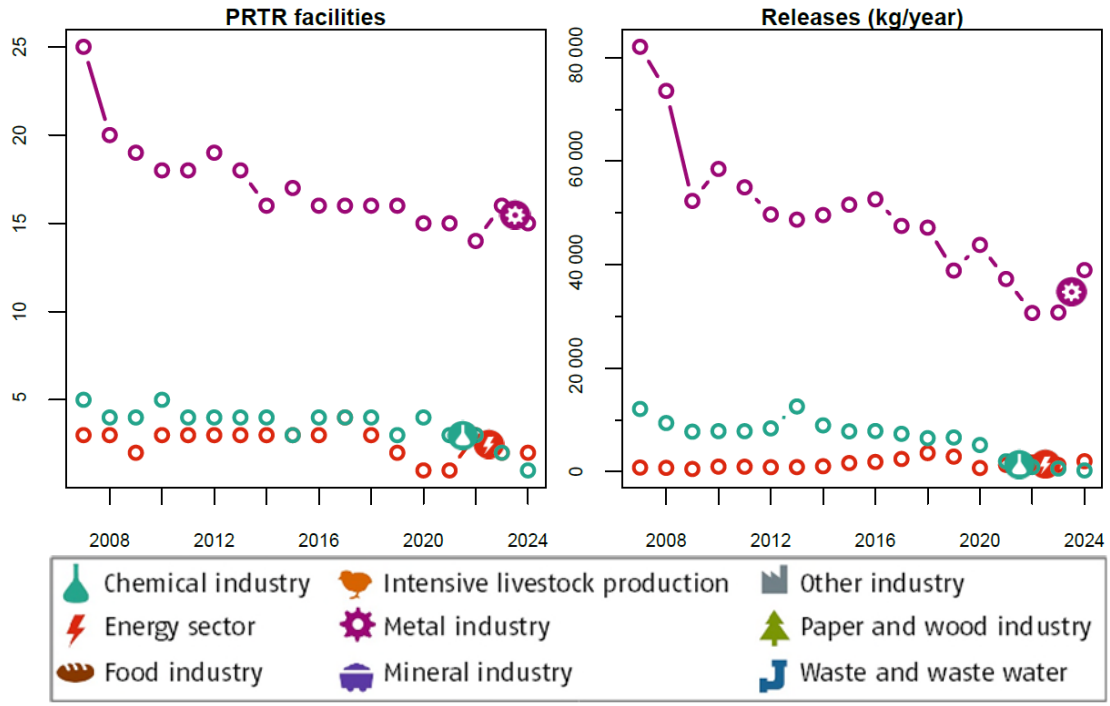
2.54.1 Releases to Air

The threshold is **200 kg "Zinc and compounds (as Zn)" per year.** Releases to **Air** above this value have to be reported according to the E-PRTR Regulation.

Table 67: For the reporting year 2024 -Number of facilities and their releases of the pollutant "Zinc and compounds (as Zn)" to Air of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Metal industry	15	83.3	38 960	94.5
Energy sector	2	11.1	2 028	4.92
Chemical industry	1	5.56	256	0.621
Total	**18**	**100**	**41 244**	**100**

Figure 67: Annual number of facilities (left) and their releases (right) of the pollutant "Zinc and compounds (as Zn)" to Air, each by the 3 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

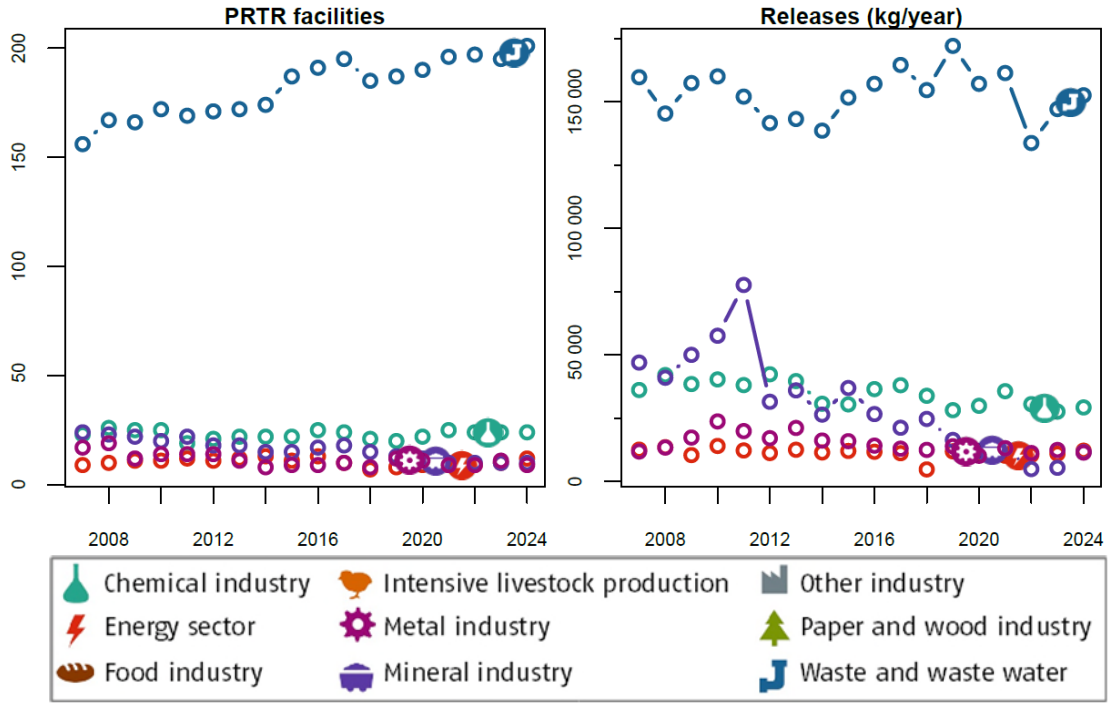
2.54.2 Releases to Water

The threshold is **100 kg "Zinc and compounds (as Zn)" per year.** Releases to **Water** above this value have to be reported according to the E-PRTR Regulation.

Table 68 For the reporting year 2024 -Number of facilities and their releases of the pollutant "Zinc and compounds (as Zn)" to Water of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Releases (kg/year)	(%)
Waste and waste water management	201	77.3	152 547	69.9
Chemical industry	24	9.23	29 209	13.4
Energy sector	12	4.62	12 123	5.55
Mineral industry	10	3.85	11 518	5.28
Metal industry	9	3.46	11 370	5.21
Paper- and wood industry	4	1.54	1 571	0.72
Total	**260**	**100**	**218 338**	**100**

Figure 68: Annual number of facilities (left) and their releases (right) of the pollutant "Zinc and compounds (as Zn)" to Water, each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

2.54.3 Releases to Land

The threshold is **100 kg "Zinc and compounds (as Zn)" per year.** Releases to **Land** above this value have to be reported according to the E-PRTR Regulation.

No facility reported the release of **"Zinc and compounds (as Zn)"** to **Land** in **2024**.

3 Off-site transfer in waste water

The following chapters cover only off-site transfer of pollutants in waste water.

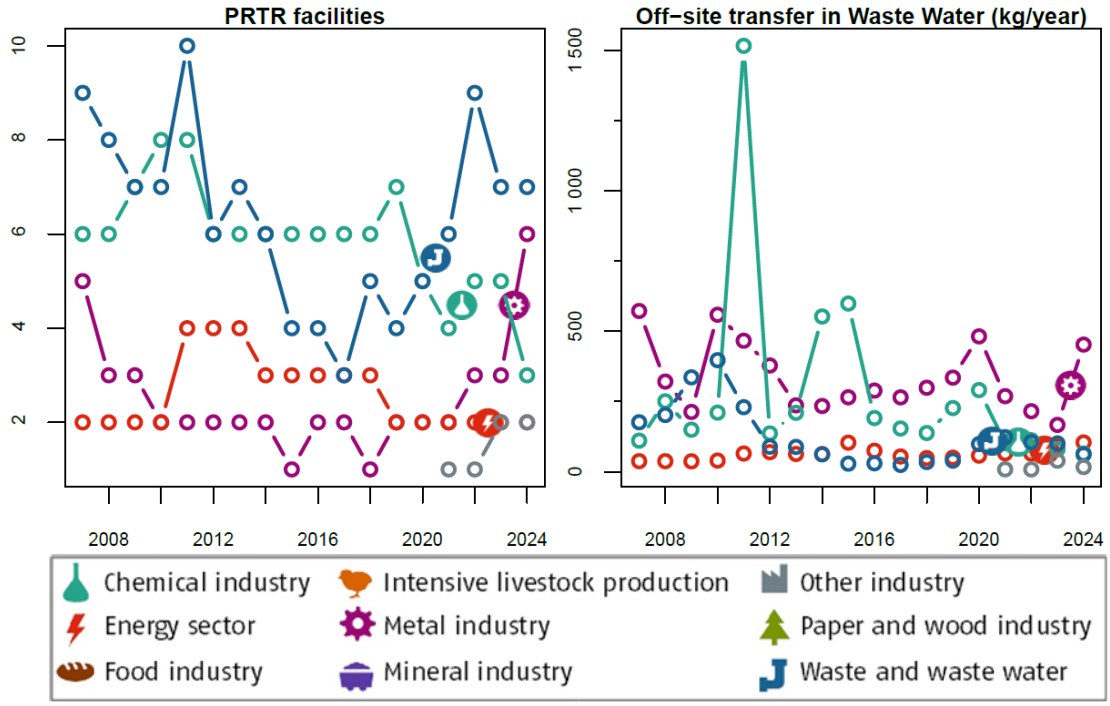
3.1 Arsenic and compounds (as As)

The threshold is **5 kg "Arsenic and compounds (as As)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 69: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Arsenic and compounds (as As)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Metal industry	6	28.6	453	64.1
Energy sector	2	9.52	104	14.7
Chemical industry	3	14.3	64.9	9.19
Waste and waste water management	7	33.3	61.6	8.72
Other industry	2	9.52	16.5	2.34
Mineral industry	1	4.76	6.3	0.892
Total	**21**	**100**	**706**	**100**

Figure 69: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Arsenic and compounds (as As)", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

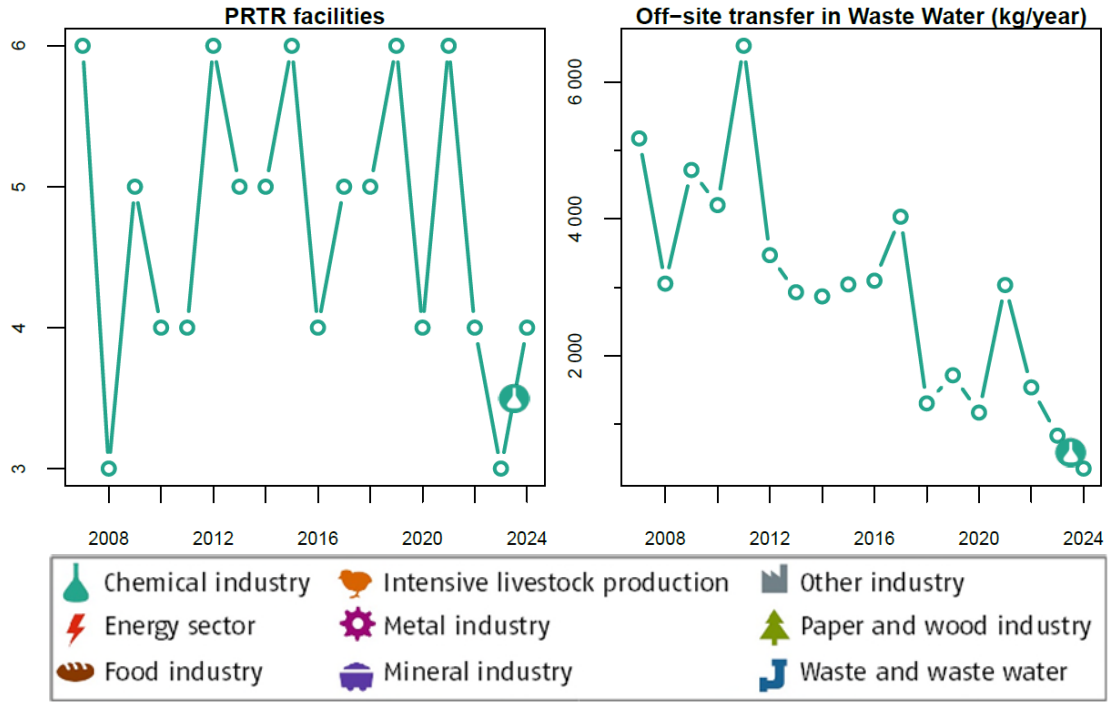
3.2 Benzene

The threshold is **200 kg "Benzene" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 70: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Benzene" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	4	100	354	100
Total	**4**	**100**	**354**	**100**

Figure 70: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Benzene", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

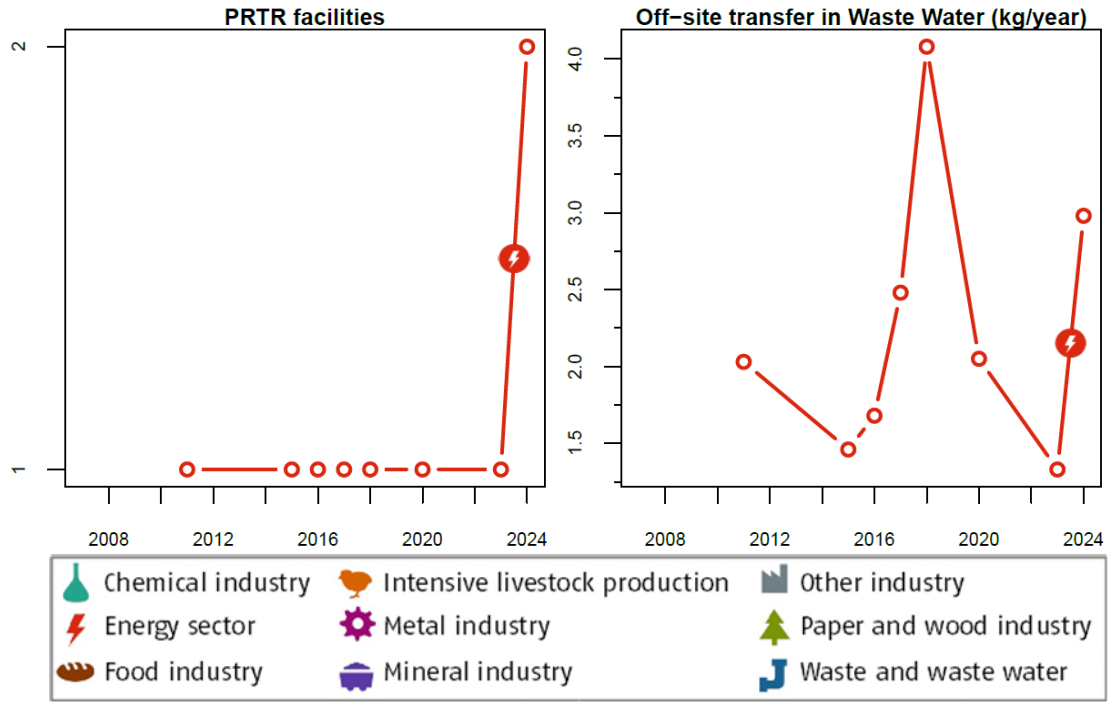
3.3 Benzo(g,h,i)perylene

The threshold is **1 kg "Benzo(g,h,i)perylene" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 71: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Benzo(g,h,i)perylene" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Energy sector	2	100	2.98	100
Total	**2**	**100**	**2.98**	**100**

Figure 71: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Benzo(g,h,i)perylene", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

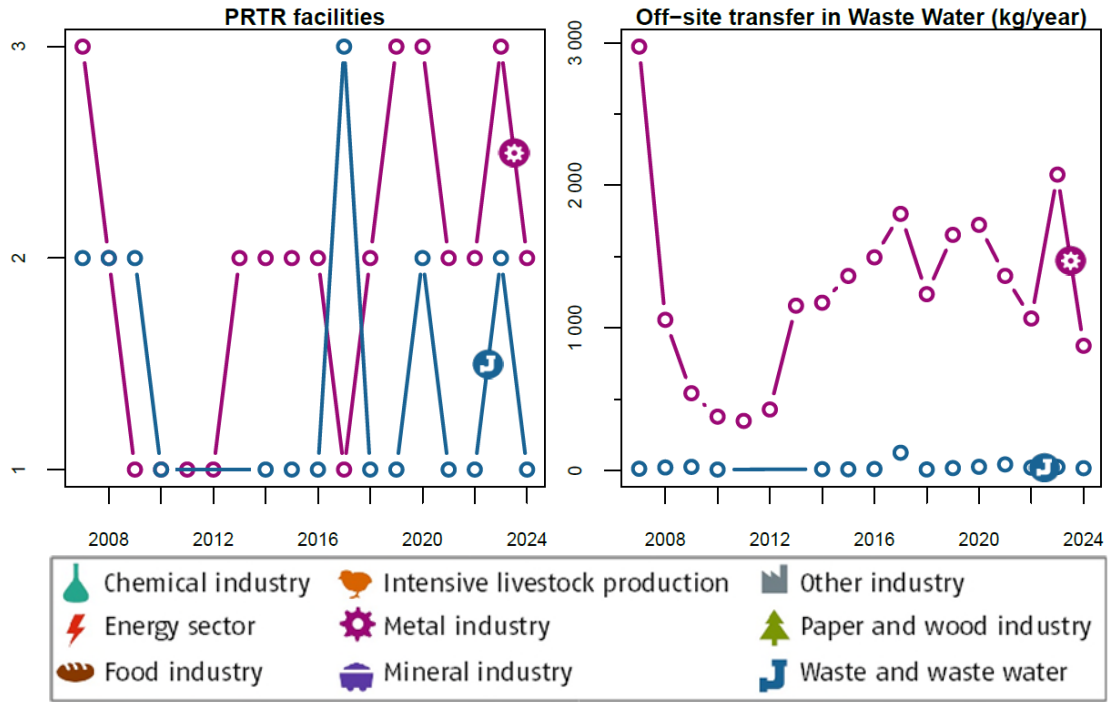
3.4 Cadmium and compounds (as Cd)

The threshold is **5 kg "Cadmium and compounds (as Cd)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 72: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Cadmium and compounds (as Cd)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Metal industry	2	66.7	875	98.2
Waste and waste water management	1	33.3	25	1.84
Total	**3**	**100**	**891**	**100**

Figure 72: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Cadmium and compounds (as Cd)", each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

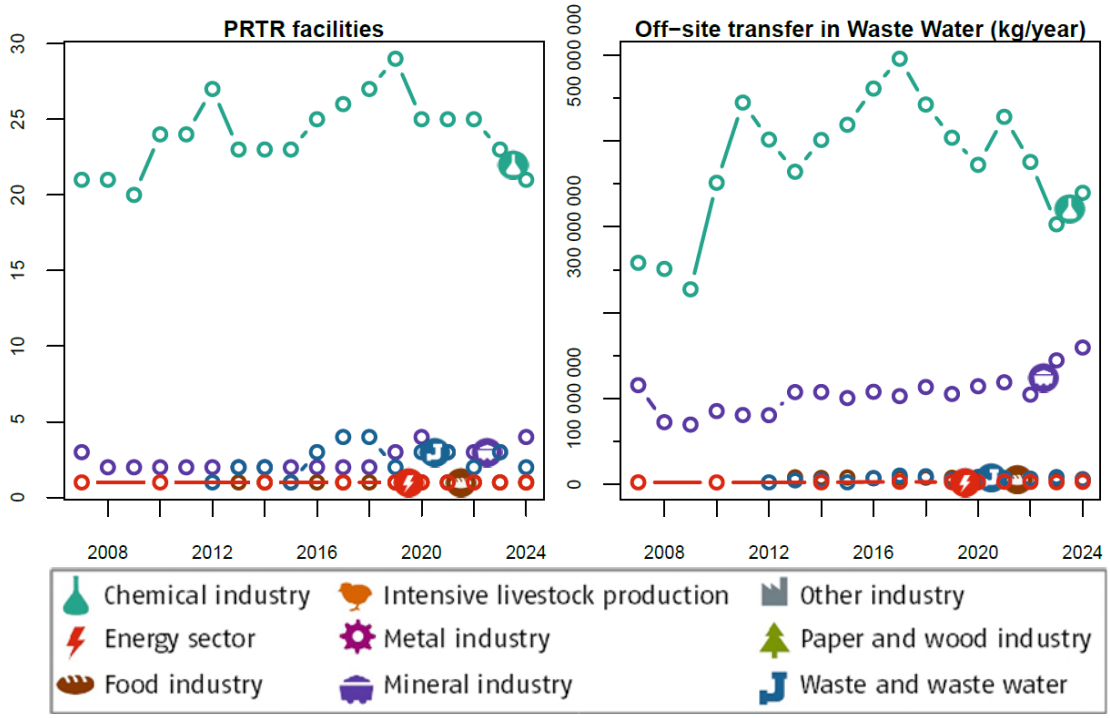
3.5 Chlorides (as total Cl)

The threshold is **2 000 000 kg "Chlorides (as total Cl)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 73: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Chlorides (as total Cl)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	21	72.4	339 710 000	66.3
Mineral industry	4	13.8	159 240 000	31.1
Food industry	1	3.45	5 810 000	1.13
Waste and waste water management	2	6.9	4 880 000	0.952
Energy sector	1	3.45	2 740 000	0.535
Total	**29**	**100**	**512 380 000**	**100**

Figure 73: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Chlorides (as total Cl)", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

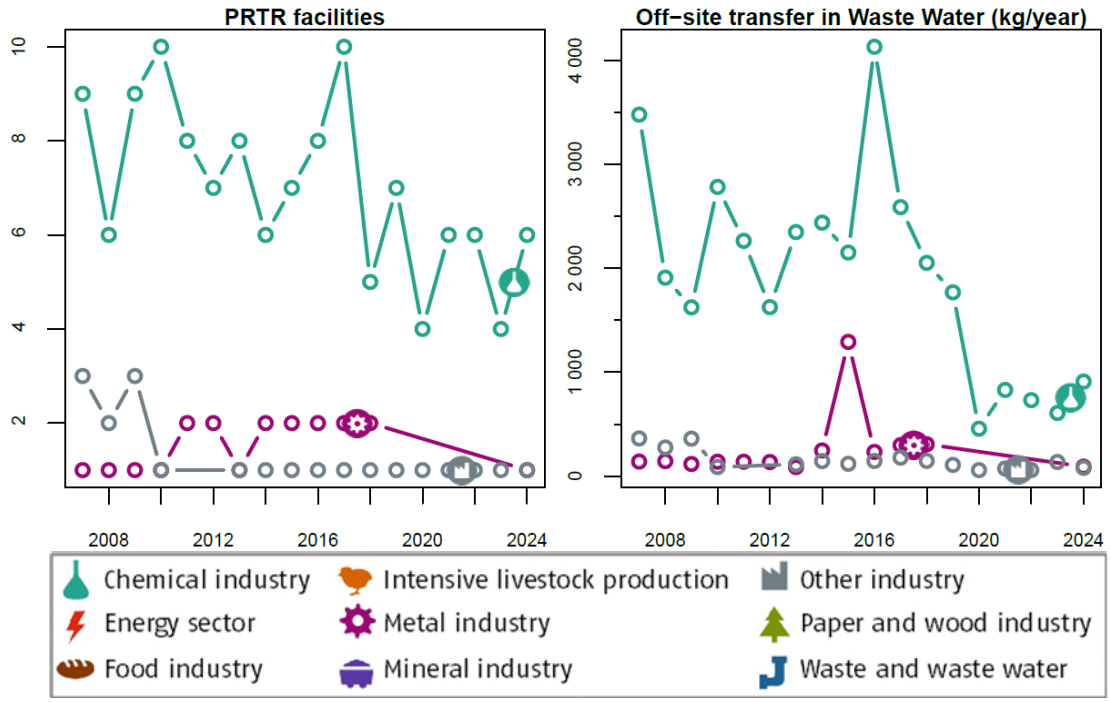
3.6 Chromium and compounds (as Cr)

The threshold is **50 kg "Chromium and compounds (as Cr)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 74: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Chromium and compounds (as Cr)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	6	75	910	84
Metal industry	1	12.5	92.5	8.54
Other industry	1	12.5	80.7	7.45
Total	**8**	**100**	**1 084**	**100**

Figure 74: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Chromium and compounds (as Cr)", each by the 3 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

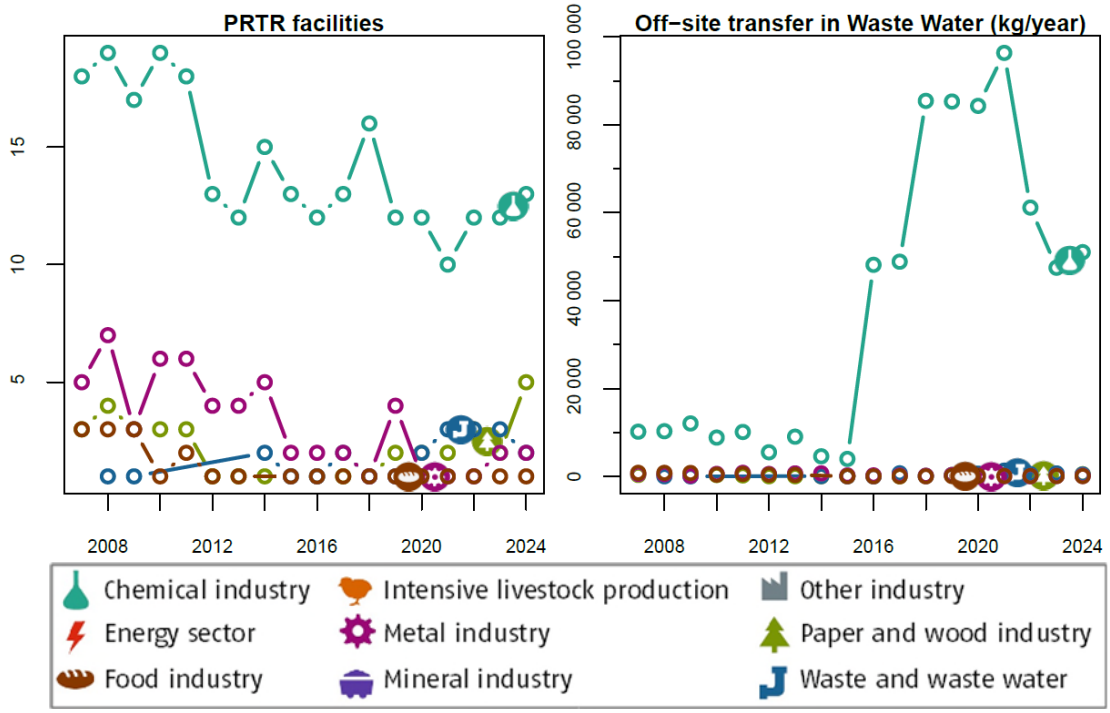
3.7 Copper and compounds (as Cu)

The threshold is **50 kg "Copper and compounds (as Cu)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 75: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Copper and compounds (as Cu)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	13	54.2	51 047	97.5
Paper- and wood industry	5	20.8	531	1.01
Waste and waste water management	2	8.33	472	0.901
Metal industry	2	8.33	168	0.32
Food industry	1	4.17	102	0.195
Mineral industry	1	4.17	52.5	0.1
Total	**24**	**100**	**52 372**	**100**

Figure 75: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Copper and compounds (as Cu)", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

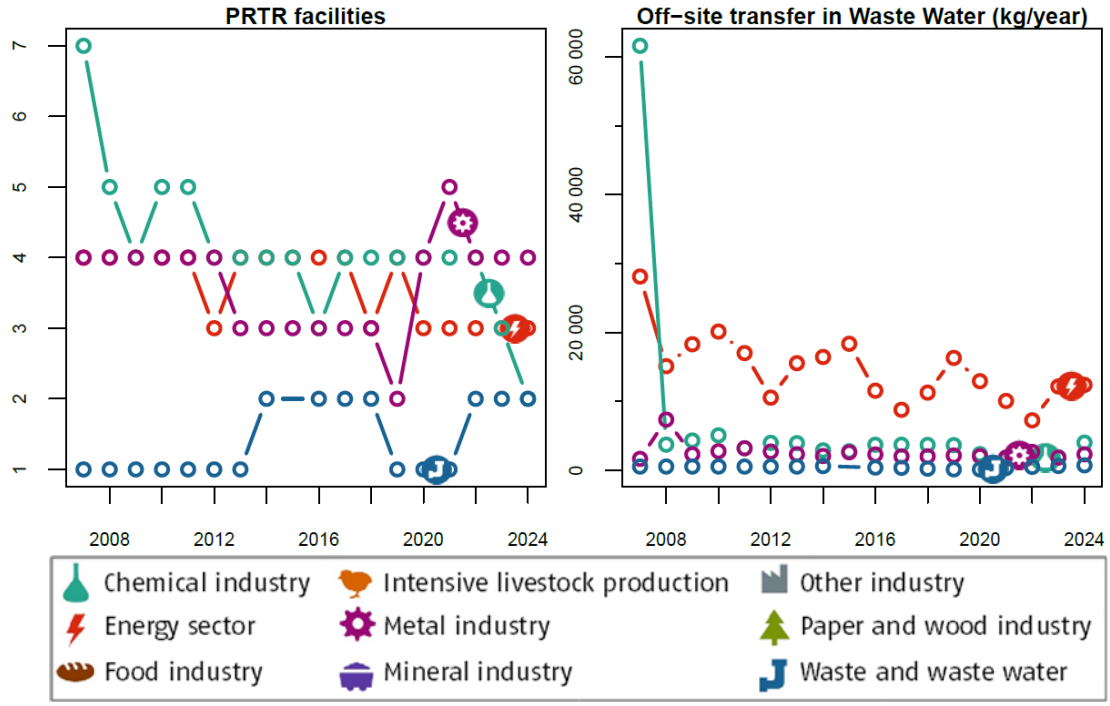
3.8 Cyanides (as total CN)

The threshold is **50 kg "Cyanides (as total CN)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 76: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Cyanides (as total CN)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Energy sector	3	27.3	12 387	63.9
Chemical industry	2	18.2	4 002	20.6
Metal industry	4	36.4	2 301	11.9
Waste and waste water management	2	18.2	709	3.66
Total	**11**	**100**	**19 399**	**100**

Figure 76: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Cyanides (as total CN)", each by the 4 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

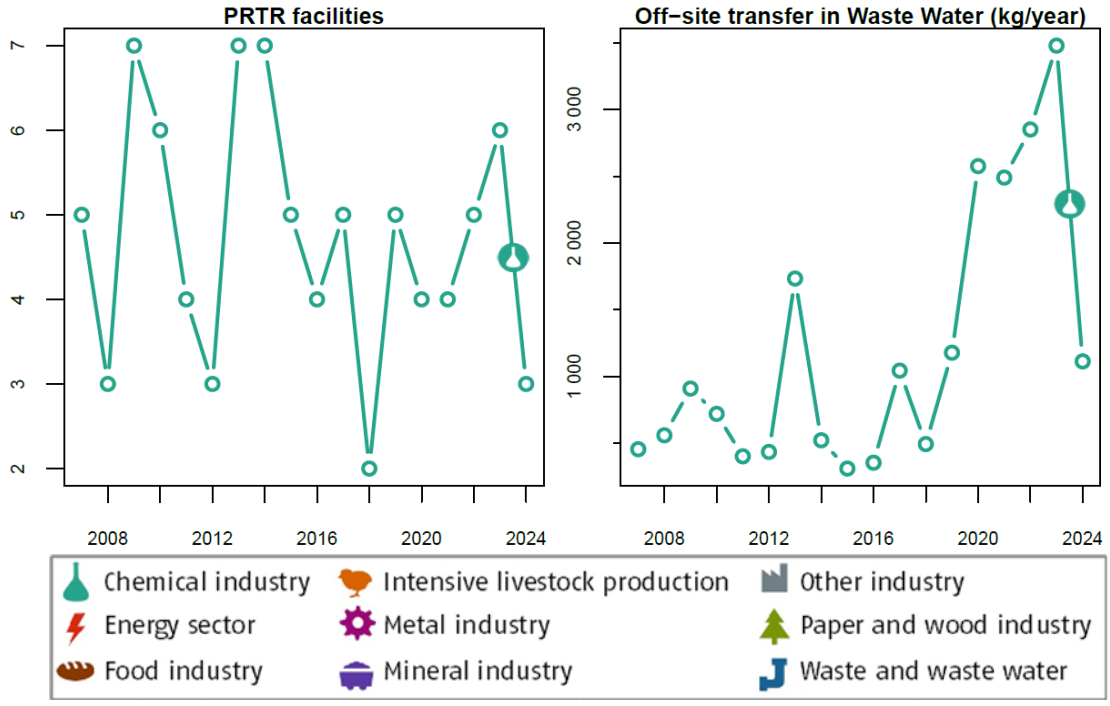
3.9 Dichloromethane (DCM)

The threshold is **10 kg "Dichloromethane (DCM)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 77: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Dichloromethane (DCM)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	3	100	1 114	100
Total	**3**	**100**	**1 114**	**100**

Figure 77: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Dichloromethane (DCM)", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

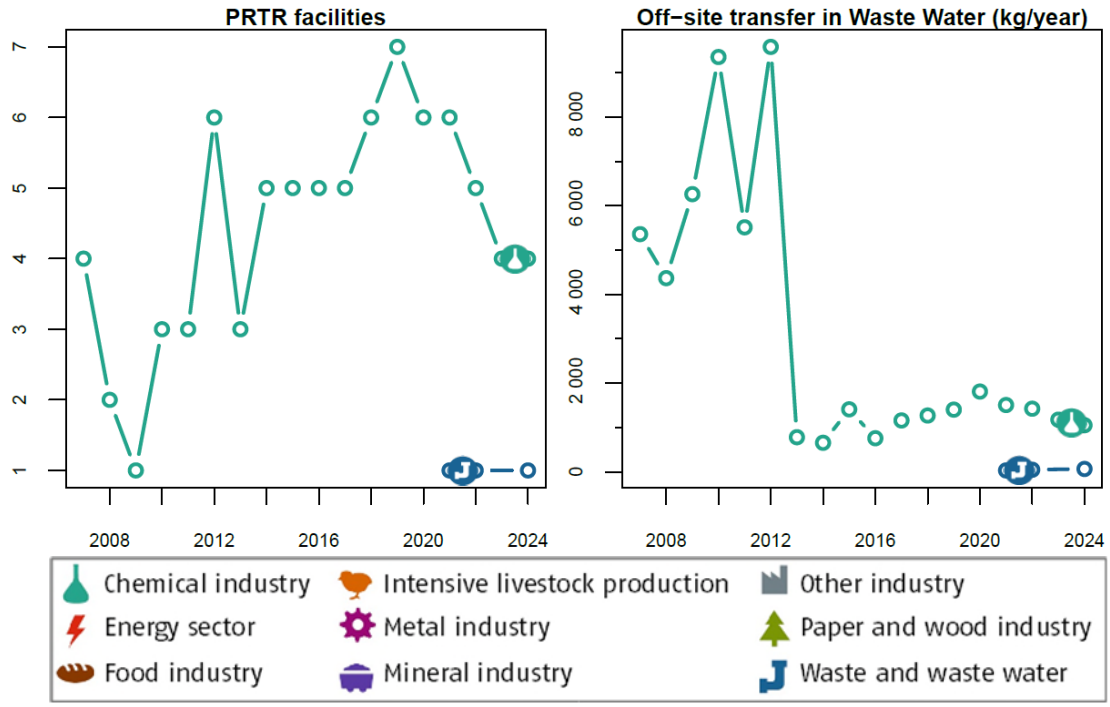
3.10 Ethyl benzene

The threshold is **200 kg "Ethylbenzene" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 78: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Ethyl benzene" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	4	80	1 053	94
Waste and waste water management	1	20	67	5.98
Total	**5**	**100**	**1 120**	**100**

Figure 78: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Ethyl benzene", each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

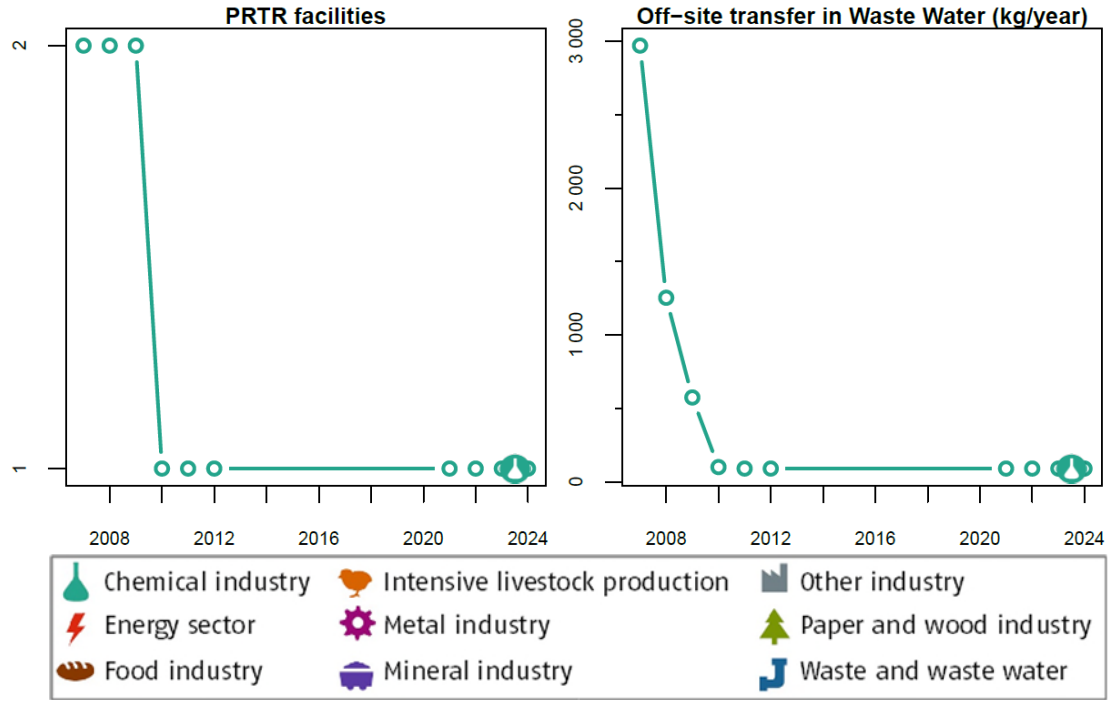
3.11 Ethylene oxide

The threshold is **10 kg "Ethylene oxide" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 79: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Ethylene oxide" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	1	100	90	100
Total	**1**	**100**	**90**	**100**

Figure 79: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Ethylene oxide", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

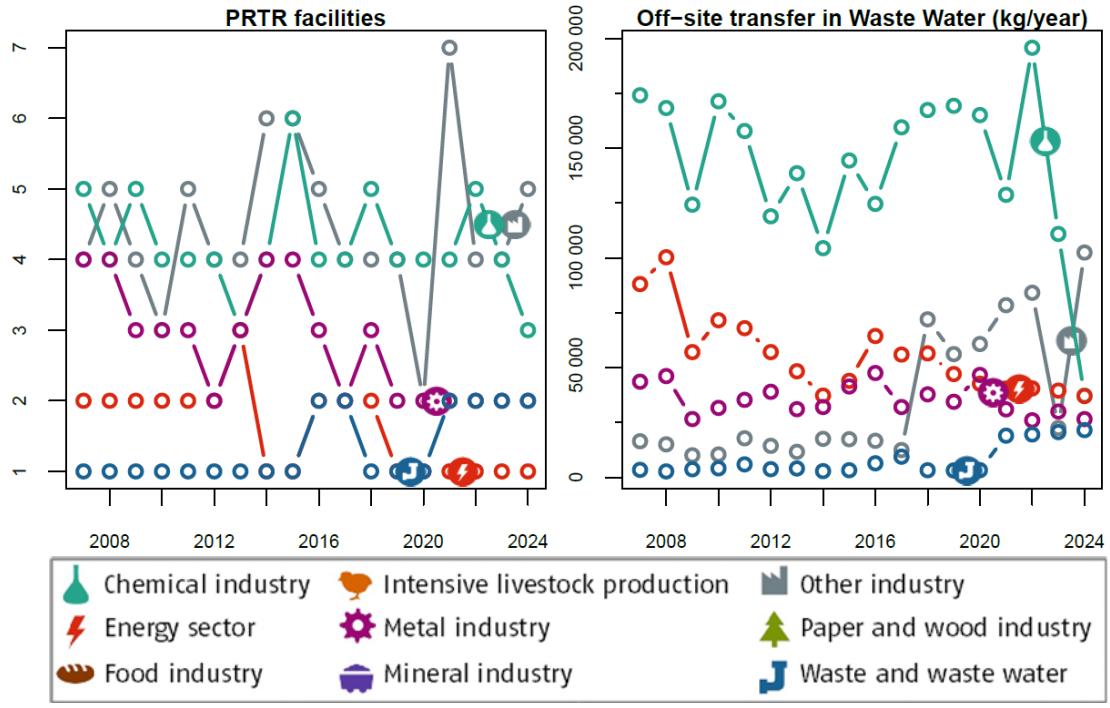
3.12 Fluorides (as total F)

The threshold is **2 000 kg "Fluorides (as total F)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 80: For the reporting year 2024 -Number of facilities and their off-site transfer in wastewater of the pollutant "Fluorides (as total F)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Other industry	5	38.5	102 460	45.5
Chemical industry	3	30.8	110 920	49.6
Energy sector	1	7.69	39 550	17.7
Metal industry	2	15.4	30 030	13.4
Waste and waste water management	2	15.4	20 650	9.23
Total	**13**	**100**	**223 680**	**100**

Figure 80: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Fluorides (as total F)", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

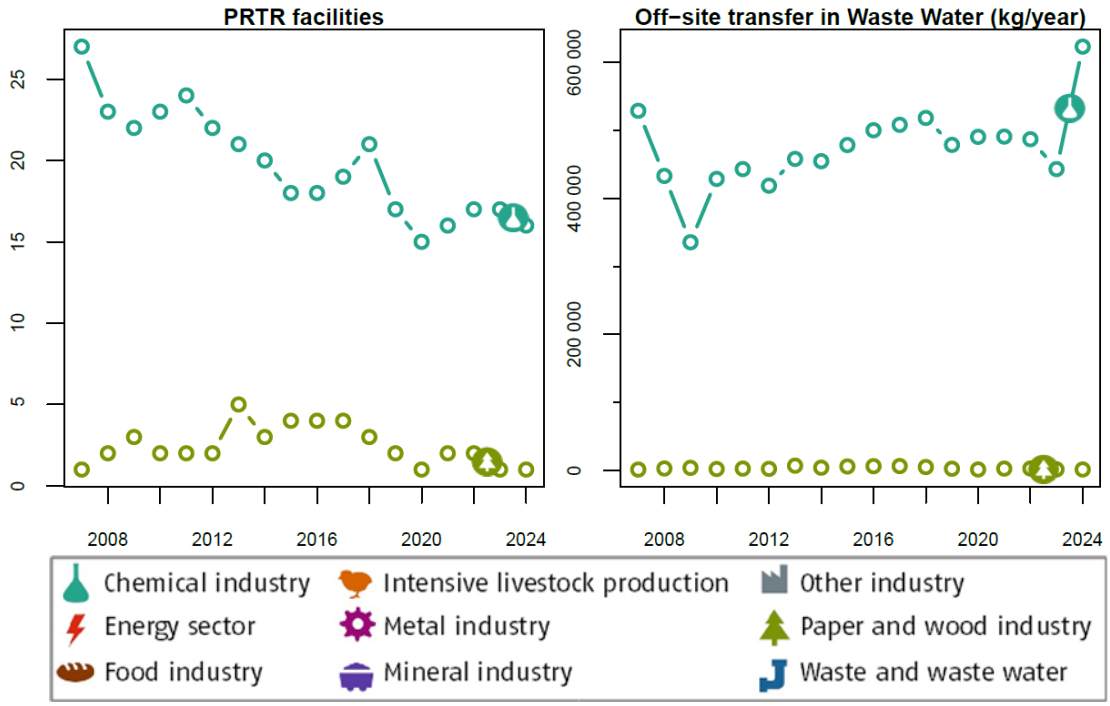
3.13 Halogenated organic compounds (as AOX)

The threshold is **1 000 kg "Halogenated organic compounds (as AOX)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 81: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Halogenated organic compounds (as AOX)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	16	94.1	623 290	99.8
Paper- and wood industry	1	5.88	1 410	0.226
Total	**17**	**100**	**624 700**	**100**

Figure 81: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Halogenated organic compounds (as AOX)", each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

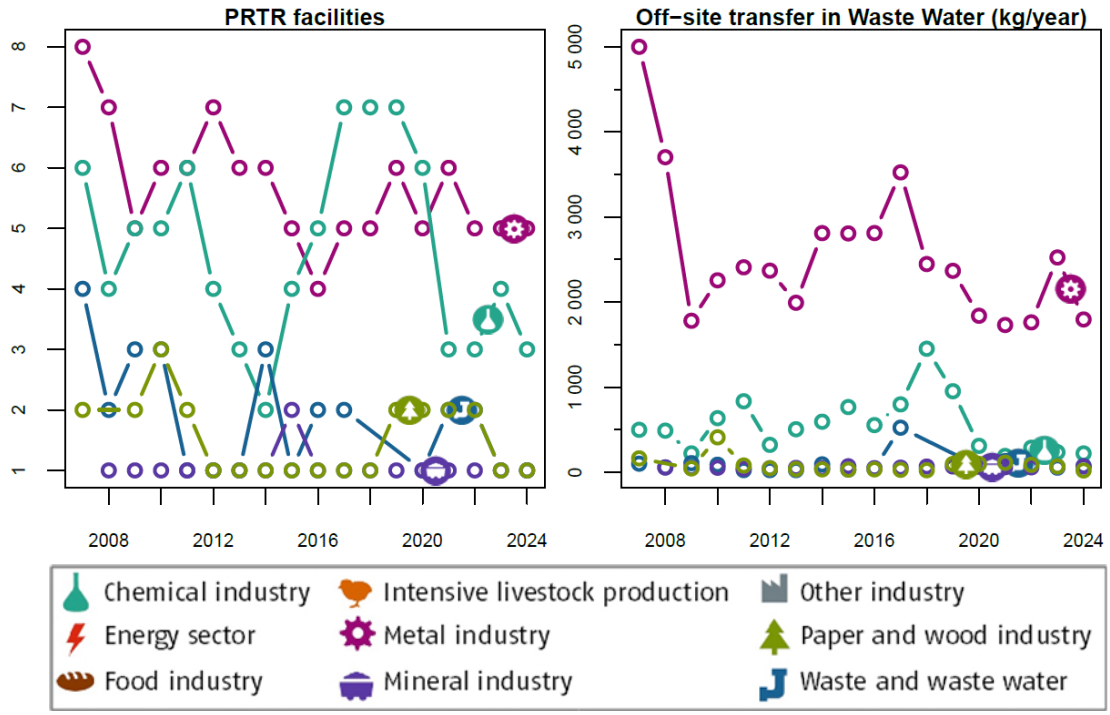
3.14 Lead and compounds (as Pb)

The threshold is **20 kg "Lead and compounds (as Pb)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 82: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Lead and compounds (as Pb)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Metal industry	5	45.5	1 796	82.3
Chemical industry	3	27.3	222	10.2
Waste and waste water management	1	9.09	74.2	3.4
Mineral industry	1	9.09	67.3	3.08
Paper- and wood industry	1	9.09	22.5	1.03
Total	**11**	**100**	**2 182**	**100**

Figure 82: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Lead and compounds (as Pb)", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

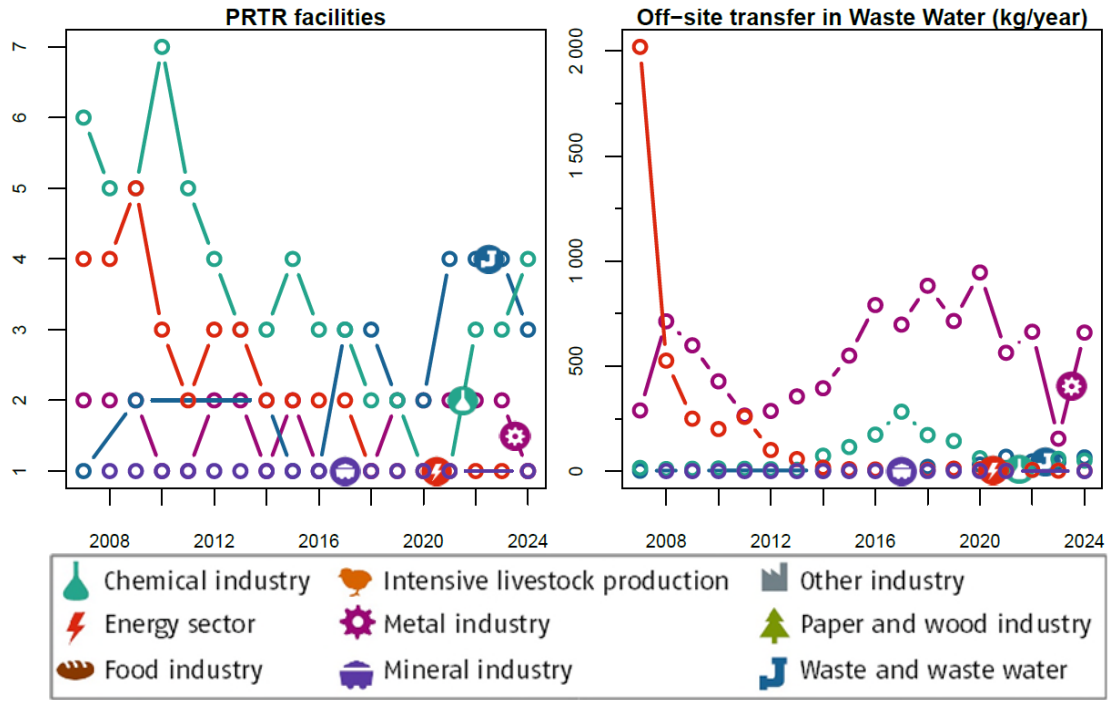
3.15 Mercury and compounds (as Hg)

The threshold is **1 kg "Mercury and compounds (as Hg)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 83: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Mercury and compounds (as Hg)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Metal industry	1	10	660	84.6
Waste and waste water management	3	30	66.1	8.47
Chemical industry	4	40	50.7	6.49
Energy sector	1	10	2.42	0.31
Mineral industry	1	10	1.05	0.135
Total	**10**	**100**	**780**	**100**

Figure 83: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Mercury and compounds (as Hg)", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

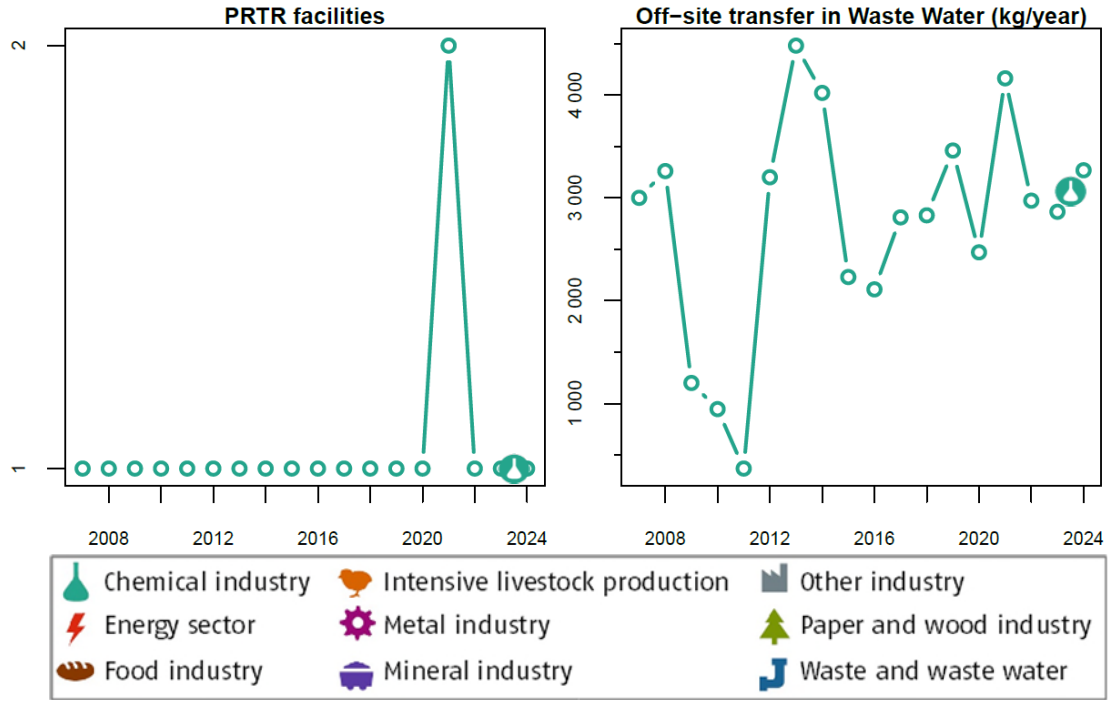
3.16 Naphthalene

The threshold is **10 kg "Naphthalene" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 84: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Naphthalene" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	1	100	3 268	100
Total	**1**	**100**	**3 268**	**100**

Figure 84: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Naphthalene", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

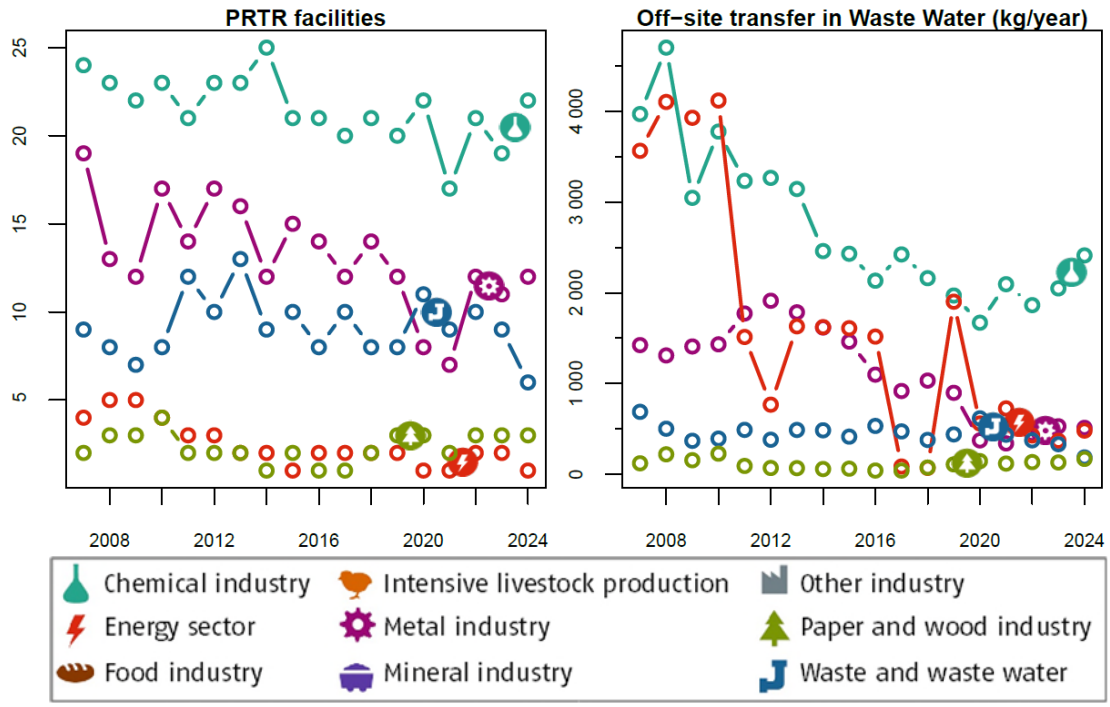
3.17 Nickel and compounds (as Ni)

The threshold is **20 kg "Nickel and compounds (as Ni)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 85: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Nickel and compounds (as Ni)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	22	44.9	2 413	60.1
Metal industry	12	24.5	512	12.7
Energy sector	1	2.04	482	12
Waste and waste water management	6	12.2	186	4.62
Paper- and wood industry	3	6.12	169	4.22
Mineral industry	1	2.04	115	2.87
Other industry	3	6.12	98.1	2.44
Food industry	1	2.04	42.4	1.06
Total	**49**	**100**	**4 016**	**100**

Figure 85: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Nickel and compounds (as Ni)", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

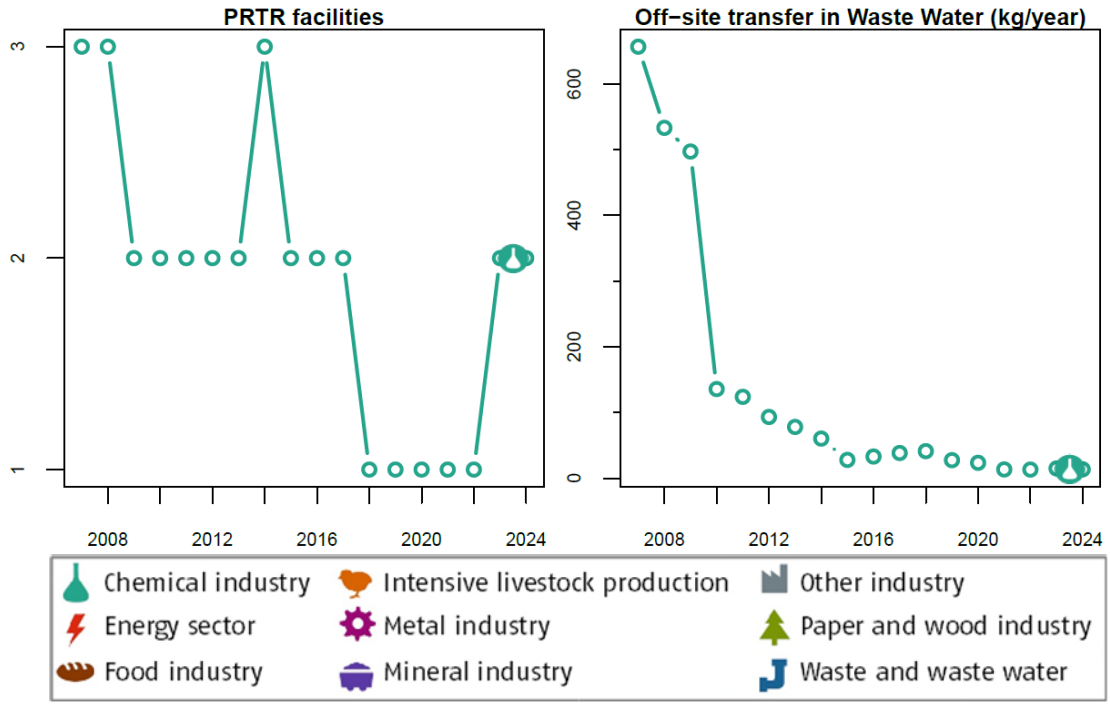
3.18 Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)

The threshold is **1 kg "Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 86: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	2	100	13.8	100
Total	**2**	**100**	**13.8**	**100**

Figure 86: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

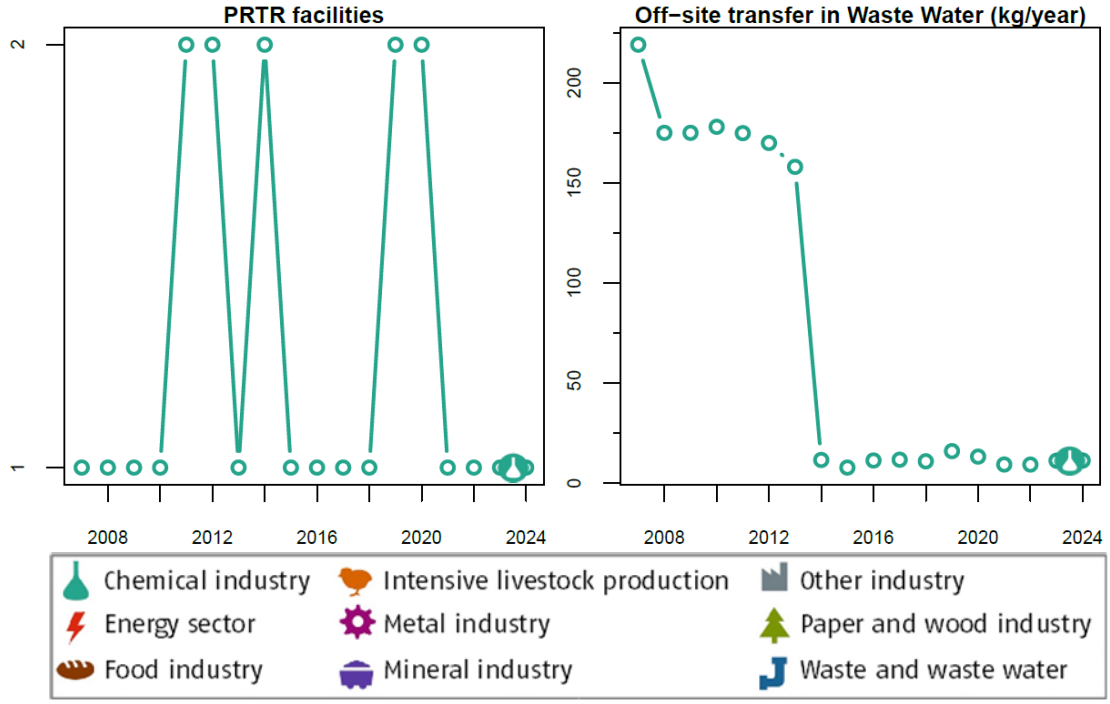
3.19 Octylphenols and Octylphenol ethoxylates

The threshold is **1 kg "Octylphenols and Octylphenol ethoxylates" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 87: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Octylphenols and Octylphenol ethoxylates" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	1	100	11.4	100
Total	**1**	**100**	**11.4**	**100**

Figure 87: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Octylphenols and Octylphenol ethoxylates", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

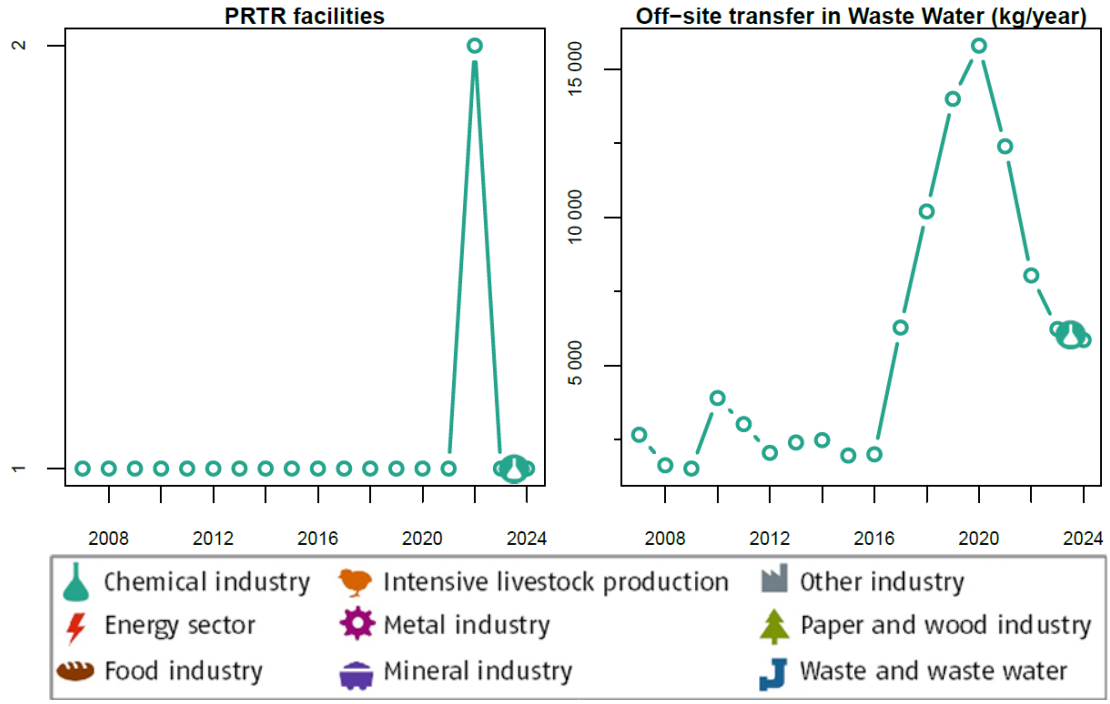
3.20 Organotin compounds (as total Sn)

The threshold is **50 kg "Organotin compounds (as total Sn)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 88: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Organotin compounds (as total Sn)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	1	100	5 858	100
Total	**1**	**100**	**5 858**	**100**

Figure 88: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Organotin compounds (as total Sn)", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

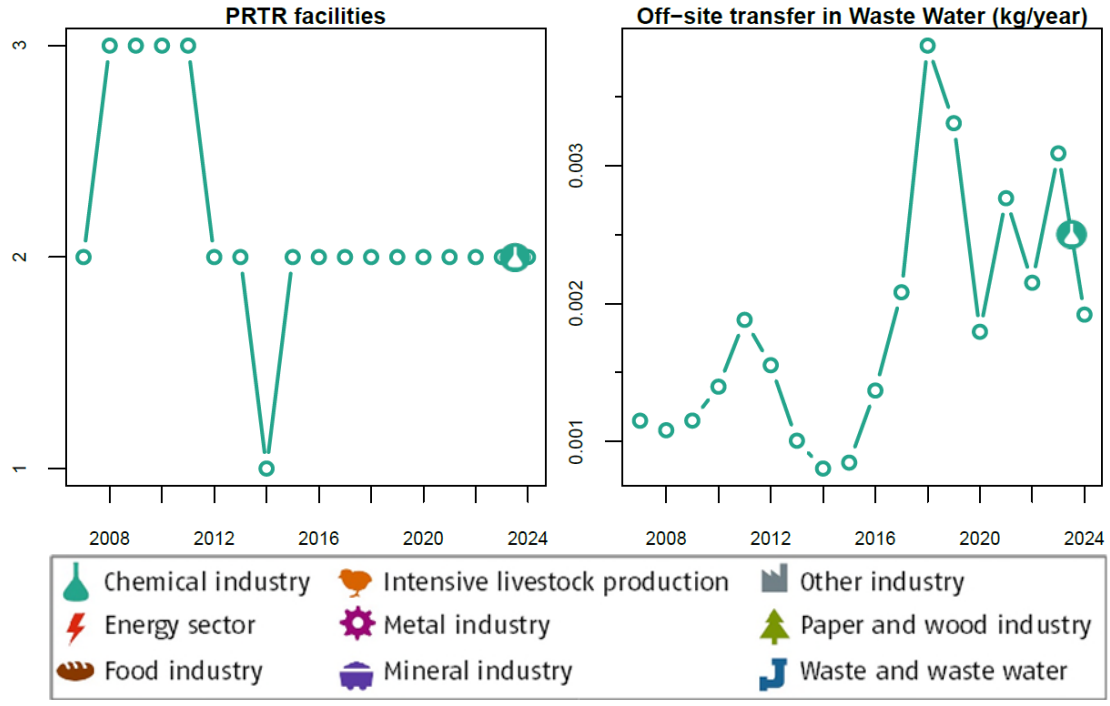
3.21 PCDD + PCDF (dioxins + furans) (as Teq)

The threshold is **0.0001 kg "PCDD + PCDF (dioxins + furans) (as Teq)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 89: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "PCDD + PCDF (dioxins + furans) (as Teq)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	2	100	0.00192	100
Total	**2**	**100**	**0.00192**	**100**

Figure 89: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "PCDD + PCDF (dioxins + furans) (as Teq)", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

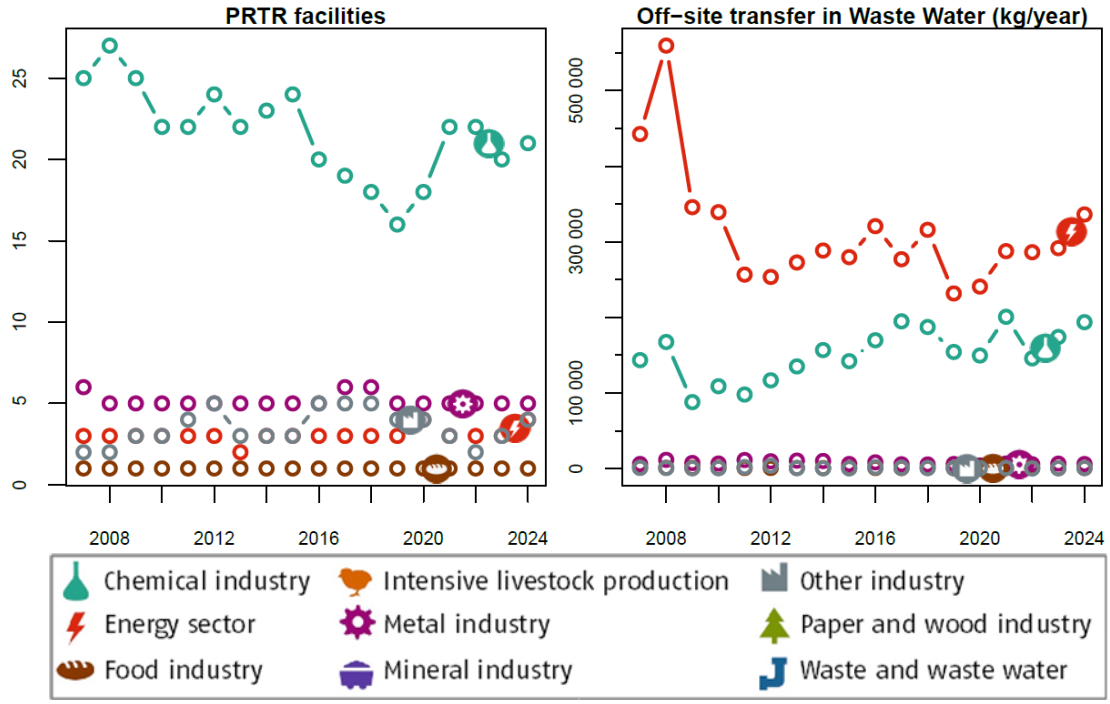
3.22 Phenols (as total C)

The threshold is **20 kg "Phenols (as total C)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 90: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Phenols (as total C)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Energy sector	4	10.8	336 254	62.6
Chemical industry	21	56.8	193 696	36
Metal industry	5	13.5	5 908	1.1
Food industry	1	2.7	663	0.123
Other industry	4	10.8	647	0.12
Waste and waste water management	2	5.41	406	0.0756
Total	**37**	**100**	**537 575**	**100**

Figure 90: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Phenols (as total C)", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

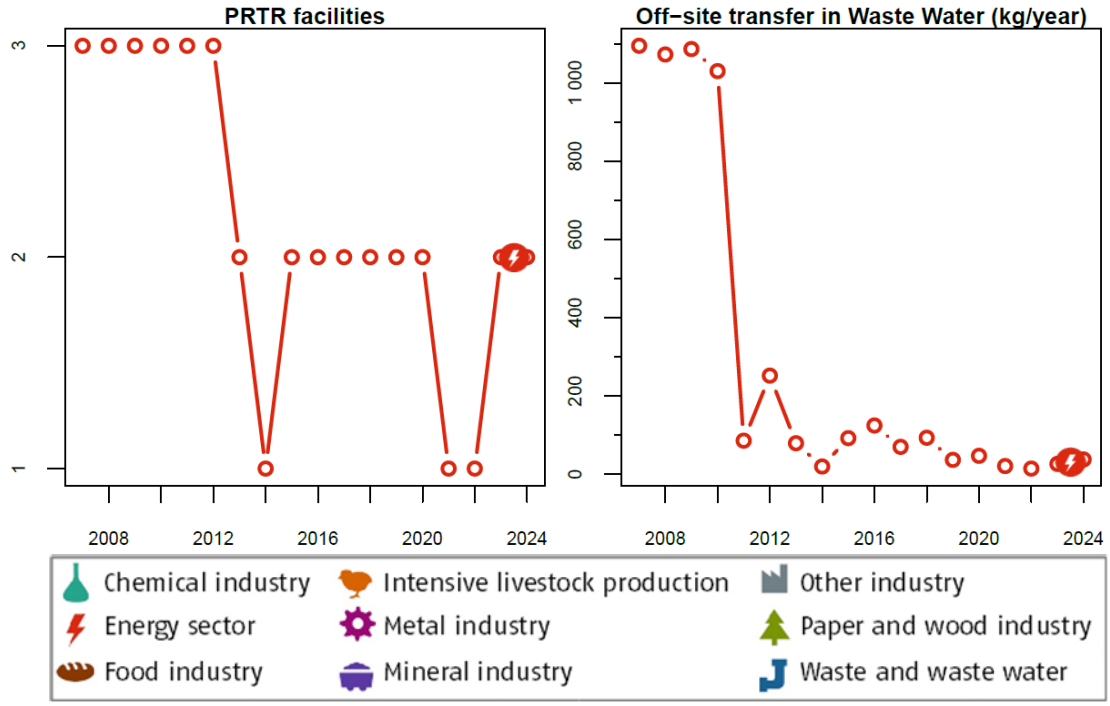
3.23 Polycyclic aromatic hydrocarbons (PAHs)

The threshold is **5 kg "Polycyclic aromatic hydrocarbons (PAHs)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 91: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Polycyclic aromatic hydrocarbons (PAHs)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Energy sector	2	100	38.2	100
Total	**2**	**100**	**38.2**	**100**

Figure 91: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Polycyclic aromatic hydrocarbons (PAHs)", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

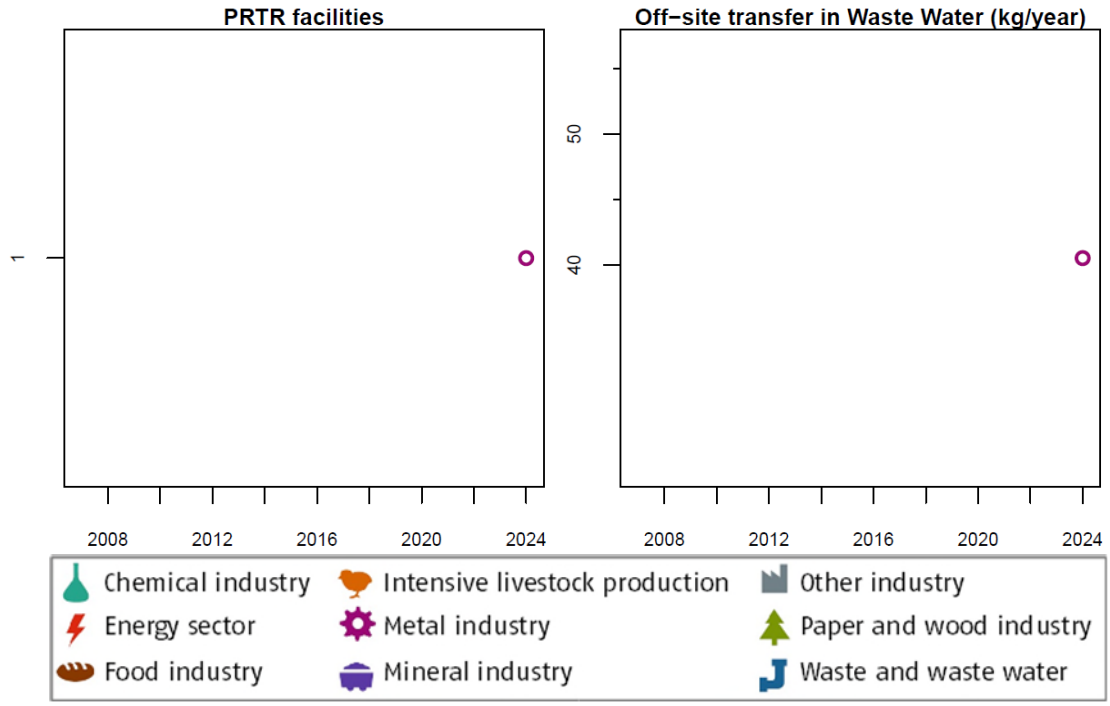
3.24 Tetrachloroethylene (PER)

The threshold is **10 kg "Tetrachloroethylene (PER)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 92: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Tetrachloroethylene (PER)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Metal industry	1	100	40.5	100
Total	**1**	**100**	**40.5**	**100**

Figure 92: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Tetrachloroethylene (PER)", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

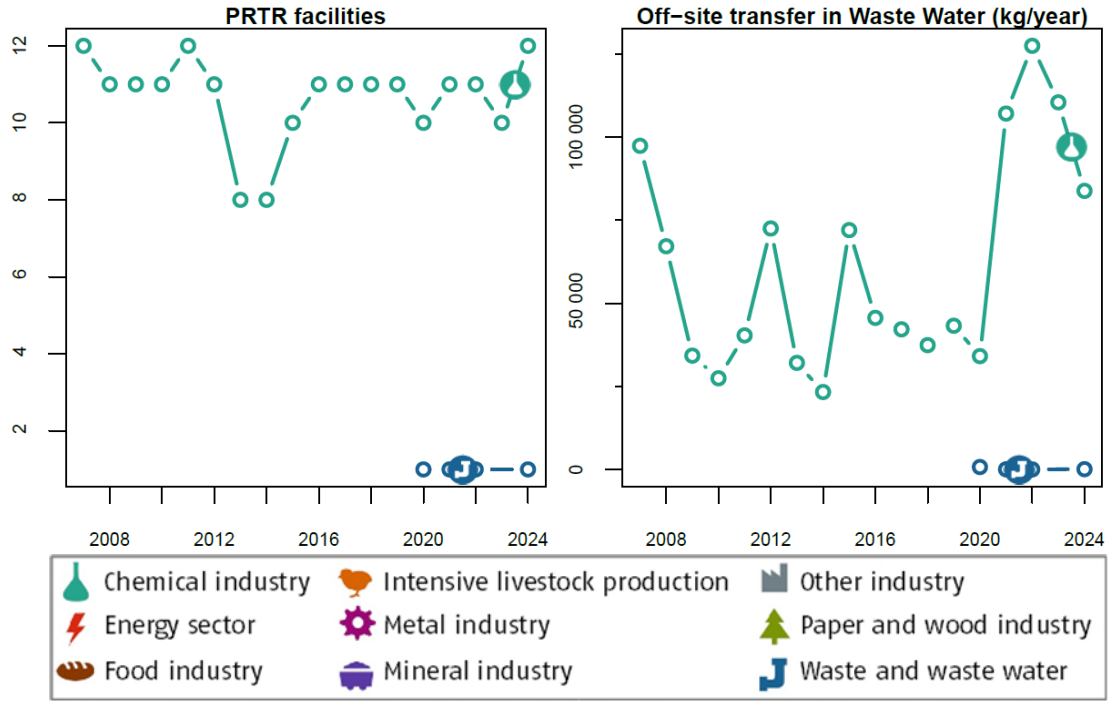
3.25 Toluene

The threshold is **200 kg "Toluene" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 93: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Toluene" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	12	92.3	83 841	99.8
Waste and waste water management	1	7.69	172	0.205
Total	**13**	**100**	**84 013**	**100**

Figure 93: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Toluene", each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

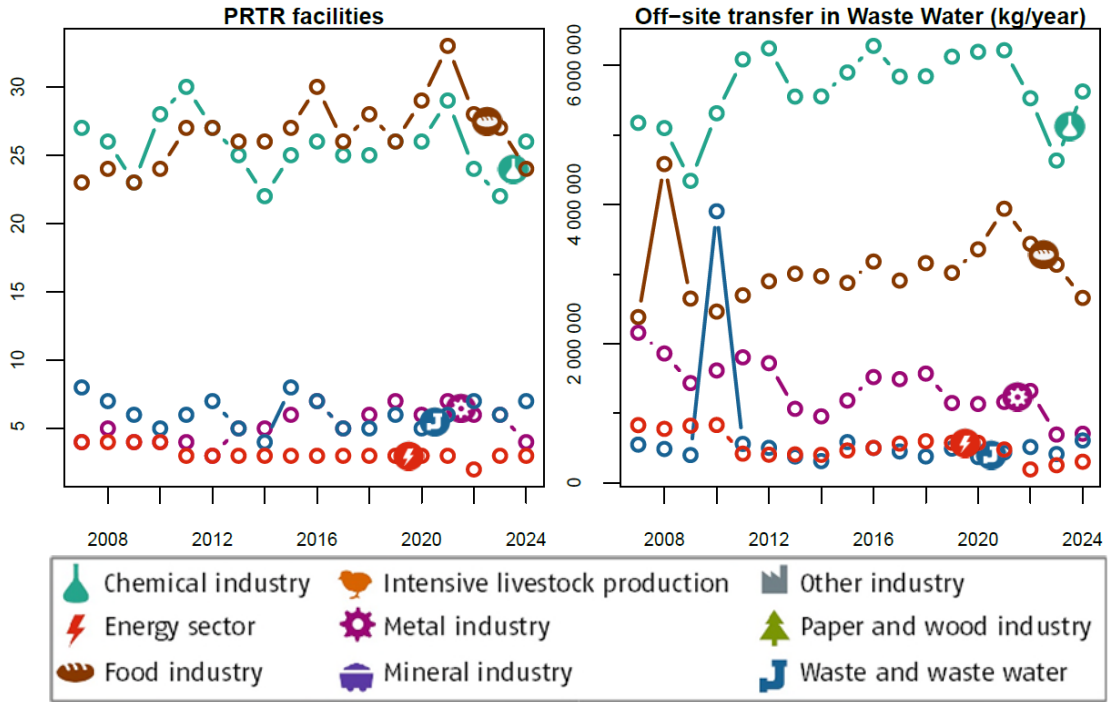
3.26 Total nitrogen

The threshold is **50 000 kg "Total nitrogen" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 94: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Total nitrogen" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	26	37.1	5 625 700	53.6
Food industry	24	34.3	2 658 000	25.3
Metal industry	4	5.71	706 200	6.73
Waste and waste water management	7	10	608 700	5.8
Energy sector	3	4.29	303 200	2.89
Other industry	2	2.86	281 800	2.68
Paper- and wood industry	3	4.29	265 100	2.52
Mineral industry	1	1.43	51 800	0.493
Total	**70**	**100**	**10 500 500**	**100**

Figure 94: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Total nitrogen", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

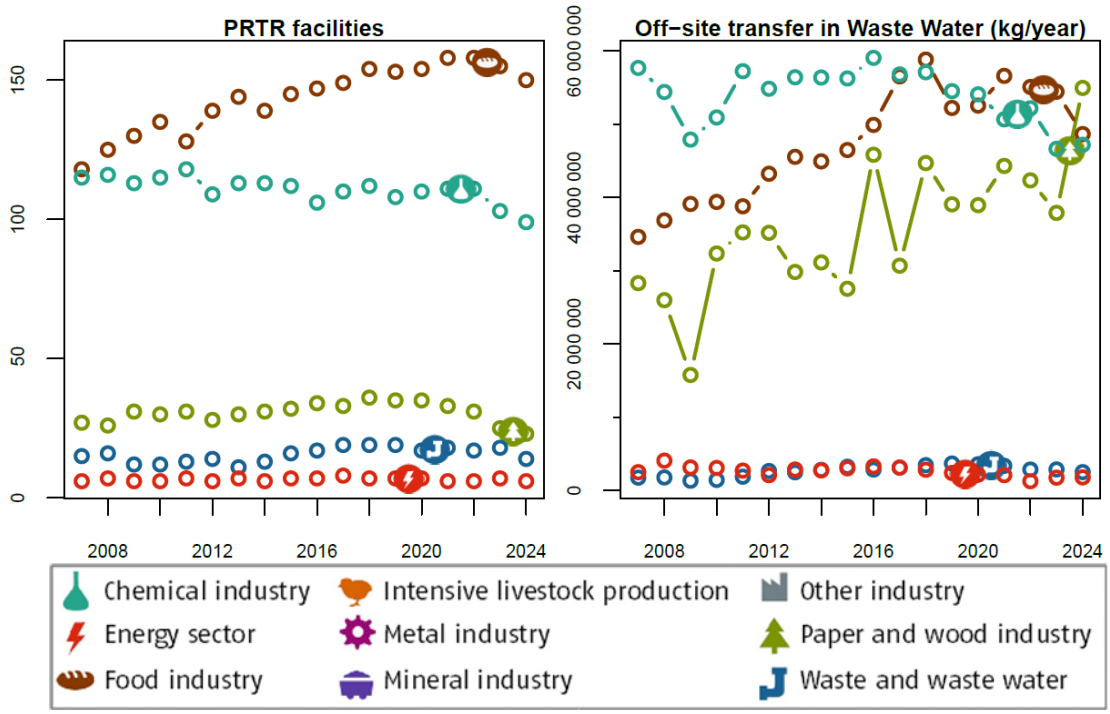
3.27 Total organic carbon (TOC) (as total C or COD/3)

The threshold is **50 000 kg "Total organic carbon (TOC) (as total C or COD/3)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 95: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Total organic carbon (TOC) (as total C or COD/3)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Paper- and wood industry	23	7.59	54 967 600	34.9
Food industry	150	49.5	48 671 200	30.9
Chemical industry	99	32.7	47 203 200	30
Waste and waste water management	14	4.62	2 497 000	1.59
Energy sector	6	1.98	1 777 600	1.13
Other industry	8	2.64	1 485 500	0.944
Metal industry	3	0.99	678 700	0.432
Total	**303**	**100**	**157 280 800**	**100**

Figure 95: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Total organic carbon (TOC) (as total C or COD/3)", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

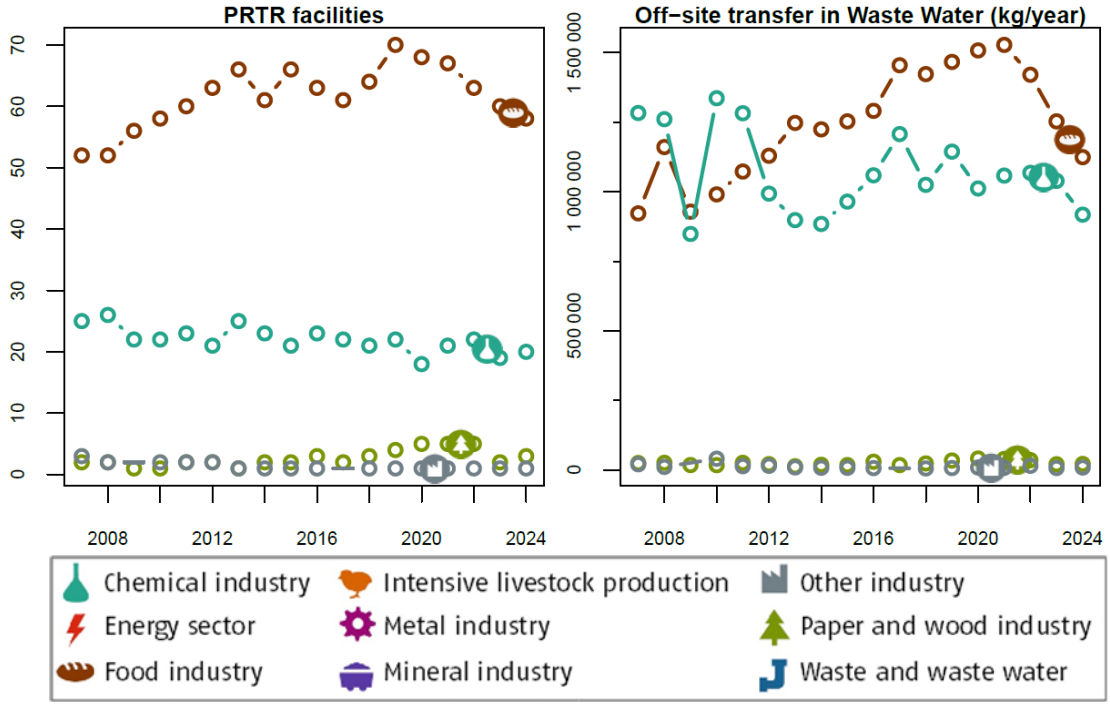
3.28 Total phosphorus

The threshold is **5 000 kg "Total phosphorus" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 96: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Total phosphorus" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Food industry	58	70.7	1 124 450	54.2
Chemical industry	20	24.4	917 860	44.3
Paper- and wood industry	3	3.66	21 740	1.05
Other industry	1	1.22	8 970	0.43
Total	**82**	**100**	**2 072 970**	**100**

Figure 96: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Total phosphorus", each by the 4 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

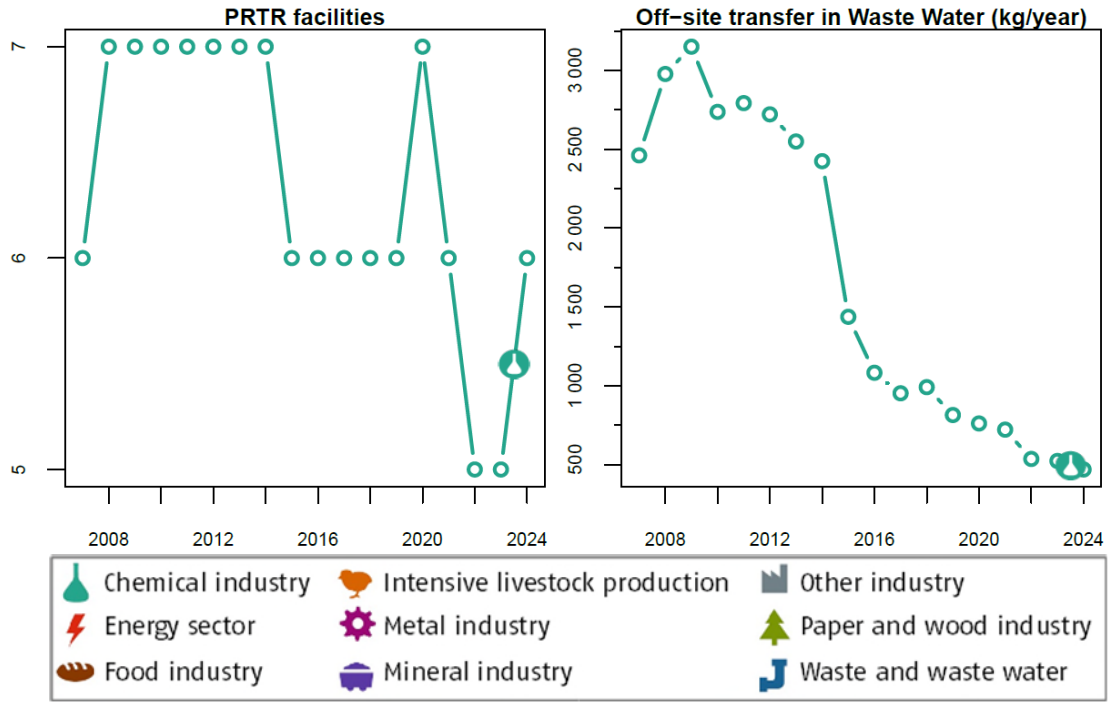
3.29 Vinyl chloride

The threshold is **10 kg "Vinyl chloride" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 97: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Vinyl chloride" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	5	100	523	100
Total	**5**	**100**	**523**	**100**

Figure 97: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Vinyl chloride", each by the 1 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

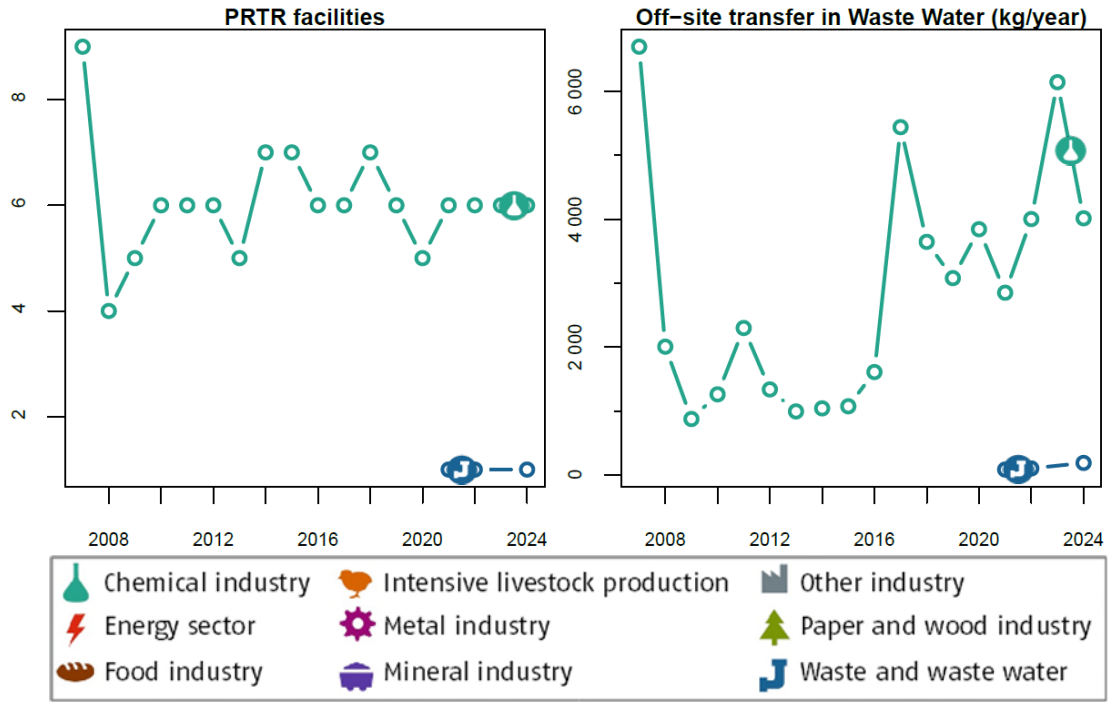
3.30 Xylenes

The threshold is **200 kg "Xylenes" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 98: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Xylenes" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Chemical industry	6	85.7	4 016	95.6
Waste and waste water management	**1**	**14.3**	**186**	**4.43**
Total	**7**	**100**	**4 202**	**100**

Figure 98: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Xylenes", each by the 2 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

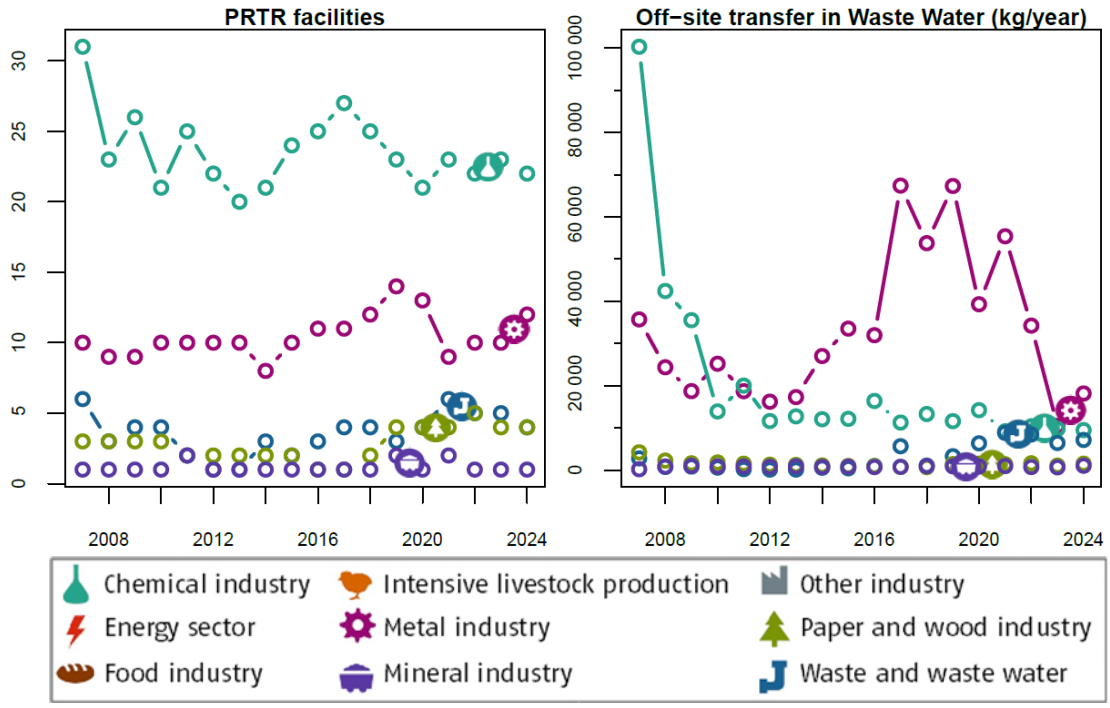
3.31 Zinc and compounds (as Zn)

The threshold is **100 kg "Zinc and compounds (as Zn)" per year**. Off-site transfer in waste water above this value have to be reported according to the E-PRTR Regulation.

Table 99: For the reporting year 2024 -Number of facilities and their off-site transfer in waste water of the pollutant "Zinc and compounds (as Zn)" of the different industrial sectors including the corresponding shares.

Industrial sector	Facilities	(%)	Off-site transfer w. w. (kg/year)	(%)
Metal industry	12	26.1	18 163	47.1
Chemical industry	22	47.8	9 475	24.6
Waste and waste water management	4	8.7	7 151	18.6
Paper- and wood industry	4	8.7	1 531	3.97
Mineral industry	1	2.17	1 039	2.7
Other industry	2	4.35	797	2.07
Energy sector	1	2.17	391	1.01
Total	**46**	**100**	**38 547**	**100**

Figure 99: Annual number of facilities (left) and their off-site transfer in waste water (right) of the pollutant "Zinc and compounds (as Zn)", each by the 5 industrial sector(s) with the highest emissions in the year 2024.



Source: own illustration, Umweltbundesamt

A Pollutants to report and threshold values

The following summary contains the threshold values separated into the environmental media of all pollutants which are coverd by the E-PRTR Regulation.

***Source**: Annex II of the Regulation (EC) No 166/2006 of the European Parliament and of the Council of 18 January 2006 concerning the establishment of a European Pollutant Release and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC.*

Table 112: Summary of the pollutants covered by the E-PRTR Regulation with the threshold values for release into the environmental media.

No.	CAS-number	Pollutant (1)	Release to air (kg/year)	Release to water (kg/year)	Release to land (kg/year)
1	74-82-8	Methane (CH4)	100 000	(2)	-
2	630-08-0	Carbon monoxide (CO)	500 000	-	-
3	124-38-9	Carbon dioxide (CO2)	100 000 000	-	-
4		Hydro-fluorocarbons (HFCs) (3)	100	-	-
5	10024-97-2	Nitrous oxide (N2O)	10 000	-	-
6	7664-41-7	Ammonia (NH3)	10 000	-	-
7		Non-methane volatile organic compounds (NMVOC)	100 000	-	-
8		Nitrogen oxides (NOx/NO2)	100 000	-	-
9		Perfluorocarbons (PFCs) (4)	100	-	-
10	2551-62-4	Sulphur hexafluoride (SF6)	50	-	-
11		Sulphur oxides (SOx/SO2)	150 000	-	-
12		Total nitrogen	-	50 000	50 000
13		Total phosphorus	-	5 000	5 000
14		Hydrochlorofluorocarbons (HCFCs) (5)	1	-	-
15		Chlorofluorocarbons (CFCs) (6)	1	-	-
16		Halons (7)	1	-	-
17		Arsenic and compounds (asAs) (8)	20	5	5
18		Cadmium and compounds (as Cd) (8)	10	5	5
19		Chromium and compounds (as Cr) (8)	100	50	50
20		Copper and compounds (as Cu) (8)	100	50	50
21		Mercury and compounds (as Hg) (8)	10	1	1
22		Nickel and compounds (as Ni) (8)	50	20	20
23		Lead and compounds (as Pb) (8)	200	20	20

No.	CAS-number	Pollutant (1)	Release to air (kg/year)	Release to water (kg/year)	Release to land (kg/year)
24		Zinc and compounds (as Zn) (8)	200	100	100
25	15972-60-8	Alachlor	-	1	1
26	309-00-2	Aldrin	1	1	1
27	1912-24-9	Atrazine	-	1	1
28	57-74-9	Chlordane	1	1	1
29	143-50-0	Chlordecone	1	1	1
30	470-90-6	Chlorfenvinphos	-	1	1
31	85535-84-8	Chloro-alkanes, C10-C13	-	1	1
32	2921-88-2	Chlorpyrifos	-	1	1
33	50-29-3	DDT	1	1	1
34	107-06-2	1,2-dichloroethane (EDC)	1 000	10	10
35	75-09-2	Dichloromethane (DCM)	1 000	10	10
36	60-57-1	Dieldrin	1	1	1
37	330-54-1	Diuron	-	1	1
38	115-29-7	Endosulphan	-	1	1
39	72-20-8	Endrin	1	1	1
40		Halogenated organic compounds (as AOX) (9)	-	1 000	1 000
41	76-44-8	Heptachlor	1	1	1
42	118-74-1	Hexachlorobenzene (HCB)	10	1	1
43	87-68-3	Hexachlorobutadiene (HCBD)	-	1	1
44	608-73-1	1,2,3,4,5, 6-hexachlorocyclohexane (HCH)	10	1	1
45	58-89-9	Lindane	1	1	1
46	2385-85-5	Mirex	1	1	1
47		PCDD + PCDF (dioxins + furans) (as Teq) (10)	0.0001	0.0001	0.0001
48	608-93-5	Pentachlorobenzene	1	1	1
49	87-86-5	Pentachlorophenol (PCP)	10	1	1
50	1336-36-3	Polychlorinated biphenyls (PCBs)	0.1	0.1	0.1
51	122-34-9	Simazine	-	1	1
52	127-18-4	Tetrachloroethylene (PER)	2 000	10	-

No.	CAS-number	Pollutant (1)	Release to air (kg/year)	Release to water (kg/year)	Release to land (kg/year)
53	56-23-5	Tetrachloromethane (TCM)	100	1	-
54	12002-48-1	Trichlorobenzenes (TCBs) (all isomers)	10	1	-
55	71-55-6	1,1,1-trichloroethane	100	-	-
56	79-34-5	1,1,2,2-tetrachloroethane	50	-	-
57	79-01-6	Trichloroethylen	2 000	10	-
58	67-66-3	Trichloromethane	500	10	-
59	8001-35-2	Toxaphene	1	1	1
60	75-01-4	Vinyl chloride	1 000	10	10
61	120-12-7	Anthracene	50	1	1
62	71-43-2	Benzene	1 000	200 (as BTEX) (11)	200 (as BTEX) (11)
63		Brominated diphenylethers (PBDE) (12)	-	1	1
64		Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	-	1	1
65	100-41-4	Ethyl benzene	-	200 (as BTEX) (11)	200 (as BTEX) (11)
66	75-21-8	Ethylene oxide	1 000	10	10
67	34123-59-6	Isopoturon	-	1	1
68	91-20-3	Naphthalene	100	10	10
69		Organotin compounds (as total Sn)	-	50	50
70	117-81-7	Di-(2-ethyl hexyl) phthalate (DEHP)	10	1	1
71	108-95-2	Phenols (as total C) (13)	-	20	20
72		Polycyclic aromatic hydrocarbons (PAHs) (14)	50	5	5
73	108-88-3	Toluene	-	200 (as BTEX) (11)	200 (as BTEX) (11)
74		Tributyltin and compounds (15)	-	1	1
75		Triphenyltin and compounds (16)	-	1	1
76		Total organic carbon (TOC) (as total C or COD/3)	-	50 000	-
77	1582-09-8	Trifluralin	-	1	1
78	1330-20-7	Xylenes (17)	-	200 (as BTEX) (11)	200 (as BTEX) (11)

No.	CAS-number	Pollutant (1)	Release to air (kg/year)	Release to water (kg/year)	Release to land (kg/year)
79		Chlorides (as total Cl)	-	2 000 000	2 000 000
80		Chlorine and inorganic compounds (as HCl)	10 000	-	-
81	1332-21-4	Asbestos	1	1	1
82		Cyanides (as total CN)	-	50	50
83		Fluorides (as total F)	-	2 000	2 000
84		Fluorine and inorganic compounds (as HF)	5 000	-	-
85	74-90-8	Hydrogen cyanide (HCN)	200	-	-
86		Particulate matter (PM10)	50 000	-	-
87	1806-26-4	Octylphenols and Octylphenol ethoxylates	-	1	-
88	206-44-0	Fluoranthene	-	1	-
89	465-73-6	Isodrin	-	1	-
90	36355-1-8	Hexabromobiphenyl	0.1	0.1	0.1
91	191-24-2	Benzo(g,h,i)perylene	-	1	-

(1) Unless otherwise specified any pollutant specified in Annex II shall be reported as the total mass of that pollutant or, where the pollutant is a group of substances, as the total mass of the group.

(2) A hyphen (—) indicates that the parameter and medium in question do not trigger a reporting requirement.

(3) Total mass of hydrogen fluorocarbons: sum of HFC23, HFC32, HFC41, HFC4310mee, HFC125, HFC134, HFC134a, HFC152a, HFC143, HFC143a, HFC227ea, HFC236fa, HFC245ca, HFC365mfc.

(4) Total mass of perfluorocarbons: sum of CF4, C2F6, C3F8, C4F10, c-C4F8, C5F12, C6F14.

(5) Total mass of substances including their isomers listed in Group VIII of Annex I to Regulation (EC) No 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer (OJ L 244, 29.9.2000, p. 1). Regulation as amended by Regulation (EC) No 1804/2003 (OJ L 265, 16.10.2003, p. 1).

(6) Total mass of substances including their isomers listed in Group I and II of Annex I to Regulation (EC) No 2037/2000.

(7) Total mass of substances including their isomers listed in Group III and VI of Annex I to Regulation (EC) No 2037/2000.

(8) All metals shall be reported as the total mass of the element in all chemical forms present in the release.

(9) Halogenated organic compounds which can be adsorbed to activated carbon expressed as chloride.

(10) Expressed as I-TEQ.

(11) Single pollutants are to be reported if the threshold for BTEX (the sum parameter of benzene, toluene, ethyl benzene, xylenes) is exceeded.

(12) Total mass of the following brominated diphenylethers: penta-BDE, octa-BDE and deca-BDE.

(13) Total mass of phenol and simple substituted phenols expressed as total carbon.

(14) Polycyclic aromatic hydrocarbons (PAHs) are to be measured for reporting of releases to air as benzo(a)pyrene (50-32-8), benzo(b)fluoranthene (205-99-2), benzo(k)fluoranthene (207-08-9), indeno(1,2,3-cd)pyrene (193-39-5) (derived from Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants (OJ L 229, 29.6.2004, p. 5)).

(15) Total mass of tributyltin compounds, expressed as mass of tributyltin.

(16) Total mass of triphenyltin compounds, expressed as mass of triphenyltin.

(17) Total mass of xylene (ortho-xylene, meta-xylene, para-xylene).